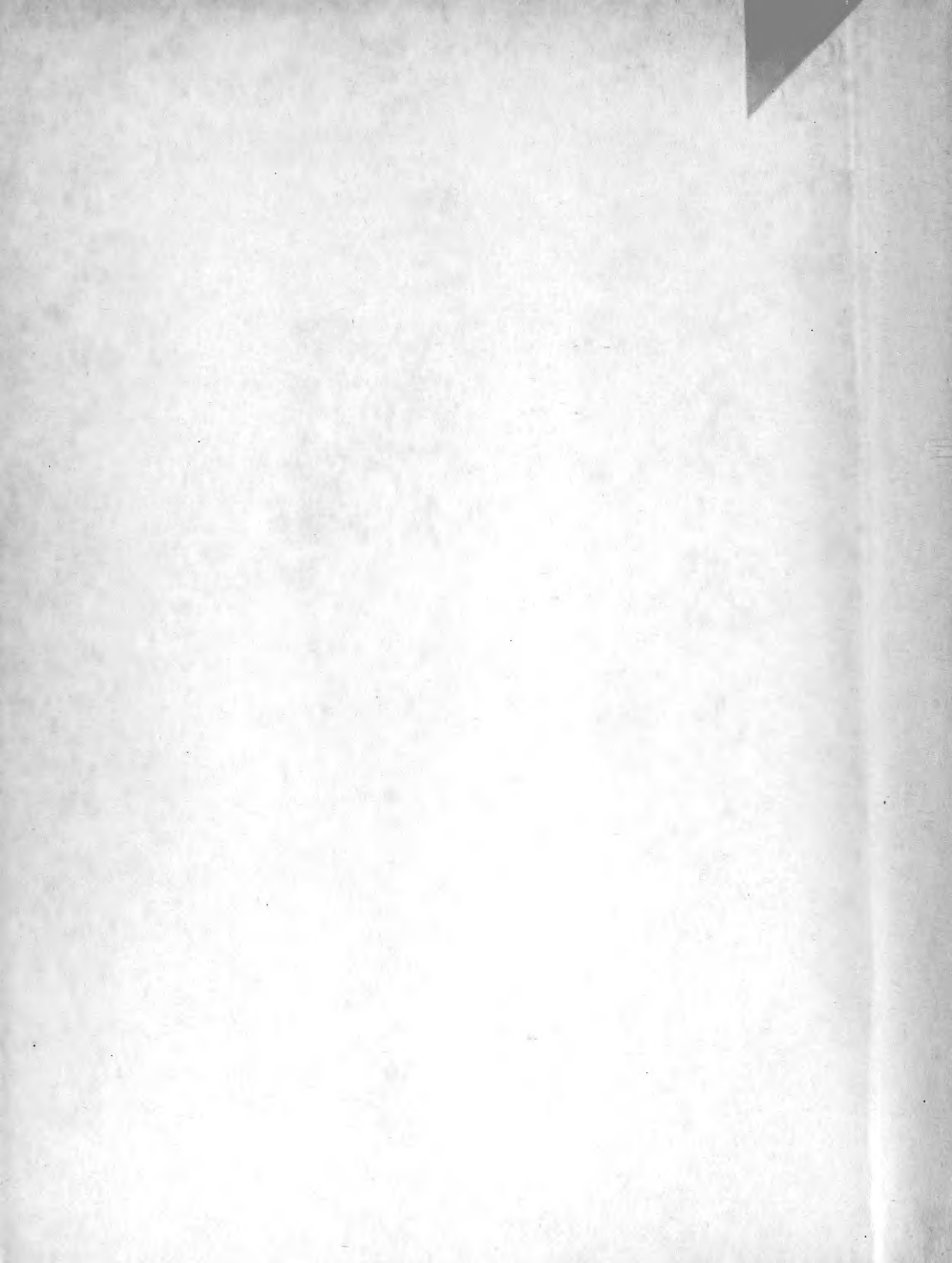
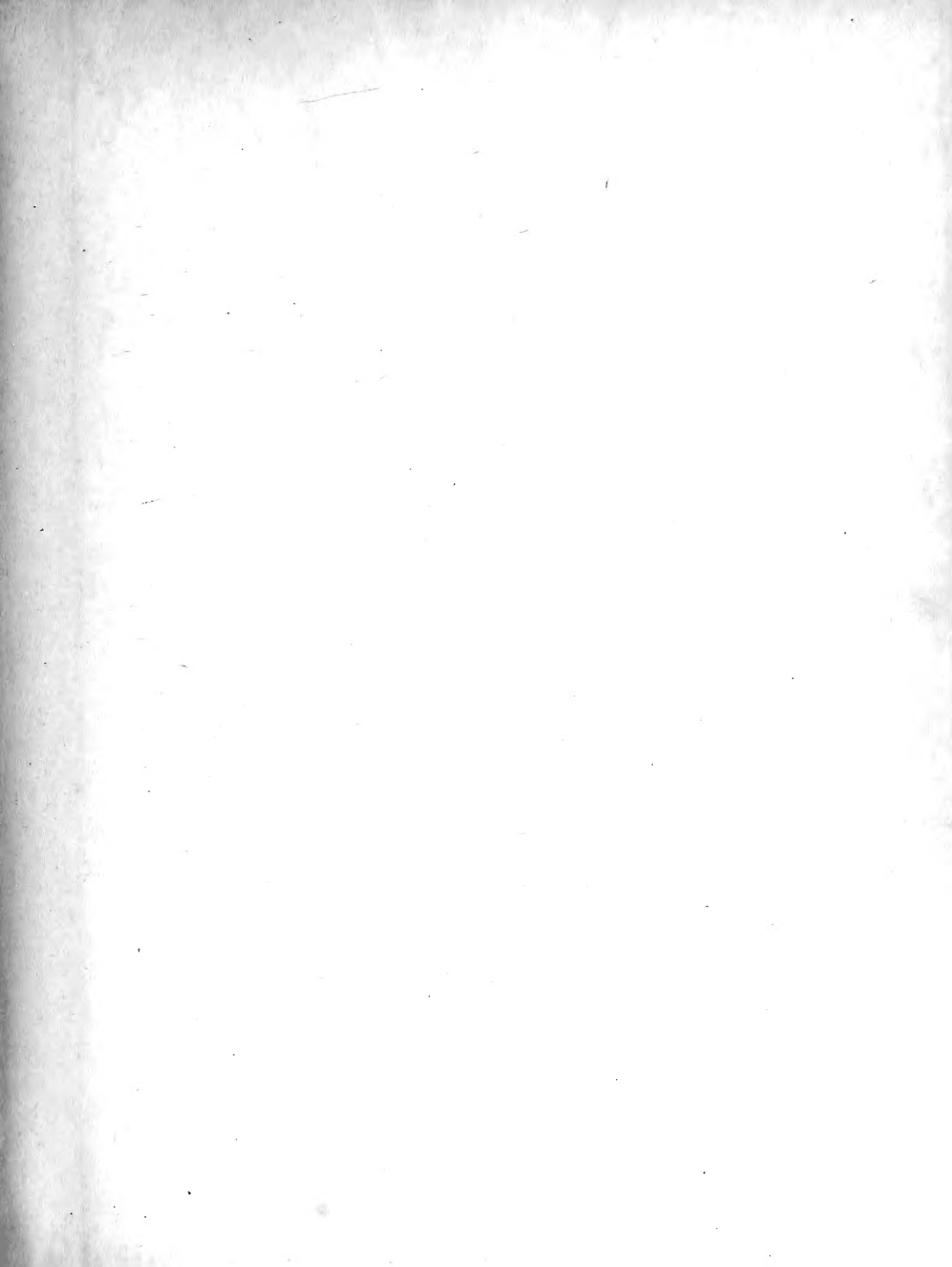


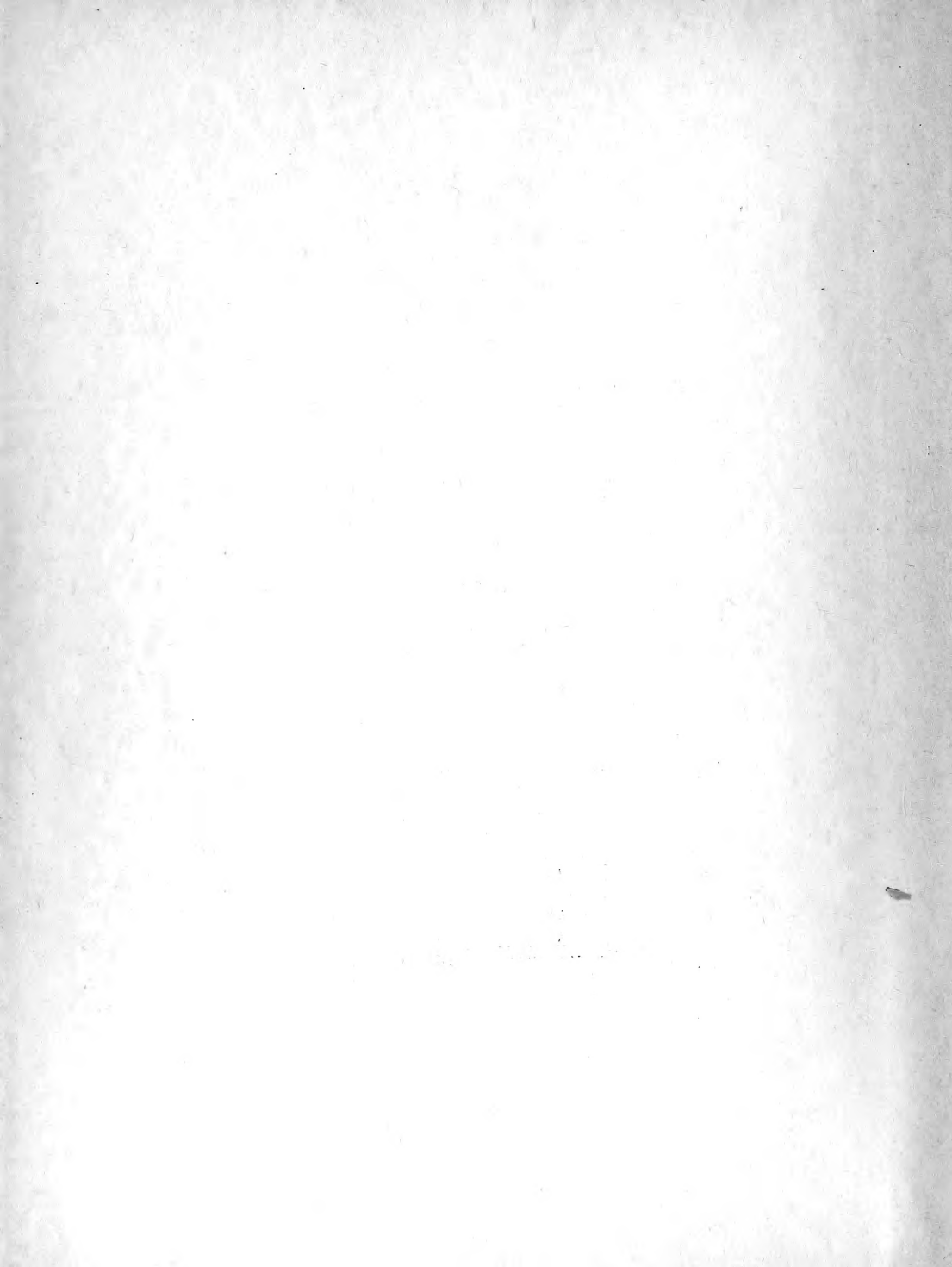
DIRECTORY
OF
SELECTED SCIENTIFIC
INSTITUTIONS
IN THE U.S.S.R.

*Prepared by Battelle Memorial Institute
for the
National Science Foundation
under
Contract No. C246*

CHARLES E. MERRILL BOOKS, INC.
COLUMBUS, OHIO







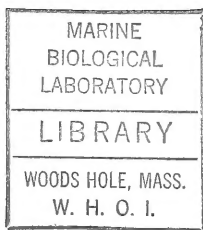
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**DIRECTORY
OF
SELECTED SCIENTIFIC INSTITUTIONS
IN THE U.S.S.R.**

With an introduction
to the

**ADMINISTRATION OF SCIENCE AND
TECHNOLOGY IN THE U.S.S.R.**

January 1, 1963



**Prepared by Battelle Memorial Institute
for the
National Science Foundation
under
Contract No. C246**



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INTRODUCTION

The purpose of this publication is to provide American scientists with (1) background knowledge of the administration of science and technology in the U.S.S.R., and (2) an acquaintance with selected Soviet institutions and with some of the more important members of their staffs. Interest in the Soviet technical and scientific community has been steadily increasing over the past 10 years. Many Americans have toured the U.S.S.R., visiting with Soviets engaged in areas of endeavor similar to their own. Contact between American scientists and Soviet scientists is increasing at international meetings.

Soviet published directories and reference tools comparable to those that are so familiar to the American scientist are unavailable. For example, American Men of Science, Leaders in Education, various "Who's Who" publications, The Foundation Directory, National Organizations of the U.S., and American Universities and Colleges are but a few well-known titles of excellent sources covering the American scene. Europa, Orbis, and other compilations provide broad coverage of many countries of the world in general, but not in detail.

The National Science Foundation, as part of its continuing efforts to assist the American scientist, educator, and librarian, has sponsored the compilation of this "Directory of Selected Scientific Institutions in the U.S.S.R.". In addition, a short description of the administration of Soviet science and technology has been included. This resulted from a careful analysis of many papers on the subject published in recent Soviet literature. The objective is to present the researcher with a short description of the organization and administration of Soviet science. No attempt has been made to analyze, evaluate, or to reach any conclusions regarding Soviet science or its administration. Nor has any attempt been made to cover comprehensively the philosophical aspects of the organization of Soviet science and technology.

Scope

The scope of the Directory includes many fields of science in the U.S.S.R., but excludes those concerned primarily with biology and medicine. Certain clarifications of this statement are pertinent, however, to guide the user.

1. Institutes conducting research predominantly in the biological and medical sciences are not included in the Directory. It is anticipated that another United States organization will survey this area.

2. With the exception of the biological and medical areas, efforts have been made to provide as broad a coverage of the Soviet scientific and technical scene as possible. However, a physical science orientation resulted because the prime source of material, the Battelle Memorial Institute Slavic Library, is heavily oriented toward the physical sciences.
3. In order to provide current, rather than historical information, only literature published since 1957 was used as source material. Since the structure of the Soviet scientific community has been in a state of continuous flux and reorganization since 1957, the dates of the source material for information on the administrative affiliation of the various institutes are shown.

Methodology

In the early 1950's the Battelle Library, in association with the Battelle technical staff, began a systematic program of acquiring Soviet technical publications which paralleled the research interests of the Institute. This program has been continuous and has resulted in the development of extensive knowledge of the contents and availability of Slavic technical literature. The method used in guiding the acquisition program was to identify significant authors in selected fields, their institutional affiliations, and those journals in which their work was published. This method of operation resulted in a collation of many bits of information concerning these relationships collected from newspapers, technical journals, and many irregular publications.

This collated information served as the basis for assembling the facts presented in the Directory, although it was necessary to make countless checks back to the original publications. These publications are, for the most part, held in the Battelle Slavic Library which, because of this continuing effort, has become one of the most comprehensive private collections of Soviet published technical literature in the United States. Additional valuable information was obtained through the cooperation of various United States agencies such as the Office of International Relations of the National Academy of Science, and the Foreign Demographic Division of the Bureau of Census, United States Department of Commerce.

Limitations

It is recognized that the source materials used in assembling this Directory presented some limitations. For example, many institutions have been identified but insufficient information was found in the literature to warrant their inclusion in the Directory. In other instances, it is known that, because of the amount of information found, the description of an institution of lesser importance may be more detailed than that of a more important institution.

NEITHER THE EXTENT OF THE DESCRIPTIONS, NOR THE INCLUSION OF OR FAILURE TO INCLUDE AN INSTITUTION, IS INDICATIVE OF THE RELATIVE IMPORTANCE OF A GIVEN INSTITUTION.

Format

The format described below was employed in the Directory.

Name of Institute. Both the translated and the transliterated name of each institution are given. The Directory is arranged alphabetically by the translated name and an index of transliterated names has been provided. The Board of Geographical Names system of transliteration has been used. Table 1 shows the more popular transliteration systems in current usage.*

Address. The Soviet form is used. For some of the geographically remote institutions, the nearest city or village is listed.

Director and Deputy Director. The title or academic degree is listed when known. The date shown in parentheses is the date of the most recent source of the information. When it was impossible to locate information on these administrators, the space was left blank.

Administrative Affiliation. It was not always possible to identify from the literature the administrative affiliation of each institution. Further, as previously indicated, the administrative structure for many institutions has undergone change during 1957-1962. The date in parentheses is the date of the source of the information.

*Rosemary Neiswender, "Russian Translation - Sound and Sense", Special Libraries, Vol 53, No. 1, pp 37-41 (January, 1962).

TABLE 1. COMPARATIVE TABLE OF MAJOR TRANSLITERATION SYSTEMS^(a)

Cyrillic	LC	BSI	BGN	ISO	NYPL	SR	MR
А а	a	-	-	-	-	-	-
Б б	b	-	-	-	-	-	-
В в	v	-	-	-	-	-	-
Г г	g	-	-	-	g(v) ^(b)	-	-
Д д	d	-	-	-	-	-	-
Е е	e	e	e(ye) ^(c)	e	e(ye,io) ^(d)	e	e
Ё ё	ë	ë	ë(yë) ^(c)	ë	io(e) ^(e)	ë	ë
Ж ж	zh ^(f)	zh	zh	ž	zh	ž	ž
З з	z	-	-	-	-	-	-
И и	i	-	-	-	-	-	-
Й й	ÿ	ÿ	y	j	ÿ	j	ÿ
К к	k	-	-	-	-	-	-
Л л	l	-	-	-	-	-	-
М м	m	-	-	-	-	-	-
Н н	n	-	-	-	-	-	-
О о	o	-	-	-	-	-	-
П п	p	-	-	-	-	-	-
Р р	r	-	-	-	-	-	-
С с	s	-	-	-	-	-	-
Т т	t	-	-	-	-	-	-
У у	u	-	-	-	-	-	-
Ф ф	f	-	-	-	-	-	-
Х х	kh	kh	kh	h	kh	kh	h
Ц ц	ts	ts	ts	c	tz	c	c
Ч ч	ch	ch	ch	č	ch	č	č
Ш ш	sh	sh	sh	š	sh	š	š
Щ щ	shch	shch	shch	šć	shch	šć	šć
Ъ ъ	"	"	"	"	"	˘	"
Ы ы	y	-	-	-	-	-	-
Ь ь	'	-	-	-	-	-	-
Э э	e	é	e	é	ê	è	è
Ю ю	iü	yu	yu	ju	yu	ju	yu
Я я	ia	ya	ya	ja	ya	ja	ya

(a) Dashes have been supplied where the transliteration is uniform throughout the table. Abbreviations are as follows:

LC = Library of Congress

BSI = British Standards Institution (BS 2979:1958)

BGN = Board of Geographic Names (also used by the British Permanent Committee on Geographic Names)

ISO = International Standards Organization (ISO/R 9)

NYPL = New York Public Library, Slavonic Division

SR = Slavic Review (formerly American Slavic and East European Review)

MR = Mathematical Reviews.

(b) v used in genitive endings (-evo and -ovo).

(c) ye and yë used initially, after vowels and after " and '.

(d) ye at beginning of word or syllable; sometimes io.

(e) e after zh, ch, sh, shch.

(f) Ligatures are used over all multiple letter combinations in standard LC cataloging practice but are largely disregarded by other users of this system.

Selected Staff Members. Staff members were selected for inclusion in the Directory on the basis of the following criteria:

1. Academicians or Corresponding Academicians of the U.S.S.R. and of the various republics
2. Heads of Laboratories or Departments
3. Deans and Assistant Deans
4. Heads of Chairs
5. Other Staff Members who, based upon the number of their publications and upon other workers with whom they are associated (coauthors), appear to be important in their fields.

The names and associations of some important and even well-known scientists and educators may have been omitted and quite probably there are many more able men available in each institution than have been listed.

Description. The descriptions of the institutions have been assembled from information in the publications emanating from or about a given institution. Every precaution has been taken to assure accurate representation of the activities of each institution and to assure that no major activity was overlooked. However, because of the physical science orientation of the source materials, some inaccuracies are undoubtedly present.

Wherever known, the educational degrees granted by the institution are indicated and courses of instruction are included.

Many of the institutions listed in the Directory publish results of their various research efforts. Where the publication policies are known, they are included in the description. The transliterated form has been used in the descriptions since not all forms translate directly to the common forms in the English language. Table 2 lists most of the publication forms used in the Directory and is offered for the guidance of those who may not be familiar with the Soviet types of literature.

Acknowledgments

Without the patience and devotion of a large staff of engineers, scientists, and information specialists, it would have been most difficult to compile this Directory. Particular note should be made of the efforts of Thomas P. Kridler,

TABLE 2. TYPES OF SOVIET PUBLICATIONS LISTED IN THE DIRECTORY

Type of Periodical	Suggested Translation
Byulleten'	Bulletin
Byulleten' Nauchnoy Informatsii	Bulletin of Scientific Information
Byulleten' Nauchno-Tekhnicheskoy Informatsii	Bulletin of Scientific-Technical Information
Doklady	Reports
Dopovidi (Ukrainian)	Reports
Izvestiya	News
Kratkiye Soobshcheniya	Brief Reports
Mokslo Darbai (Lithuanian)	Scientific Works
Nauchno-Issledovatel'skiye Raboty	Scientific-Research Papers
Nauchno-Issledovatel'skiye Trudy	Scientific-Research Transactions
Nauchnyye Raboty	Scientific Papers
Nauchnyye Soobshcheniya	Scientific Papers
Nauchnyye Trudy	Scientific Transactions
Nauchnyye Zapiski	Scientific Studies
Nauchnyye Zapiski Studentov	Scientific Studies of Students
Naukovi Zapysky (Ukrainian)	Scientific Studies
Raboty	Papers
Referativnyy Zhurnal	Abstract Journal
Sbornik	Collection
Sbornik Nauchno-Issledovatel'skikh Rabot	Collection of Scientific-Research Papers
Sbornik Nauchnykh Rabot Studentov	Collection of Scientific Papers of Students
Sbornik Nauchnykh Studencheskikh Rabot	Collection of Scientific Students' Papers
Sbornik Nauchnykh Statey	Collection of Scientific Articles
Sbornik Nauchnykh Trudov	Collection of Scientific Transactions
Sbornik Dokladov	Collection of Reports
Sbornik Rabot	Collection of Papers
Sbornik Referatov Nauchnykh Rabot	Collection of Abstracts of Scientific Papers
Sbornik Statey	Collection of Articles
Sbornik Trudov	Collection of Transactions
Soobshcheniya	Reports
Trudy	Transactions
Tsirkulyar	Circular
Uchenyye Zapiski	Studies
Vestnik	Herald
Voprosy	Problems (of)
Yezhegodnik	Year Book
Zapiski	Notes

Associate Project Coordinator, who coordinated the work assignments and located the source materials for the Directory and who provided the technical translation and interpretative assistance when needed. Marcia R. Fremont (deceased) also is deserving of special note for her editorial efforts in technical quality control of the manuscript. The description of the administration of Soviet science and technology was prepared principally by Jeanne P. Taylor. Howard C. Cross, Technical Director, has reviewed manuscript copy and offered many valuable suggestions. Acknowledgment should be made of the efforts of Louis Nemzer, Associate Professor of Political Science at The Ohio State University, for his review of the draft of "Part I. Administration of Science and Technology in the U.S.S.R.". Thanks are also due to Rita G. Liepina of the Office of Science Information Service, National Science Foundation, for her guidance and assistance.

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Carl H. Lund: High Alloy Metallurgy, Super Alloys, Refractory Com-
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Herbert W. Mishler: Welding and Brazing Processes and Equipment
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Electrochemistry
Herbert J. Wagner: Metalworking
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Dr. Merrill A. Youtz: Chemistry, Rubber and Plastics.

**PART I. ADMINISTRATION OF SCIENCE
AND TECHNOLOGY IN THE U.S.S.R.**

**PART I. ADMINISTRATION OF SCIENCE
AND TECHNOLOGY IN THE U.S.S.R.**

The administrators of the Soviet Union have assigned important roles to science, technology, and education, and have created numerous channels for their control and coordination. A recent State decree states, "At the present time when our country has entered the period of the comprehensive building of the communist society, the role and the importance of science and technology become even greater."⁽¹⁾* K. N. Rudnev, an important science administrator, called attention to a major development, saying that "the pace of scientific development itself has made coordination of the work...an urgent problem... At the present time it is one of the most important conditions of the giant growth of production and it will gradually become the decisive factor for the development of the productive forces of our society."⁽²⁾ P. L. Kapitsa, a leading Soviet scientist, reflected the official attitude in his statement that "science has now begun to be viewed as an essential component of the social system and not only a useful but an indispensable part. The government devotes more and more attention to science as an important element in national life; now scientific institutions are placed on an equal level with other branches of our social structure, such as education, transport, and the army."⁽³⁾

During the several decades of Soviet history, the national leadership has developed an elaborate system for achieving its major objectives through a variety of Party and State agencies, and is still experimenting with organizational patterns and institutional forms. With the exception of the Communist Party of the Soviet Union, administrative units in the U.S.S.R. are either attached directly or indirectly to the highest governmental administrative organ called a Council of Ministers. Educational institutions are directly administered by the government. The academies devoted to sciences and the professional societies operate under charters from the State and are regulated by State laws and decrees. See Figure 1 for the interrelationships of Soviet top-level organs for the administration of scientific, technological, and educational institutions and facilities.

*References are given on page 49.

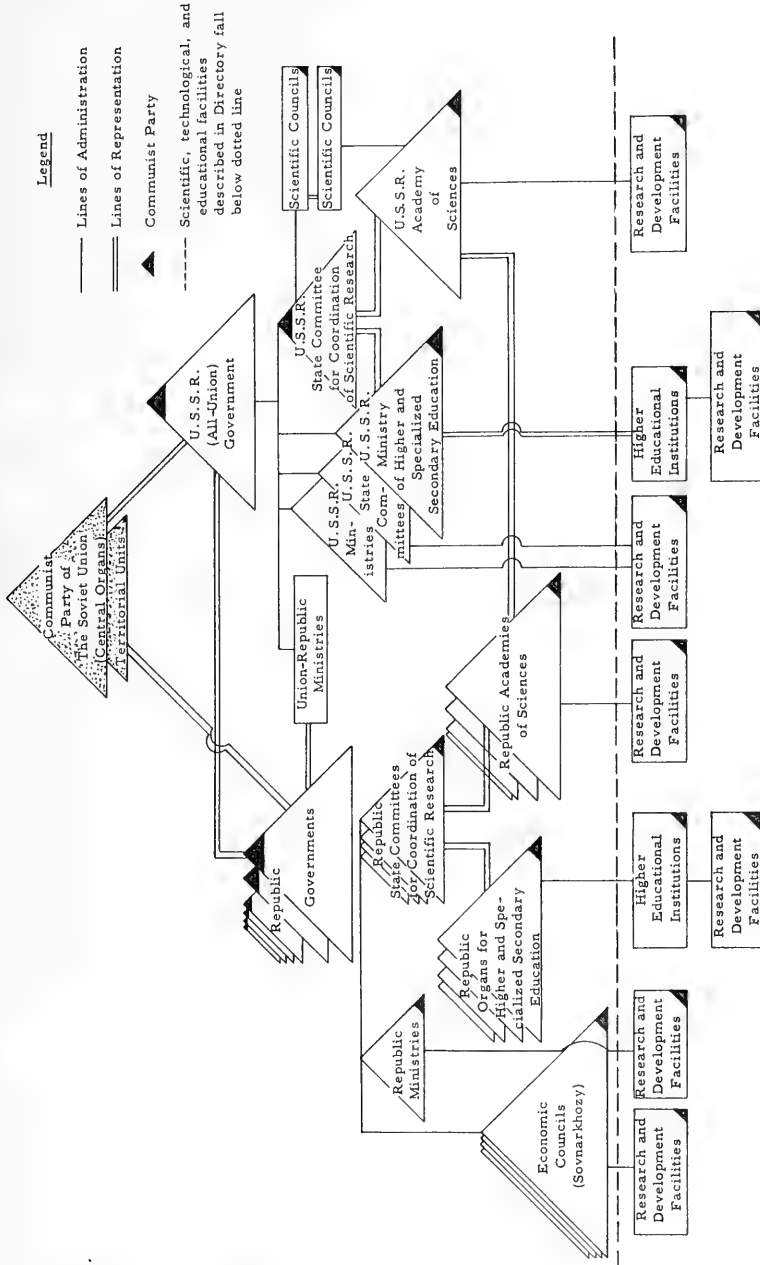


FIGURE 1. INTERRELATIONSHIPS OF SOVIET TOP-LEVEL ORGANS FOR ADMINISTRATION OF SCIENTIFIC, TECHNOLOGICAL, AND EDUCATIONAL FACILITIES

PARTY AND STATE ADMINISTRATIVE UNITS

THE COMMUNIST PARTY OF THE SOVIET UNION

The Communist Party formulates national policy, including policy related to scientific matters, and undertakes continuing inspection of scientific institutions to ensure the achievement of planned results. In November, 1962, a Committee of Party-State Control attached to both the Party and the State was formed to implement this function.⁽⁴⁾ Governmental units administering scientific, technical, and educational institutions operate within the limits set by State plans prepared on the basis of decisions made by the Communist Party. These plans are enacted into law by the State organs. Neither policy formulation nor planning procedures are within the scope of this discussion. Certain Soviet writings on the subject are available in English translation.^(5,6)

The Communist Party also dominates the selection of key administrators, applying its own standards of loyalty and efficiency as a supplement to those used by the scientific institutions themselves. Finally, the Party claims a paramount role in establishing the context within which scientists, technologists, and educators work, seeking to control their general attitudes and political ideas.^(3,7-12) The Party leaders, especially in recent years, have publicly expressed their intensive interest in science and technology. High-level Party officers are usually present at major conferences, their visits to important facilities are widely publicized, and their views on the state of Soviet science are given in important speeches.^(13,14)

The Party structure contains many units which deal with the problems of science and technology.⁽¹⁵⁻¹⁹⁾ The Congress of the Communist Party of the Soviet Union, which meets every two or three years, hears important statements on national policy and demands for improved results. The Central Committee, which includes several distinguished scientific workers and science administrators, meets several times each year to discuss proposed organizational and policy changes and to act as a sounding board for the Party leadership. The Party Presidium, comprising a dozen full members and half as many candidate members, meets several times each month to determine major policies, and to decide on the most important appointments to State organs and institutions. The Secretariat, an office comprising four to eight national Secretaries of the Party Central Committee, directs the national Party headquarters, the body which ensures the fulfillment of national policy, in science as in most other fields.⁽¹⁵⁻¹⁶⁾ The newly formed Committee of Party-State Control will ensure cooperation between the Party and State.^(4,20)

The staff, called the "apparatus", of the Central Committee is directly responsible to the national Party Secretariat and to the Party Presidium. This

staff includes two Departments for Science, Higher Educational Establishments and Schools, one of which deals with assignments in the Russian Republic and the other covers the remaining 14 republics.⁽¹⁹⁾ Each of these departments has a Science Branch which studies general developments and pressing problems, conducts investigations of key institutions and reports on fulfillment of Party policy. Similar units and specialized Party personnel concerned with scientific problems are located in the lower Party territorial offices. These local offices are responsible for scientific, technical, and educational institutions within their territories.

Many of the territorial Party organizations, especially those at the provincial (oblast) and city levels, have been under intensive pressure from national Party headquarters to become more directly involved with problems of science and technology. The situation was dramatized in 1962 by a special resolution of the Party Central Committee, "On the Guidance by the Leningrad City Committee of the Communist Party of the Soviet Union of Party Organizations in Scientific Research Institutes."^(21,22) The resolution began by complimenting the efforts of the city committee and its subordinate borough committees and primary Party organizations (the Party branches within each Soviet facility) in the mobilization of the personnel of scientific research institutes and of planning and design institutions for the fulfillment of Party and State directives.

The Central Committee resolution noted some important deficiencies, however, and revealed something of the Party's modes of operation to eliminate such deficiencies. The Leningrad Party agencies were reprimanded because they had gone only superficially into the activities of the institutes; they were instructed to deal more boldly with questions involving the organization and the substance of scientific research at these institutes. They were given a share of the blame when research programs were not framed to achieve practical results eventually useful to Soviet industry. The Party agencies were expected to exert pressure to ensure the fulfillment of approved research programs and to check on the timely introduction into industrial production of useful products of completed research. Moreover, the Party organizations, especially those within each institute, were expected to "struggle resolutely" against what the Party considers "manifestations of conservatism and bureaucratism" on the part of institute directors in the matter of experimentation with new ideas and new applications of research to industrial production.

Local Party organizations were also censured for failure to utilize fully their recognized authority to improve organizational and operational policies of the scientific institutes and to intensify indoctrinational programs among the scientific and technical personnel. They were told to use these powers to prevent the "irrational use of specialists and uneconomic expenditure of State funds". Where the national leadership has indicated support of particular scientific principles or interest in special lines of enquiry, the Party

organizations must demand that the scientific workers follow the Party line. The Party agencies were also reminded that they must take an active role in the selection of scientific workers, especially young workers, for responsible posts, and must investigate the methods used to train graduate students sent to the institutes.(21,23)

The Leningrad City Party Committee, to meet the demand, created an economic-technical council under the Leningrad Party Committee which conducts scientific and technical conferences and "science days" jointly with scientific institutions. In addition, more than 170 commissions for supervising administrators are actively at work in the Party organizations attached to research institutions in Leningrad.(24) The Party organizations of Moscow and Minsk followed the example set by their colleagues in Leningrad.(25-27)

At the time of the 1961 Party Congress, almost one-half of the scientific workers were members of the Party.(28-30) There are 10 million Party members in the Soviet Union.(20) These members are usually brought together into a primary Party organization at the place of their employment. There is at least one, and usually more, Party member in each Soviet institution. Primary Party organizations range in size from a half-dozen members in a small institution to scores and sometimes hundreds in the major institutions. The larger ones will have executive bodies called Party committees, comprising 10 to 30 scientific workers, led by a full-time and highly trained "secretary", who has extensive responsibility in the direction of Party affairs. There are a number of top-ranking scientific administrators and workers who serve as Party secretaries of their primary Party organizations.(25,31)

The primary Party organizations are expected to exert strong influence on the staffs of their institutions by providing models of good behavior and performance, demanding serious Marxist study and frequent Party service, and supporting the pressures of the district or city Party organizations to extract practical results from the institution's staff. The Party members will support the orders of the director of the institution, but will encourage the staff to report on shortcomings even if the director or his assistants are at fault. Party members call on the staff to make suggestions for improvement, to engage in "socialist competition", and to support "progressive ideas" ignored by the institution's administrators.(32,33)

ALL-UNION (U.S.S.R.) GOVERNMENTAL UNITS
AND REPUBLIC GOVERNMENTS

The U.S.S.R. is a union of 15 republics. Figure 2 is an outline map of the U.S.S.R. indicating the republics and their respective capitals. Each republic has its own government centered in its capital. The U.S.S.R. government is

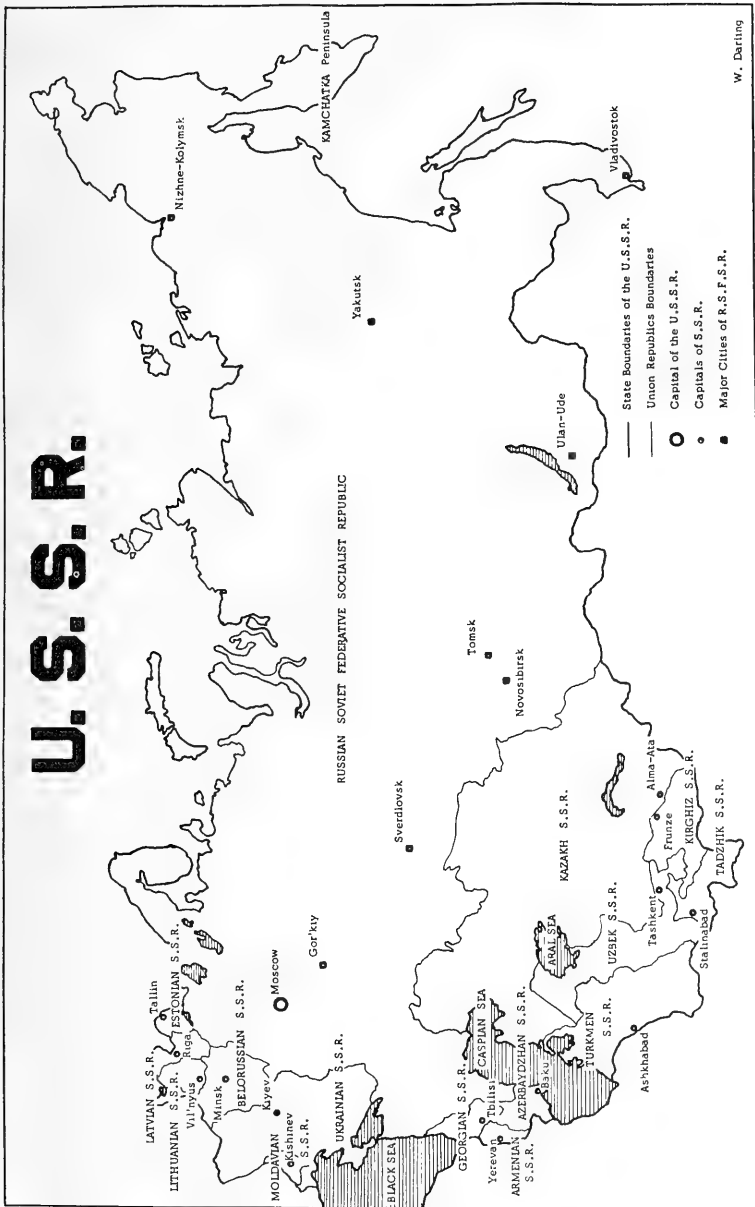


FIGURE 2. U. S. S. R. REPUBLICS AND THEIR CAPITALS

The map also shows principal cities in the Soviet Union that have concentrations of scientific research institutes.

superior to the governments of the 15 republics, but the republics have been granted a measure of decentralized administration of Soviet affairs through their own subordinate administrative units, such as ministries. Some republic ministries are supervised by counterpart All-Union ministries located in Moscow. Any facility directly administered by a republic ministry or other administrative unit is also indirectly supervised by the All-Union government.

A republic governmental structure is similar at the top levels to that of the U.S.S.R.^(16,17) (See Figure 3 for government structures.) Soviet governments are parliamentary at least in form. The parliaments, called Supreme Soviets, execute Party policies and decisions which are incorporated into State law. (See Figure 1 for the interrelationships of State organs.)

U.S.S.R. and republic general assemblies are called Supreme Soviets whose members are called deputies. The Supreme Soviets meet for short periods of time to convert the prior acts of their Presidiums and their Councils of Ministers into laws. During Supreme Soviet sessions, bills are introduced by the Councils of Ministers to be passed by the Supreme Soviets.^(16,17) Recently, joint decrees of the Central Committee of the Communist Party and the U.S.S.R. Council of Ministers have become common, although there is no constitutional provision for such joint decrees.⁽³⁴⁾ When the Supreme Soviets are not in session, their Presidiums exercise all the powers of the larger body. The U.S.S.R. Presidium shares executive powers with the U.S.S.R. Council of Ministers.

The Supreme Soviets, especially the U.S.S.R. Supreme Soviet, are useful as training schools for future leaders, and as sounding boards for Party and State policies. To be elected a deputy to a Supreme Soviet is an honor, and deputies, usually the elite from all walks of life in the Soviet Union, include scientists, technologists, and educators.

Councils of Ministers in both the All-Union and republic governments are collectives of chief executives and administrators. Councils of Ministers are re-formed after new Supreme Soviets meet for the first time. The composition of the Councils is outlined by constitutional provisions which allow some leeway in the selection of both number and types of ministers. It is not unusual to appoint heads of auxiliary administrative units, such as planning committees, as ministers. Chairmen of the republic Councils of Ministers are automatically ex officio members of the U.S.S.R. Council of Ministers. Although there are indications that there is a Presidium of the U.S.S.R. Council of Ministers, its total composition has not yet been published by the Soviet Union. Usually, top-level Party personnel who are members of the Council of Ministers form the bulk of the Presidium.⁽³⁵⁾

In its executive capacity, a Council of Ministers organizes its ministries, committees, main administrations, and other bodies, to which are subordinated

many of the facilities described in the Directory. Generally, those facilities which the policymakers believe require centralized management are either subordinate to or controlled by the U.S.S.R. Council of Ministers.

As a collective body, a Council of Ministers is the highest executive and administrative organ of State power in the U.S.S.R. and the republics. When meeting as a body, the members of a Council of Ministers are executives who perform the acts necessary to give legal effect to policy. The members of the Council of Ministers are ministers and other types of heads of specified governmental units. These units administer the facilities and institutions subordinate to them. The Directory lists these administrative affiliations.

See Figures 1 and 3 for the administrative relations of the U.S.S.R. and republic governments, and Figure 4 for a graphic presentation of governmental bodies subordinate to the U.S.S.R. Council of Ministers.

There are five All-Union and ten Union-Republic ministries subordinate to the U.S.S.R. Council, which are general State bodies directing definite spheres of economic life. The preservation of some All-Union ministries was necessitated by the special conditions in those sectors of the economy. For example, centralized guidance of the financial system is determined by the unity of the monetary system in the Soviet Union.^(6,36)

As of December, 1962, the U.S.S.R. Council of Ministers has 25 State Committees in charge of various fields of the economy and technology. These are shown in Figure 4. The Council also has committees and central boards and administrations in charge of specialized sectors of economic management.

The functions of the State Committees differed from the functions of the economic ministries. The State Committees were supra-agencies that did not manage directly the enterprises in the respective branches of economy. Their job was to elaborate and put into effect a single technical policy, to make a detailed study of the special problems of their branches. The State Committees compiled plans of research and design work and then controlled their fulfillment. The results of their activity and their reports were used in working out long-term and current economic plans.^(5,6) Decisions made in November, 1962, changed the character of the State Committees that deal with branches of the economy. The Central Committee of the Party decided that guidance of research and design organizations would have to be centralized in the appropriate industrial State Committees. They would now have administrative control over most research and design facilities, and would have the deciding word in working out plans for new technology in their respective branches.⁽⁴⁾

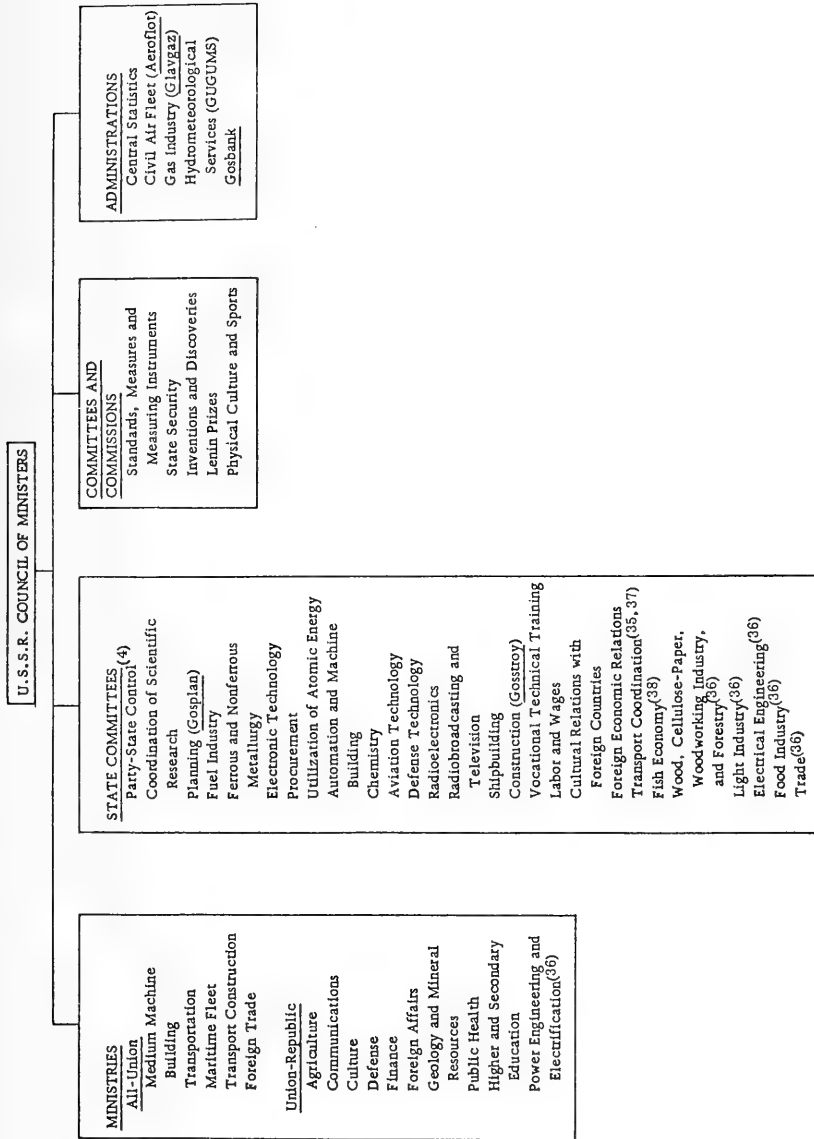


FIGURE 4. ADMINISTRATIVE ORGANS ATTACHED TO THE U. S. S. R. COUNCIL OF MINISTERS

There are State Committees for individual branches of industry: ferrous and nonferrous metallurgy, defense technology, chemicals and fuels, aviation technology, electronics, ship building, atomic energy, automation and machine technology, timber and wood processing, forestry, transportation, and fisheries. Besides these, there are State Committees on coordination of scientific research, questions of labor and wages, security, professional and technical education, and foreign economic relations.

The finance and credit system is represented by the Finance Ministry and the State Banks. The accounting and statistics system is under the jurisdiction of the U.S.S.R. Central Statistical Administration.⁽⁵⁾

Until December, 1962, the general planning and economic bodies attached to the U.S.S.R. Council of Ministers were the U.S.S.R. State Economic Council (Gosekonomsovet) and the U.S.S.R. State Planning Committee (Gosplan). Gosekonomsovet handled long-term planning and Gosplan dealt with short-term and current planning. Current planning included checking on general plan fulfillment by the U.S.S.R. and republic agencies and the meshing of detailed production and construction plans with material and technical supply. In the republics, their territories, regions, and districts, lower level planning committees had similar functions.⁽⁵⁾ Planning bodies at all levels are agencies of their respective executive and administrative bodies and act as their "economic general staffs".⁽⁶⁾

In December, 1962, the Supreme Soviet U.S.S.R. acted on proposals made by Premier Khrushchev during a session of the Central Committee of the CPSU in November. The Supreme Soviet approved a reorganization of the top-level planning agencies, abolishing the Gosekonomsovet, returning to Gosplan the tasks of long-range planning, establishing a new agency to be called the U.S.S.R. Sovnarkhoz. The newly formed U.S.S.R. Sovnarkhoz would be given power to settle questions of current plan fulfillment. The Supreme Soviet also created four new State Committees on electrical engineering, light industry, food industry, and trade.^(4,36) Since no information more recent than November, 1962, was used to prepare the descriptions in the Directory, some of the institutes will still be reported as subordinate to the Gosekonomsovet despite the abolition of this agency in December, 1962.

The most important State Committee for the supervision of science, technology, and education is the U.S.S.R. State Committee for the Coordination of Scientific Research formed in April, 1961.^(1,39) Because its formation, and the subsequent formation of its republic counterparts, directly affected both the functions and scope of the U.S.S.R. Academy of Sciences, the State Committee for Coordination is discussed below as one of the administrative organs of direct control over the scientific community.

ADMINISTRATIVE ORGANS OF DIRECT CONTROL
OVER THE SCIENTIFIC COMMUNITY

THE SCIENTIFIC COMMUNITY ON A NATIONAL SCALE

Within its population of over 200 million, the Soviet Union had, at the end of 1961, a total of 404,000 scientific workers.^(40,41) Scientific workers were defined as those persons with sufficient professional qualifications to enable them to work in scientific, technical, and educational positions in 3828 research establishments.⁽⁴⁰⁾

Figures 5 through 10 and Tables 3 through 7 are based on or taken from Soviet and other references.^(40,43) The numbers in the figures have been rounded off to average out the years from 1960 to 1962. Therefore, the figures show merely the approximate distribution of scientific manpower in the Soviet Union.

Soviet scientific workers depend on various Soviet administrative bodies for financial support, space, equipment, assisting personnel, and over-all direction. For the administration of the scientific community, the Soviet State has created governmental and extra-governmental administrative units to ensure the execution of national policy and plans for science, technology, and education.

The bodies with the broadest jurisdiction over scientific affairs are the Academies of Sciences, the State Committees on Coordination of Scientific Research, the Republic, Regional, and Municipal Economic Councils, the Ministries for Higher and Specialized Secondary Education, and the Republic State Committees for Higher Education.

A published study, funded by the National Science Foundation, presents exhaustive detail on the structure of Soviet education, and should be consulted if further details are desired.⁽²⁸⁾

Other administrative units subordinate to the Council of Ministers, such as the ministries and administrations, are responsible for a share of research and technology through their control and direction of research and technological facilities subordinate to them, as indicated in the Directory.

In 1961, 93,000 Soviet citizens (26 per cent of the scientific workers) were considered as having a scientific profession. Of this figure, 9,900 were professors, 36,200 were lecturers (docents), 20,300 were senior scientific associates, and 26,700 were junior scientific associates and assistants.⁽⁴¹⁾

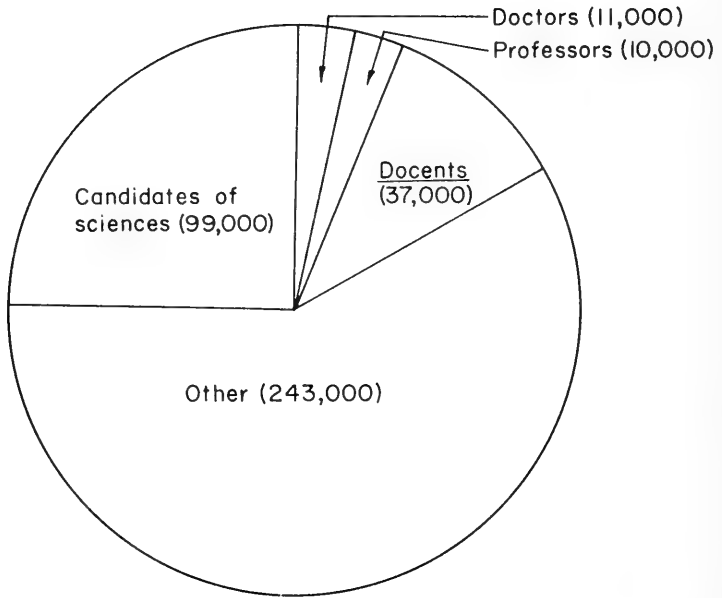


FIGURE 5. PROFESSIONAL QUALIFICATIONS OF ESTIMATED NUMBER OF SCIENTIFIC WORKERS

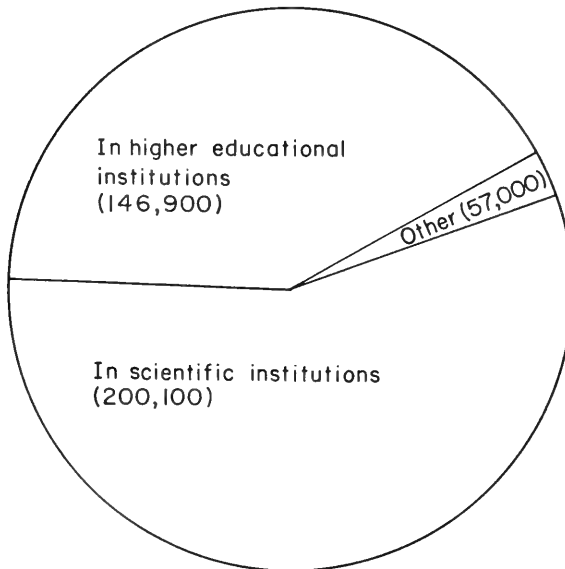


FIGURE 6. DISTRIBUTION OF SCIENTIFIC WORKERS

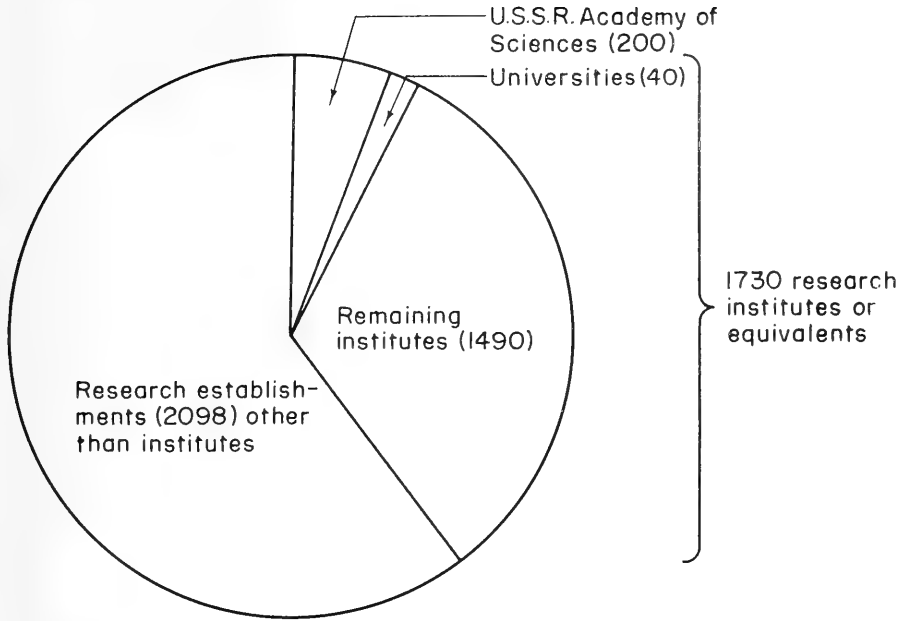


FIGURE 7. TYPES OF RESEARCH ESTABLISHMENTS

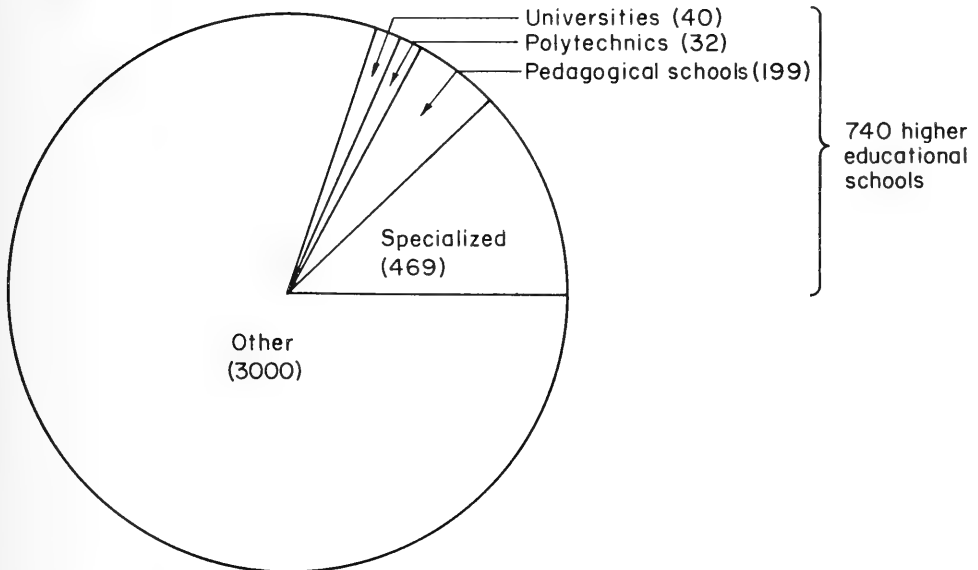


FIGURE 8. TYPES OF EDUCATIONAL ESTABLISHMENTS

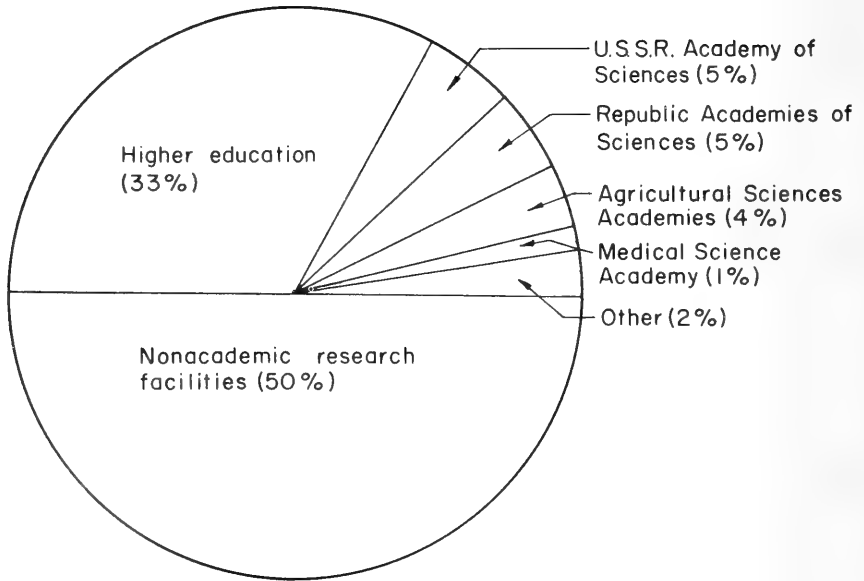


FIGURE 9. ADMINISTRATIVE AFFILIATIONS OF SCIENTIFIC WORKERS

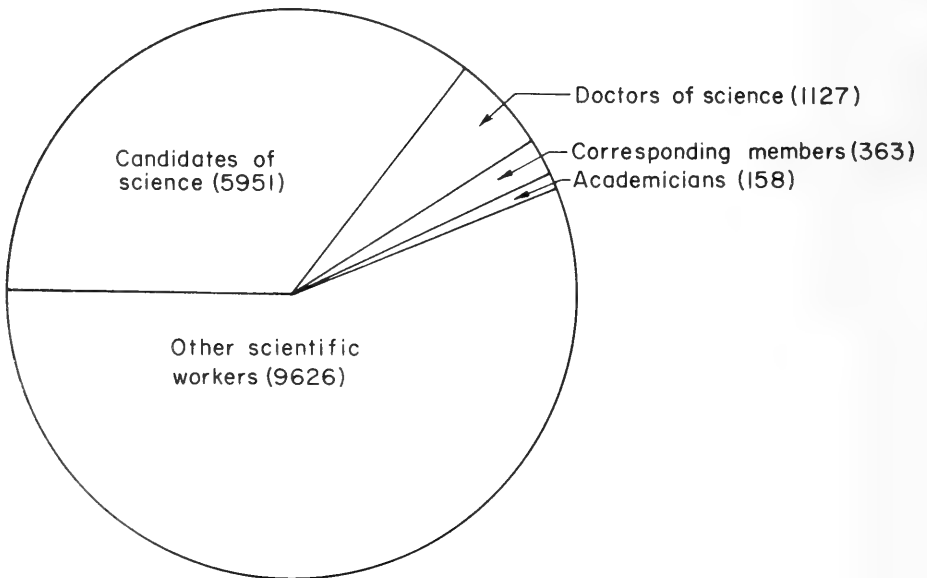


FIGURE 10. PROFESSIONAL QUALIFICATIONS OF SCIENTIFIC WORKERS EMPLOYED BY THE U. S. S. R. ACADEMY OF SCIENCES

TABLE 3. QUALIFICATIONS OF SCIENTIFIC WORKERS, 1960⁽⁴²⁾

	Total	In Higher Educational Institutions	In Scientific Institutions
Total Number of Scientific Workers:	354,158	146,915	200,071
Doctors of Science	10,945	5,967	4,656
Professors	8,410	5,425	2,809
Senior Scientific Associates	1,512	34	1,461
Candidates of Science	98,262	51,911	40,097
Professors	661	347	272
Senior Scientific Associates	17,509	704	16,485
Docents	32,505	29,597	2,226
Junior Scientific Associates and Assistants	5,969	2,036	3,775
Without Academic Degree	244,951	89,037	155,318
Professors	836	599	141
Senior Scientific Associates	1,238	190	1,014
Docents	2,971	2,485	238
Junior Scientific Associates and Assistants	20,710	5,254	15,238

TABLE 4. DISTRIBUTION OF SCIENTIFIC WORKERS BY POSITIONS OCCUPIED, 1960⁽⁴²⁾

	Total	Doctors of Science	Candidates of Science
Total Number of Scientific Workers in Scientific Institutions:	200,071	4,656	40,097
Scientific-Administrative Personnel	40,934	3,404	13,305
Senior Scientific Associates	38,239	1,217	18,051
Junior Scientific Associates	65,743	2	7,820
Scientific Workers With None of the Positions Above	55,155	33	921
Total Number of Scientific-Pedagogical Workers in Higher Educational Institutions:	146,915	5,967	51,911
Directors and Deputy Directors for Academic and Scientific Work	2,057	362	1,233
Deans (Dekans)	2,876	229	1,836
Heads of Chairs	16,901	4,136	9,204
Professors	1,547	1,022	185
Docents	25,940	121	23,048
Assistants	41,397	6	6,983
Senior Instructors and Instructors	50,420	57	8,318
Scientific Workers Who Do Not Teach	5,777	34	1,114

TABLE 5. COMPOSITION OF SCIENTIFIC WORKERS IN TERMS OF ADVANCED DEGREES AND PROFESSIONS⁽⁴¹⁾

	Scientific Workers as of October 1, 1960	In Higher Educational Institutions	In Scientific Institutes
Total Number of Scientific Workers	354,200	146,900	200,100
Doctor of Sciences Degree	10,900	6,000	4,700
Candidate of Sciences Degree	98,300	51,900	40,100
Scientific Profession	93,000	47,200	43,800
No Degree or Scientific Profession	219,200	80,500	138,700

TABLE 6. NUMBER OF SCIENTIFIC WORKERS WITH ACADEMIC DEGREES AND SCIENTIFIC TITLES⁽⁴²⁾

	1960
Total Number of Scientific Workers	354,158
Doctors of Sciences	10,945
Candidates of Sciences	98,262
Professors	9,907
Docents	36,155
Senior Scientific Associates	20,259
Junior Scientific Associates	26,693

TABLE 7. AGE DISTRIBUTION OF SCIENTIFIC WORKERS⁽⁴¹⁾

Age	Percentage in Indicated Year	
	1939	1959
Up to 29	24.4	20.8
30-39	41.8	34.6
40-49	20.7	22.5
50-54	5.9	10.5
55-59	3.6	6.9
60 and over	3.5	4.7

Of the 11,000 scientific workers with a doctor of sciences degree, 8,400 also carried the rank of professor, and 1,500 held the rank of senior scientific associate. Of the 98,000 candidates in 1961, 700 held the rank of professor, 17,500 held the rank of senior scientific associate, and 32,500 were docents. Of the 245,000 scientific workers who did not possess an advanced degree, 26,000 were ranked as professors, senior scientific associates, docents, junior scientific associates or assistants.⁽⁴¹⁾

In the distribution of the scientific workers according to the branches of science as grouped by the Soviets, more than 60 per cent of the scientific workers are employed in the technical, medical, physical, mathematical, and chemical sciences.⁽⁴¹⁾

The U.S.S.R. Minister for Higher Education said that, in 1961, almost 147,000 scientific workers were employed in educational institutions, and more than half of all the professors and doctors of science were concentrated in educational institutions.⁽⁴⁴⁾

REORGANIZATION OF THE ADMINISTRATION OF SCIENCE IN 1961

An important addition to Soviet policy concerning science and the plan for its implementation were provided by a joint decree of the Party and the U.S.S.R. Council of Ministers on April 10, 1961.⁽¹⁾ The reorganization followed several years of Soviet experimentation with administrative forms to establish an efficient, reliable, and adaptable focus of authority for coordination of science.^(18,28,45-48) Ultimately, the Party is the final coordination power, but the Party must make decisions on the basis of the advice of experts. Before 1961, the U.S.S.R. Academy of Sciences was charged with the responsibility of coordinating scientific research in the Soviet Union, although most research facilities were not under the jurisdiction of the Academy. In 1961, a new State Committee was formed charged with the responsibility for coordination of scientific research and was attached directly to the U.S.S.R. Council of Ministers.⁽¹⁾ This State Committee for Coordination of Scientific Research, herein called the Coordination Committee, is the formally constituted board of experts given the duty and the power, by both the Party and the State, to marshal the scientific community. By 1961, there were some 170 different agencies responsible for supervising scientific research in the Soviet Union. The Coordination Committee's main task is to establish priorities in the administration of research on key problems by these agencies.⁽⁴⁹⁾

Following the 1961 joint decree, Professor Leon Trilling, Massachusetts Institute of Technology Soviet affairs expert, concluded that the decree indicated

that the Soviets would concentrate on the potential applications of the result from their research projects. He felt that the Soviet principles and realities of scientific administration would not be changed except in degree. Professor Trilling restated the five guiding principles of Soviet administration of science as follows:

1. Strict priorities are set by the policymakers who do not accept extensive advice from scientists on which things should be done, but do accept advice on how they should be done.
2. Separate facilities are maintained for research, technology, and production. Personnel to staff these facilities are given differentiated training within the educational system.
3. The principle of one-man responsibility is dominant in high-priority programs.
4. Special task forces are formed for special jobs under one man.
5. A multiple-hat system results in the assignment of a number of concurrent administrative responsibilities to many leading scientists, thus concentrating the coordination power in a small group of men.^(50,51)

Thus, concentration of power in the hands of professional administrators has been diluted by the rise of scientists of proven ability to the positions of supervisors at all levels of administration.⁽⁵²⁾

The 1961 joint decree retained Academies of Sciences and Ministries of Higher and Specialized Secondary Education, but bound them to the State Committees on Coordination of Scientific Research.

THE ACADEMIES OF SCIENCES

The Academies of Sciences are of two types: The U.S.S.R. Academy of Sciences, and the republic Academies of Sciences. All the Academies operate under their own charters, approved by the State.^(53,54)

The Academies of Sciences should not be confused with the specialized Academies among which are the following:

Academy of Medicine U.S.S.R.
Academy of Agriculture U.S.S.R.

Academies of Agriculture in six regions
 Academies of Construction and Architecture of the U.S.S.R. and
 the Ukrainian S.S.R.
 Academy of Arts U.S.S.R.
 Academy of Pedagogical Sciences R.S.F.S.R.
 Academy of Communal Economy R.S.F.S.R.
 Various military academies

The administrative structures of the republic Academies of Sciences and the specialized academies are very similar to that of the U.S.S.R. Academy of Sciences. The U.S.S.R. Academy of Sciences retains a measure of supervision over the republic Academies through a Council for the Coordination of Scientific Activities of the Union-Republic Academies which is attached to the Presidium of the U.S.S.R. Academy.

Structure of the U.S.S.R. Academy of Sciences⁽⁵³⁻⁵⁶⁾

Figure 11 shows the structure of the U.S.S.R. Academy and its relation to other administrative units.

The Academy has a self-perpetuating membership. That is, the qualified members of the Academy vote for the new members. There are two grades of voting membership. The full or active member is called an Academician; the voting member of lesser rank is called a Corresponding Member of the Academy or Corresponding Academician. New members are nominated by Academy facilities and also recommended by facilities outside Academy jurisdiction. Only those scientists who have distinguished themselves by outstanding scientific achievements are nominated. The Academician is the cream of the scientific community. Academy members do not all work in Academy facilities, but they vote on Academy affairs.

In 1960, there were 160 full members or Academicians and 369 Corresponding Members. The U.S.S.R. Academy employed 127,000 persons in 1961.⁽⁵⁷⁾ In 1961, the average age of the Corresponding Members was well over 60.⁽⁴³⁾

The active voting members are called to form a General Assembly which has authority to formulate the general lines of scientific work, supervise the research of the Academy facilities, and elect new members. The General Assembly votes for its Presidium and chief executive called the President of the Academy. The Academy has a Chief Scientific Secretary elected by the Presidium who is a member of the Presidium along with the Vice Presidents, the Secretaries of the departments, and other selected Academicians. The Presidium has interim authority, subject to subsequent approval by the General

Assembly, to make policy decisions and to carry out Academy affairs. The Presidium is the center of administrative power. The Chief Scientific Secretary is the official representative of the central apparatus of the Party.⁽⁵²⁾

Directly attached to the Presidium are eight functional departments to administer Academy facilities, a ninth functional department in the formation state, and one territorial department, the Siberian Department.⁽⁵⁸⁾ The latter has its own Presidium. For other bodies directly attached to the Presidium, see Figure 11.

The U.S.S.R. Academy of Sciences serves as the R.S.F.S.R. Academy. Part of the U.S.S.R. Academy is located in a branch in Leningrad. The Academy affiliates located in the R.S.F.S.R. were turned over to the R.S.F.S.R. State Committee for the Coordination of Scientific Research.⁽⁵⁹⁾ However, the U.S.S.R. Academy retains a measure of supervisory control over its former affiliates.

As indicated in Figure 11, Academy institutes and laboratories described in the Directory are subordinated, with some exceptions, to the Departments of the Academy. Annual reports made by the Department Secretaries present a general survey of academic accomplishments for the previous year as well as general plans for the following year. These reports and the yearly report of the Chief Scientific Secretary are published in the Academy's news journal, the *Vestnik Akademii Nauk SSSR*.^(57,60) The Department bureaus act as presidiums for the Departments.⁽⁵³⁾

The 1961 reorganization resulted in a reduction in the number of institutes attached to the Academy's Department of Technical Sciences. The institutes that were intimately concerned with the problem of introducing technology into production were placed under the several State Committees whose mission it is to capitalize on the work of technological institutes. The affiliations of the divorced institutes have not been reported in all cases. In the case of the Institute of Automation and Remote Control, the Academy has retained methodological supervision. The Academy President said, "The opinion is becoming more and more widespread that the Department of Technical Sciences must be founded on a small number of basic institutes dealing with problems of broad significance . . . The institutes . . . must be the leading scientific centers in these fields."⁽⁵⁸⁾ He added that such institutes yet to be formed are to create close ties with the leading design groups and the major branches of industry, the officials of which were to be members of the Department of Technical Sciences. He said, "I think we must set our course firmly toward this reorganization even though it cannot be carried out all at once . . ."⁽⁵⁸⁾

The scientific workers of the Academy are attached to the administrative divisions of the Academy and the Academy facilities. The workers include the voting members who are in charge of or who are attached to some facility, senior and junior research associates, and technical assistants.^(54,58)

The Academicians are in the process of reviewing the charter of the Academy and changes have been proposed. For example, the Chief Scientific Secretary may be assigned a four-year term and may be required to be a member of the Presidium before his election to the Secretaryship. Four-year terms have been recommended for Presidium members, Secretaries of the Departments and their deputies, members of the Departmental Bureaus, and Academy Institute Directors. Only the President would have a five-year term.⁽⁵⁴⁾

Relations of the U.S.S.R. Academy of Sciences With
Non-Academy Administrative Organs and Facilities

Before 1961, the Academy enjoyed a high degree of autonomy. The Academy President sat ex officio at deliberations of the U.S.S.R. Council of Ministers. The Academy President is now a member of the U.S.S.R. State Committee for the Coordination of Scientific Research, and Academy affairs are represented on the U.S.S.R. Council of Ministers by the Chairman of the Coordination Committee. The Academy no longer administers scientific affairs outside its own jurisdiction except in a supervisory capacity. The voice of the Academy is strongest in the specialized councils which have been formed to explore the main problem areas in Soviet science and set a system of priorities in research and technology. These are called scientific councils.

To implement the instructions of the Party and the U.S.S.R. Council of Ministers, the U.S.S.R. Academy has formed 27 scientific councils attached to its Presidium as of 1962. Additional councils are to be formed as required. Twenty-four similar councils are attached to the U.S.S.R. Coordination Committee.^(57,61) The Academy scientific councils work on basic or theoretical problems, and the Coordination Committee scientific councils work on problems having a predominantly technological or applied character. The Academy bears a heavy responsibility for the work of all the scientific councils. A large number of the scientific councils are controlled by members of the Academy, and Academy members take an active part in all of them.⁽⁵⁷⁾ The Academy President said, "Undoubtedly, if we wish to increase the role of the Academy, then we have to shy away from the organizational side of scientific activity It is precisely by means of scientific councils that all of our leading scientists, and not just those of the Presidium of the Academy and its Departments, will direct science."⁽⁶²⁾

As late as November, 1961, some of the scientific councils were still in an organizational stage. These scientific councils are not the same as the 70 councils formed by the Academy before 1961. While these still exist, many are no longer functioning.⁽⁶²⁾ The Presidium has prepared a statement of membership, rights, and duties of its councils.⁽⁶²⁻⁶⁴⁾ The President promised

to secure all possible prerogatives for the councils, but he warned that the more the councils give to the country, the more prerogatives they will receive.⁽⁶²⁾ By 1962, of the 2000 scientists who volunteered for work on these councils, 430 were Academicians and Corresponding Members of the Academies of Sciences.⁽²⁾ Khrushchev suggested to the scientific community that the remuneration of scientists would be based on the results of the introduction of their work into industry, thus ensuring a sense of direct responsibility.⁽⁶⁵⁾ The total number of scientists and specialists enrolled in the scientific councils is 7000.⁽²⁾

In summary, although the facilities coordinated remain administratively independent of the coordination organizations, the scientific councils are organs of the national scientific community which bring together personnel from various facilities for the purpose of apportioning research and technological tasks. In these councils, there is an interchange of information among the Academy members and the research heads of non-Academy facilities, representatives of Gosplan and other State agencies, and high-level production personnel.

The Republic Academies of Sciences

There are 14 republic Academies of Sciences that control over 200 institutes. The U.S.S.R. Academy serves the R.S.F.S.R. as its Academy of Sciences. Two of the largest and most important are the Academies of Sciences of the Ukrainian S.S.R. and the Georgian S.S.R. The facilities of these and the other republic Academies are described in "Part II. The Academies of Sciences and Their Principal Facilities".

Republic Academies have structures similar to, if less complex than, the U.S.S.R. Academy. Republic Academies elect their Academicians in much the same manner.

Functions of the U.S.S.R. Academy of Sciences

The Soviet government and the Party have instructed the Academy to concentrate on developing the most promising trends in science that will contribute to solutions within three categories of national objectives. Specifically, the Academy is to (1) ensure the scientific and methodological supervision and performance of research in the natural and humanistic sciences with a view to the utilization of research results; (2) extend broader assistance than the republic Academies of Science, and coordinate the activities of its own research

institutes, those of the republic Academies, and the higher educational institutions in the area of theoretical problems in the natural and humanistic sciences; (3) maintain scientific ties with scientific institutions abroad; and (4) carry out the training of scientific personnel (cadres).⁽¹⁾ Maintaining foreign scientific ties is carried out in part through the Scientific-Technical Societies affiliated with the Academy as illustrated in Figure 11.

The charter of the U.S.S.R. Academy defines it as a collective of scientists which unites in itself the representatives of all the basic branches of knowledge and as an organization which carries out directly a definite share of scientific investigations in the Soviet Union.⁽⁵⁴⁾

Premier Khrushchev in November, 1962, discussed the Academies of Sciences saying that henceforth, research institutes must be developed not under the Academies of Science but in indirect contact with production. He said that coordination of the work of the republic Academies of Science was still poor.⁽⁴⁾

THE STATE COMMITTEES ON COORDINATION OF SCIENTIFIC RESEARCH

A joint decree of the Party and the U.S.S.R. Council of Ministers established the U.S.S.R. State Committee on Coordination of Scientific Research in 1961. It was formed to pool the technical and scientific knowledge of Soviet science and industry dispersed in different facilities and agencies, and to determine on the basis of this pooled knowledge, the volume of scientific and technical research most desirable at any given time.⁽⁴⁸⁾

Structure of the U.S.S.R. State Committee on Coordination of Scientific Research

Membership on this Committee consists of the Chairman (who is also a Deputy Chairman of the U.S.S.R. Council of Ministers), Deputy Chairmen, and persons who are members by virtue of their other administrative offices and specialties. The latter are the Chairmen of the State Committees on Automation and Machine Building and on Chemistry, the Chairman of the Committee on Inventions and Discoveries, a Deputy Chairman of the former State Economic Council, and a Deputy Chairman of Gosplan. Both the Minister of Higher and Specialized Secondary Education U.S.S.R. and the President of the U.S.S.R. Academy of Sciences are members.⁽¹⁾ The Chairmen of the State Committees

for the Uses of Atomic Energy, Defense Technology, and Aviation Technology are not official members.^(45,66) However, members of their staffs may be included in the Learned Council of the Coordination Committee which comprises prominent scientists in various fields and heads of the leading research establishments.⁽¹⁾

Purposes, Duties, and Rights of the U.S.S.R. State
Committee on Coordination of Scientific Research

The following reasons for the establishment of the Committee were given by its Chairman two years after its formation, at a time when many of the coordination problems were still unsolved:

1. There was and is duplication. Only in areas where the goal is compelling is such duplication tolerated. Coordination under such circumstances consists of delineating the activities of each facility and timing the completion of each unit of work. For example, almost 100 facilities are working on some phase of the direct transformation of thermal energy into electricity.
2. The united efforts of many departments and enterprises are necessary to incorporate research results, and there must be some body with the knowledge and power to facilitate such unity of action.
3. The pace of science is so rapid that coordination is necessary for communication.
4. Scientific development is one of the most important conditions for the giant growth of production, and is part of the campaign for maximum results from optimum inputs.
5. Lack of coordination resulted in Soviet published research being incorporated abroad before Soviet use.
6. Finally, the perfection of coordination will result in that highest form of organization, a unified State Plan.⁽²⁾

The functions of the Coordination Committee were determined on the basis of three categories of major problems in science and technology.

1. Research on major economic problems on which work had reached the experimental or design stage
2. Long-term applied research on concrete economic problems
3. Basic research in the natural sciences devoted to discovering new paths of progress.^(62,64)

The problems in the first category are to be coordinated by the Coordination Committee working with State administrative units and the Academies. Work on the problems in the second category includes research, the development of experimental plants, and preliminary planning. Facilities engaged in such activities are scattered all over the Soviet Union, but their efforts will be correlated by the Coordination Committee. Parallel research involving different approaches will be tolerated in order to obtain solutions at the earliest possible date.⁽⁶⁴⁾ The direct transformation of thermal energy into electricity is an example of tolerated duplication. The drafting of proposals for work on the problems of the third category has been assigned to the U.S.S.R. Academy of Sciences and the scientific councils attached to the Academy.⁽¹⁾ Initially, at least, the Academy is limited to framing proposals which must be approved before they are implemented.

Specifically, the Coordination Committee is charged with the following tasks:

1. National control of the fulfillment by all ministries, departments, and organizations of the most important research objectives (outlined above) and supervision, on an operational basis, of the prompt introduction of scientific and technical achievements into the national economy.
2. Preparation of proposals for research and development work of greatest national significance, and concern with problems posed by new discoveries and inventions.
3. Preparation of proposals concerning the supplying of the country's research establishments with special equipment, apparatus, and instruments.
4. Study and evaluation of the achievements of international science and technology with a view toward their utilization in the national economy; direction of the task of providing the country with scientific and technical information [through a joint administration of the All-Union Institute of Scientific and Technical Information⁽⁶⁷⁾]; and the coordination of the international ties of ministries, departments, and research organizations in the areas of science and technology.

The duties of the Coordination Committee summarized above are matched by its powers. It can (1) supervise the work being done by individual facilities; (2) coordinate the activities of the U.S.S.R. and Union-Republic Academies of Sciences with those of the ministries and departments; (3) follow the conduct of research up to the time its results are introduced into the national economy; (4) work out draft plans for research projects and plans for introduction of achievements into production in such a way as to ensure the development of all branches of the economy which have been drawn up jointly with the U.S.S.R. State Economic Council, and the U.S.S.R. Gosplan with suggestions from the Union-Republic Councils of Ministers and the U.S.S.R. ministries and other administrative units to be submitted for approval to the U.S.S.R. Council of Ministers; and (5) on the basis of the draft plans from the Union-Republic Councils of Ministers, the U.S.S.R. Ministries, and other administrative units, work out and submit to the U.S.S.R. Council of Ministers for approval annual and long-range plans for the financing of research projects and their material and technical supply, as well as draft plans for capital investments in the development of science, these plans to be made in conjunction with the U.S.S.R. Gosplan, the U.S.S.R. State Economic Council, and the U.S.S.R. Ministry of Finance.⁽¹⁾

In summary, the Coordination Committee has the duty and right to coordinate all research projects except those that are not concerned with more than one branch of the economy. The latter will be coordinated by other State administrative units, including the sovnarkhozy (republic, regional, and and municipal economic councils.)

Union-Republic State Committees on Coordination of Scientific Research

Shortly after the formation of the U.S.S.R. Coordination Committee, nine Union-Republic Committees were formed, concerned with problems peculiar to the scientific community and economy of their own republics. The Chairmen of these Coordination Committees are Deputy Chairmen of their respective Union-Republic Councils of Ministers. They are modeled on the U.S.S.R. Coordination Committee.

The R.S.F.S.R. State Committee for Coordination of Scientific Research was given jurisdiction of the former U.S.S.R. Academy of Sciences affiliates. In the R.S.F.S.R., the coordination of the work of the scientific facilities subordinate to the sovnarkhozy is the joint duty of the Coordination Committee and the Supreme Soviet of the National Economy of the R.S.F.S.R. (VSNKH). The R.S.F.S.R. Ministry of Higher and Specialized Secondary Education works with the Coordination Committee to coordinate the scientific and technical work

of the higher educational institutions. Any scientific and technical work not of all R.S.F.S.R. importance remains with the sovnarkhozy and the R.S.F.S.R. ministries and administrative units to coordinate.^(68,69)

The purposes, duties, and rights of Union-Republic Coordination Committees are similar in kind if not in scale or degree to those of the U.S.S.R. Coordination Committee. They must coordinate and work with the same kind of administrative units as does the U.S.S.R. Coordination Committee, but within the republics. It is the Union-Republic Gosplans, Academies of Sciences, and Ministries of Higher Education that form the teams. This is ensured by a similar membership on the Union-Republic Coordination Committees.^(65,70) The only exception is the unique position within the union republics of the sovnarkhozy, discussed in the next paragraph.

REPUBLIC AND REGIONAL ECONOMIC COUNCILS (SOVNARKHOZY)

Because there are no longer any purely industrial U.S.S.R. ministries since the reorganization of 1957, the daily administration of facilities for the production of industrial goods has been assigned to the latest version of Soviet territorial economic councils, called the sovnarkhozy.^(5,6,7) Some are limited in jurisdiction to one region or city of a republic; others are republic-wide.⁽¹⁸⁾

The more than 100 sovnarkhozy were directly responsible to their respective republic Councils of Ministers, but their activities were regulated in part by the U.S.S.R. administrative units such as U.S.S.R. Gosplan. In 1961, remaining regional sovnarkhozy were grouped into 17 economic regions, each supplied with a coordinating and planning council whose deputy executives were chosen by the Party.⁽⁷²⁾ Since then, within many republics there have been debates on the relation of the sovnarkhozy to the republic Councils of Ministers and the administrative units of the Councils of Ministers such as the republic Gosplans.^(73,75)

The sovnarkhozy are divided into branch administrations for supply, marketing, machine building, aircraft building and others, and these branch administrations are accompanied by operational administrations for planning, personnel, and others. Service departments and laboratories are attached to the sovnarkhozy. Each sovnarkhoz has a scientific-technical council, and some have other advisory councils.⁽¹⁸⁾

Some sovnarkhozy have scientific and technological research facilities subordinate to them, but these facilities are seldom of national importance, as they serve local needs. Some of these facilities are included in the Directory.

THE MINISTRIES OF HIGHER AND SPECIALIZED
SECONDARY EDUCATION

Criteria for Selection and Training of
Professional Scientific Workers

A recently published comprehensive study on Soviet education was sponsored by the National Science Foundation.⁽²⁸⁾ It should be read in connection with the subsequent joint resolution of the Party and the U.S.S.R. Council of Ministers, "On Measures for Further Improving the Selection and Training of Scientific Personnel". The background and administrative provisions of this resolution are summarized below.⁽⁷⁶⁾

Although the total number of scientific workers in 1961 indicated a measure of success in Soviet education, the tempo of such training was inadequate. The Party and State have noted the following inadequacies:

1. Young scientists are slow to be promoted to independent work and to responsible scientific-organizational posts.
2. Persons who have not made a favorable showing in scientific work are not always soon replaced by more capable personnel.
3. Some dissertation themes have no essential scientific or practical significance, and scientific councils of higher educational institutions and research institutes approve the award of degrees for low level work.
4. Most graduate students do not defend their dissertations on schedule.

The resolution then provided the following administrative changes to eliminate weaknesses. The U.S.S.R. State Committee for Coordination of Scientific Research has been given the duty of working out, jointly with the U.S.S.R. Gosplan, the U.S.S.R. Gosekonomsovet, the U.S.S.R. Ministry of Higher and Specialized Secondary Education, and the U.S.S.R. Academy of Sciences, annual and long-range plans for training scientific personnel.

Trainee positions in research, academy, and higher educational institutions have been created, to be filled for two-year terms by young specialists from the ministries, agencies, and Union-Republic Academies of Sciences. Those from ministry and academy institutes will then return to their former place of work. The scientific research institutions where the training takes place are permitted to retain as permanent employees such specialists who

have particularly distinguished themselves while in training. The U.S.S.R. Gosplan will include such training positions in its annual plans of assignment of graduates.

Executive scientific-organizational positions in the scientific community are not to be held by persons over 65. Exceptions may be allowed only by special decisions of the presidiums of the Academies and the collegiums of ministries and agencies. Doctors of sciences or professors thus retired may be appointed as senior scientific staff consultants for the primary purpose of training scientific personnel.

Scientific councils of research and higher educational institutions entitled to award scholarly degrees are permitted to accept candidates' and doctors' dissertations for defense on condition that the councils include representatives of other institutions.

The Supreme Accreditation Commission (VAK) under the U.S.S.R. Ministry of Higher and Specialized Secondary Education must approve doctors' dissertations and review candidates' dissertations. It was felt that the Commission had not exerted the necessary influence on the work of the councils of research institutes and higher educational institutions. (Of the total number of research facilities, 240 were authorized to accept candidates' dissertations and 150 of these also accepted doctors' dissertations.)

In matters of tenure of scientific and educational staff members, periodic competitions are replaced by secret ballot elections for three- and five-year terms. Failure of re-election requires a declaration of a vacancy to be filled through a competition.

The Party and administrative units should take measures to relieve scientists of overloads of organizational and public assignments.

The U.S.S.R. Central Statistical Administration is instructed to carry out a census of scientific personnel according to an approved list of specialties.

The U.S.S.R. Ministry of Higher and Specialized Secondary Education and the U.S.S.R. Academy of Sciences are permitted to assign outstanding scientists to the union republics, for periods up to one year at their own base salary plus half the job salary at their temporary place of employment.⁽¹⁶⁾

By means of such resolutions and their implementation by administrative changes, students are steered into scientific areas that the policymakers have decided the country will need. The Soviet Union has planned for almost eight million students by 1980; this is more than three times the current number.⁽¹⁷⁾

Before he enters a higher educational institution, the student must complete two years of practical employment.^(77,78) The Soviet system provides two advanced academic degrees for diploma holders who choose or are chosen to receive advanced training. These are the candidate (kandidat) and doctor (doktor) degrees. Although they are theoretically sequential, a large number of doctorates are awarded on the basis of merit to recipients who have never held a candidate's degree. Degrees are not a prerequisite for teaching and research, but are conferred in recognition of past or concurrent teaching or research performance.⁽²⁸⁾ The Soviet student usually gets his advanced degree at a later age than the American student, because he has been engaged in his profession and has made some original and sometimes significant contribution. However, many who are capable of advanced degree work advance to administrative position and do not pursue graduate work.⁽⁷⁷⁾ Those who do are not ready to defend their candidate dissertations until they are past the age of 30.^(43,79) From the time a researcher enters graduate school to his retirement, he has been classified by the State as a scientist or technologist.

Types and Affiliations of Educational Institutions

The educational institutions are of two types, multibranch or specialized. The 40 universities and 32 polytechnic institutes are multibranch. The specialized institutions include 199 pedagogical institutes and institutions which train in narrowly specialized subjects. The university faculties are, for the most part, devoted to the natural sciences. Over half of the university faculties deal with the physical and mathematical sciences. The universities control some of the scientific research institutes (NIIs) described in the Directory. According to the Minister, the transfer of certain scientific research institutes to the educational institutions had not developed in practice despite the provisions of the Educational Code, "mainly because the government has endeavored to preserve the self-sufficiency of even the smallest scientific research institutes . . .".⁽⁴⁴⁾ The organizational forms were not yet smooth by the middle of 1962.^(80,81)

Role of the Problem Laboratories

There are approximately 300 special problem and special study laboratories connected with educational institutions.⁽⁴⁴⁾ These laboratories are one of the organizational methods of stimulating scientific study.⁽⁸²⁾ They are staffed with the teachers of those faculties under which they are developed, but when necessary, co-workers of other departments are also involved. The staffs do not receive special compensation if their work is not based on a State contract. The engineering staffs are transitory as the members are students. An actual mission, successfully accomplished, may originate a

scientific "school" which will be small at first, but which will be a basis for the rapid preparation of candidate and doctoral dissertations. The problem laboratory should not search for important subjects but focus on rapid development of an approved subject.⁽⁸³⁾ Such problem laboratories are being set up in the higher educational institutions at the request of some sovnrarkhozy.^(84,85) One Soviet scientific worker recommended that some of the special problem laboratories be turned into small research institutes.⁽⁸¹⁾

THE LOCAL ADMINISTRATION OF RESEARCH

Scientific workers may be chosen to serve as administrators of any of the administrative units discussed in previous sections or in any of the facilities described in the Directory. A substantial number of researchers and educators are chosen to be Party Secretaries in their primary Party organizations. The great bulk of administrative positions within the research facilities are held by scientific workers of proven ability.⁽⁵²⁾

Whether or not a Soviet scientific worker holds administrative position, he is subordinated to the administrative system. Each member of the scientific community has a duty to support Party and State activity while concurrently contributing to his own specialty. Occasionally this active support takes the form of solicited advice to the policymakers. Before policy is set, the scientific worker must give his expert advice both when asked or on his own initiative. A system of advisory councils exists to formalize this function. Within each research facility or educational institution there is a scientific or technical council, called a collegium, which has the right to be consulted by the director and the right to offer advice to him. Collegiums also have the duty to criticize the director.⁽¹⁶⁾ The collegial system of advisory councils employs a large percentage of the scientific workers on high State levels. Some 7000 scientific workers are enrolled as volunteers in the scientific councils of the State Coordination Committees and the Academies of Sciences. In the Soviet view, "The proper combination of one-man management and collegial leadership, one-man management and control and criticism by the masses, the combination of the authority of the leader and the initiative of the people he leads - is one of the cardinal features of democratic centralism."⁽⁶⁾

Scientific workers can be called upon to give advice to production enterprises as well. Often, the gap between research, technology, and production is bridged by the work of the scientific and technical professional societies. Almost all scientific workers belong to at least one of these societies, and

through its operations, give consultation, expert advice, and evaluations to members from production enterprises.⁽⁸⁶⁾ The societies themselves act as advisory bodies when they make recommendations to State administrative units. By bringing together their members at scientific and technical conferences devoted to key problems, the societies channel the energies and activities of the scientific community.

Frequently, the Soviets set up temporary task forces at any given administrative level, mixing scientists, technologists, production personnel, and government and Party workers to solve some particularly pressing problem.

If his knowledge or abilities are especially valuable to the State, a scientific worker must accept many administrative and collegial posts.⁽⁵²⁾ This practice is called "wearing many hats" (sovместitel'stvo) by Professor Trilling, and the careers of many top-level scientific workers illustrate this practice.⁽⁵¹⁾

Whether or not a scientific worker seeks administrative roles or rank, he may be given administrative duties on one or more levels within his own facility, his professional society, the Party, or the State. When a scientific worker is so appointed he accepts the burden of the Soviet administrator, who has both the responsibility and the duty to make decisions after consideration of collegial advice and the pressures from the State and Party.⁽¹⁷⁾ His decisions must fall within the framework of a State-approved plan, but he must be alert to new ideas which could modify the plan. He must actively compete with his peers, and urge his subordinates to compete with theirs. If he fails in any of his tasks, he must publicly confess his failure. If his superiors fail, he is expected to criticize them. Finally, despite his administrative duties, he is expected to make a contribution to his specialty. If the contribution is a major one, he may be elected to an Academy of Sciences. As an administrator or Academician, he will have trainees and research assistants, and from them he is to choose and develop his own replacement.

TYPES AND INTERNAL ORGANIZATION OF RESEARCH FACILITIES

Soviet research facilities may be grouped for convenience into three types, that is, scientific research facilities, technological research facilities, and educational research facilities. The distinctions between science, technology, and production are not clear-cut, for as one Soviet writer said, "Science more and more is becoming an immediate production force, while production is the technological application of modern science."⁽⁸⁷⁾

In general, the science institutes are concentrated in the Academies and higher educational institutions. The technological institutes are found in State industrial branches, some of the higher educational institutions, and some production facilities.

The Academies of Sciences generally deal with science, but they also handle complex technological problems. The higher educational institutions also deal in science and technology, but usually in a narrower scope, necessitated by more limited facilities and manpower. Their staffs consist mainly of educators. The industrial and humanistic research facilities parallel sectors of the economy and social welfare. Most of their research work is technological, but they do basic research when they are better equipped than any academic or higher educational institution. Research tasks outside the function of each facility are assigned on the basis of demands generated outside the facility. Technological research is assigned to the academies by the State. Technological research in the educational institutions is usually initiated by a contract with some production facility. Scientific research is assigned to the industrial research facilities by the State.

The Academies of Sciences have created joint laboratories with production enterprises and non-Academy institutes located at the enterprises and institutes. This program has met with administrative difficulties.⁽⁸⁸⁾

In April, 1961, the Party and the U.S.S.R. Council of Ministers instructed the U.S.S.R. State Committee on Coordination of Scientific Research to draw up a list of the leading research institutes as well as standard regulations for these institutes with recommendations for their eventual subordination.^(1,64) A "leading" or "head" institute is one that is exceptionally capable of carrying out research on a national scale in a particular field. These leading institutes may be attached to an academy, educational institution, or to a State Committee, and may be working in either science or technology. One of the functions of a leading institute is to coordinate research work in its field on a national scale.⁽⁷⁹⁾ Branches of leading technological institutes have been established at large plants. These branches may incorporate the research, design, and technical laboratories of the plant. The coordination of the work of these branches is done by the State Committee on Coordination of Scientific Research.⁽⁸⁹⁾ The extensive use of leading research institutes is a trend toward the functional organization of research in the Soviet Union, a type of organization being urged by some administrators.^(26,90) There is as yet no charter to define the functions, administrative powers, and limitations of the leading institutes.⁽²⁶⁾

The titles of the administrative heads such as rector, chairman, director, and head are clues to the type of facility. The chief executive of a committee or commission is a chairman. The chief administrator of an institute

is a director. The various titles of chief administrators of laboratories or administrations are usually translated as the "head" of the unit.

Actually, the structures of all three types of research facilities have much in common, and do not differ in principle from the structures of State administrative units. All are headed by one man. There is a collegium to advise him. In more complex facilities, there is a deputy chief administrator for scientific affairs. There is another deputy administrator for administration affairs to manage the accounting and business staff.

Research facilities that offer advanced education as only a part of their activities have a deputy chief administrator for educational affairs. Purely educational institutions are organized into departments or divisions comparable to a western college or school, headed by a dean (dekan). The departments are divided into chairs (kafedra) for different specialties. Research facilities such as institutes attached to educational institutions are similar to academy institutes.

Technological or experimental research facilities have a different structure. In addition to the usual administrative personnel, they have a chief engineer, a chief technologist, and usually a chief designer. Each of these has his own staff. Production enterprises that do some technological research are similar in structure to the technological research facilities.

The three types of research facilities formed to administer science, technology, and education are illustrated in Figures 12, 13, and 14. No one facility described in the Directory (Part III) is an exact duplicate of any of these types, but the variations are minor compared with the similarities, and these typical structures are a useful guide in dealing with the facility descriptions that follow in the Directory.

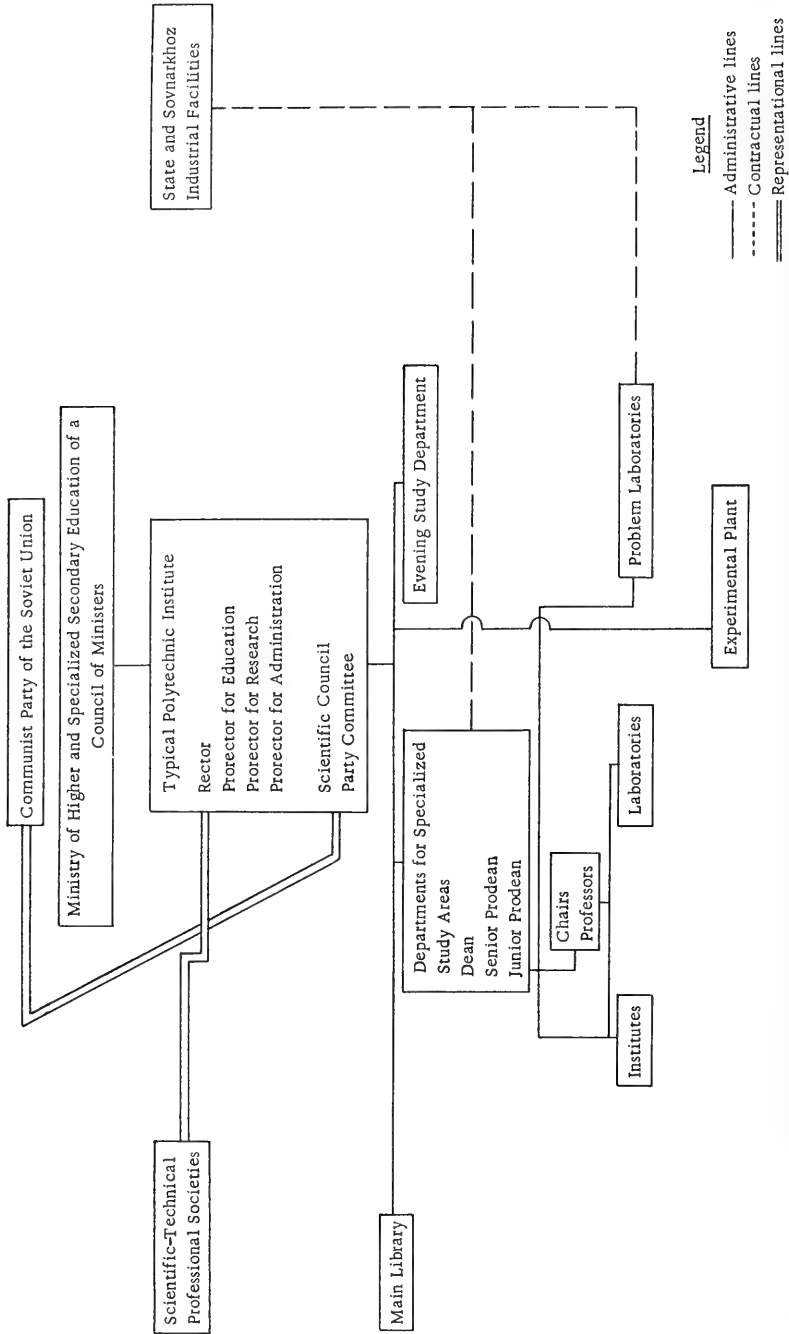


FIGURE 12. TYPICAL STRUCTURE OF A HIGHER EDUCATIONAL MULTIBRANCHED INSTITUTION

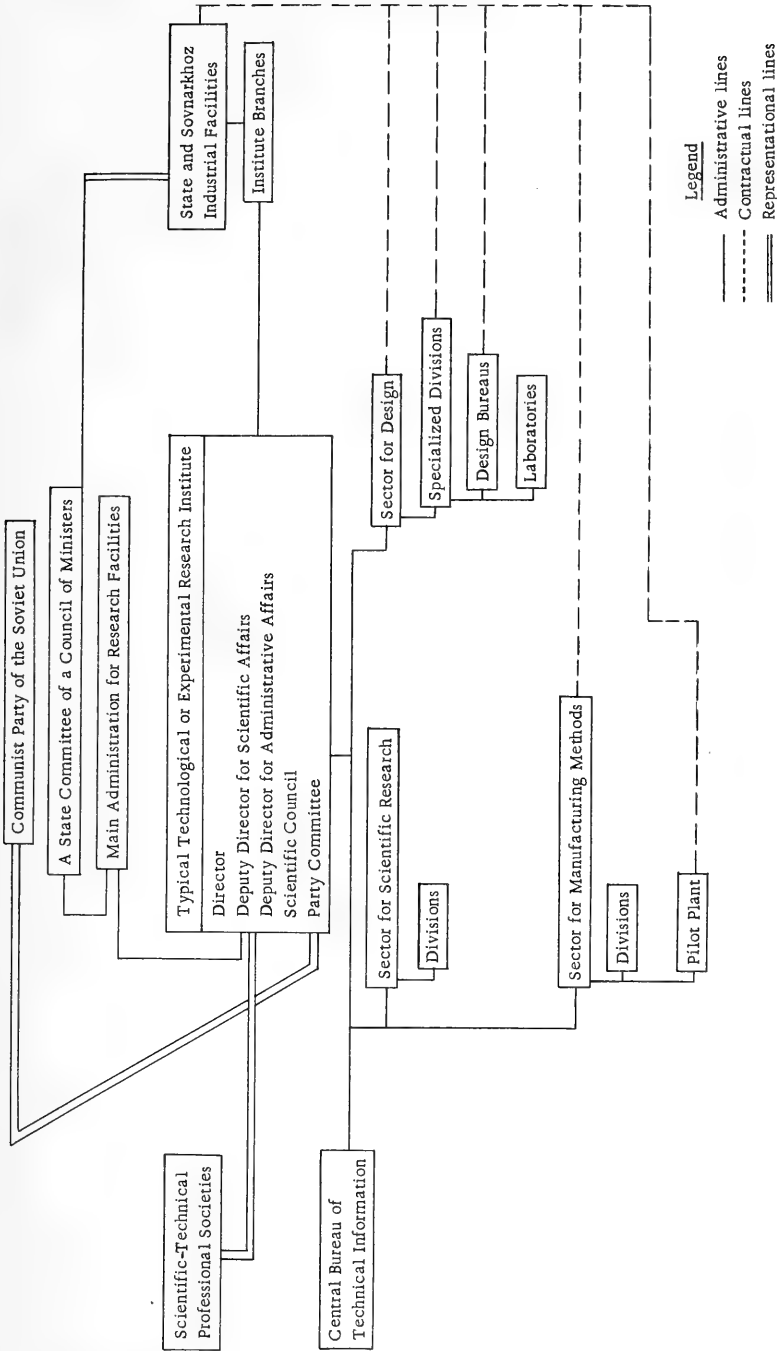


FIGURE 13. TYPICAL STRUCTURE OF A TECHNOLOGICAL OR EXPERIMENTAL RESEARCH INSTITUTE ATTACHED TO THE STATE

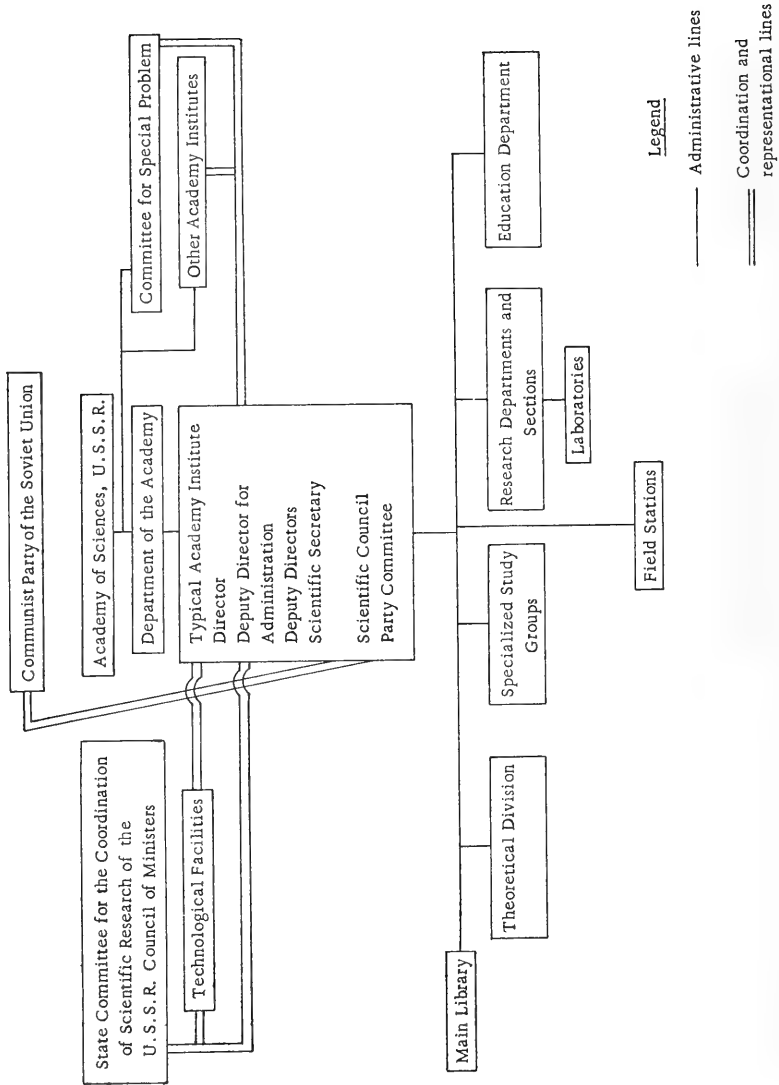


FIGURE 14. TYPICAL ORGANIZATION OF AN ACADEMIC INSTITUTE

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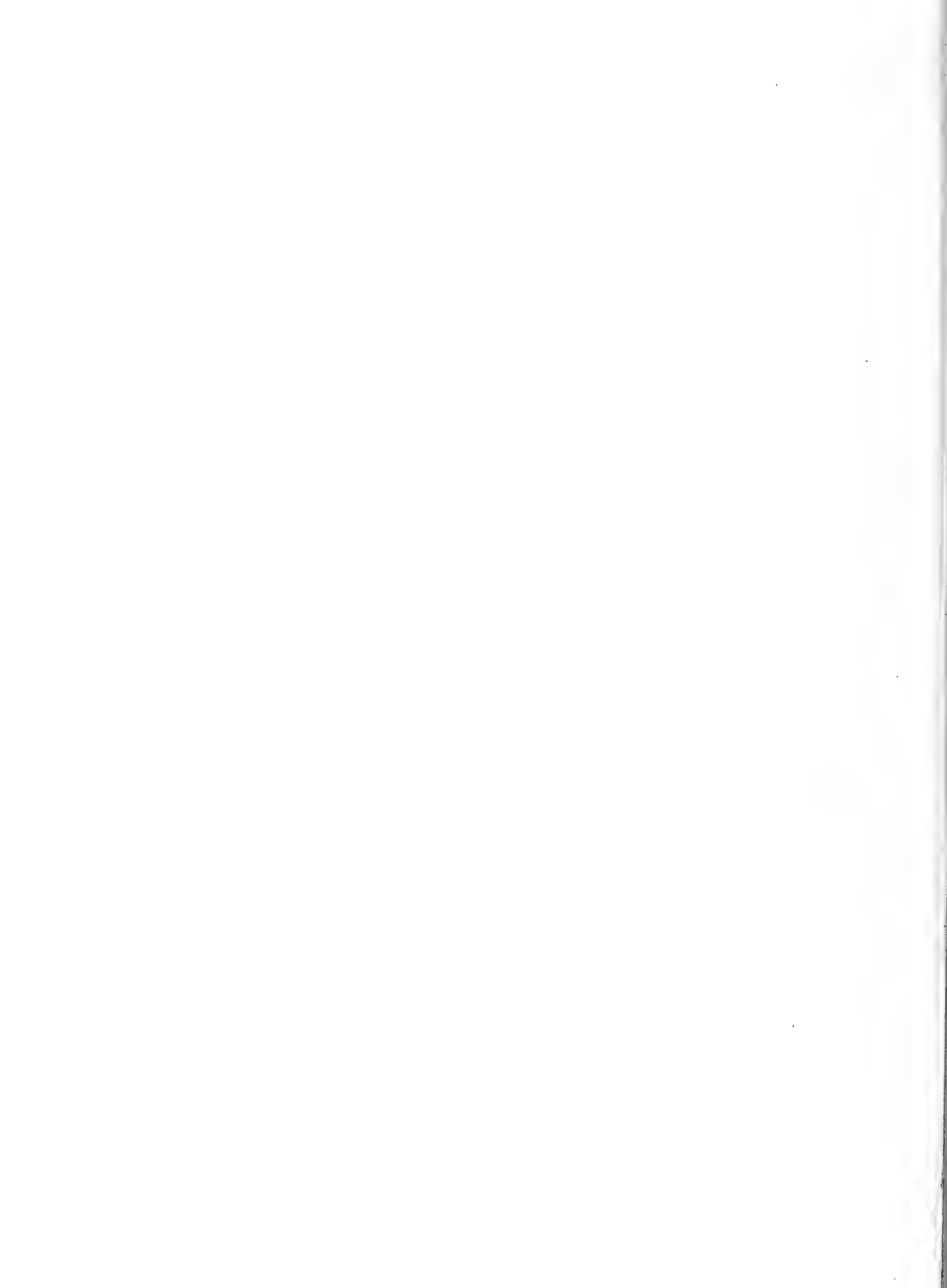
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**PART II. THE ACADEMIES OF SCIENCES
AND THEIR PRINCIPAL FACILITIES**

PART II

THE ACADEMIES OF SCIENCES AND THEIR PRINCIPAL RESEARCH FACILITIES

The Academy of Sciences of the U.S.S.R. and the academies of the republics play an important role in the administration of Soviet science and technology. The following pages show the important officers and the principal research facilities of the academies of sciences as they have been identified from Soviet literature. Because of organizational flux in the administration of Soviet science some facilities might not be included. Also, many other bodies such as commissions, councils, sectors, etc., are not included in this listing. The numbers to the right of the titles of the institutes and laboratories are the numbers of the descriptive sketches of the facilities in Part III of the Directory. Those facilities without numbers are not included in the Directory because of insufficient information.

A

Name: Academy of Sciences, U.S.S.R.
(Akademiya nauk SSSR)

Address: Moscow, Leninskiy prospekt, 14

President: M. V. Keldysh (1962)

Vice Presidents: P. N. Fedoseyev (1962)
M. D. Millionshchikov (1962)

Scientific Secretary: Ye. K. Fedorov (1962)

Department Secretaries:

- L. A. Artsimovich, Physical-Mathematical Sciences (1962)
- A. A. Arzumanyan, Economic Sciences (1962)
- A. A. Blagonravov, Technical Sciences (1962)
- P. N. Fedoseyev, Philosophical and Legal Sciences (1961)
- M. A. Lavrent'yev, Siberian Department (1962)
- N. N. Semenov, Chemical Sciences (1961)
- D. I. Shcherbakov, Geological-Geographical Sciences (1961)
- N. M. Sisakyan, Biological Sciences (1961)
- V. V. Vinogradov, Literature and Language (1961)

Other Presidium Members:

- A. P. Aleksandrov (1961)
- V. A. Ambartsumyan (1961)
- A. Ye. Arbuzov (1961)
- M. M. Dubinin (1961)
- P. L. Kapitsa (1961)
- S. A. Khristianovich (1961)

A (Continued)

S. G. Korolev (1961)
M. P. Kostenko (1961)
A. L. Kursanov (1961)
N. I. Muskhelishvili (1961)
V. S. Nemchinov (1961)
A. V. Palladin (1961)
I. G. Petrovskiy (1961)
K. I. Satpayev (1961)

Principal Facilities:

Academician A. D. Speranskiy Group for Individual Research
Acoustics Institute, 3
All-Union Institute for Planning Scientific-Research Institutes
and Laboratories, 21
All-Union Institute of Scientific and Technical Information, 22
Botanical Institute imeni V. L. Komarov
Central Museum of Soil Science imeni V. V. Dokuchayev
Central Scientific-Research Laboratory for Electrical Treatment
of Materials
Chemical Institute imeni A. Ye. Arbuzov
Computer Center, 234
Crimean Astrophysical Observatory, 239
Crimean Scientific Station of the Physics Institute imeni
P. N. Lebedev, 240
Geological Museum imeni A. P. Karpinskiy
High-Mountain Geophysics Institute, 299
Hydrochemical Institute, 300
Institute of Africa, 301
Institute of Animal Morphology imeni A. N. Severtsov
Institute of Applied Geophysics, 303
Institute of Archeology, 304
Institute of Asian Peoples
Institute of Atomic Energy imeni I. V. Kurchatov, 307
Institute of Biochemistry imeni A. N. Bakh
Institute of Biological Physics
Institute of Chemical Physics, 315
Institute of Chemistry of Natural Compounds, 332
Institute of Chemistry of Silicates imeni I. V. Grebenshchikov, 336
Institute of Crystallography, 342
Institute of Cytology
Institute of Economics, 354
Institute of Economics of the World Socialist System
Institute of Electrochemistry, 359
Institute of Electronic Control Machines, 363
Institute of Elemental-Organic Compounds, 366
Institute of Ethnography, 367
Institute of Evolutionary Physiology imeni I. M. Sechenov
Institute of Forestry and Wood Chemistry
Institute of General and Inorganic Chemistry imeni
N. S. Kurnakov, 375
Institute of Genetics

A (Continued)

Institute of Geochemistry and Analytical Chemistry imeni
V. I. Vernadskiy, 377
Institute of Geography, 379
Institute of Geology, 390
Institute of Geology of Mineral Deposits, Petrography, Mineralogy,
and Geochemistry, 398
Institute of Government and Law
Institute of Higher Nervous Activity and Neurophysiology
Institute of High-Molecular Compounds, 404
Institute of History, 406
Institute of History of Art
Institute of History of Natural Science and Engineering, 408
Institute of Information Transmission Systems, 411
Institute of Linguistics, 413
Institute of Mechanics, 425
Institute of Microbiology
Institute of Mineralogy, Geochemistry, and Crystallography of
Rare Elements, 434
Institute of Oceanology, 446
Institute of Organic Chemistry, 449
Institute of Organic Chemistry (Kazan'),
Institute of Petrochemical Synthesis, 455
Institute of Philosophy, 457
Institute of Physical Chemistry, 458
Institute of Physics of High Pressures, 475
Institute of Physics of the Atmosphere, 476
Institute of Physics of the Earth imeni O. Yu. Shmidt, 477
Institute of Physiology imeni I. P. Pavlov
Institute of Plant Physiology imeni K. A. Timiryazev
Institute of Precision Mechanics and Computer Technology, 490
Institute of Radiation and Physical-Chemical Biology
Institute of Radio Engineering and Electronics, 493
Institute of Russian Literature, 498
Institute of Semiconductors, 500
Institute of Slavic Studies, 501
Institute of Terrestrial Magnetism, Ionosphere, and Radio-Wave
Propagation, 504
Institute of the Biology of Reservoirs
Institute of the History of Natural Science and Technology
Institute of Theoretical Astronomy, 509
Institute of the Peoples of Asia, 510
Institute of the Physics of Metals, 511
Institute of the Russian Language
Institute of Volcanology, 514
Institute of World Economics and International Relations
Institute of World Literature imeni A. M. Gor'kiy
Institute of Zoology
Joint Meteorological Computer Center, 533
Laboratory for Application of Mathematical Methods in Economic
Research and Planning
Laboratory for Electric Welding Machines, 643
Laboratory for the Preservation and Restoration of Documents
Laboratory of Aeromethods, 644

A (Continued)

Laboratory of Coal Geology
Laboratory of Electric Modeling, 647
Laboratory of Electron Microscopy, 648
Laboratory of Forestry Studies
Laboratory of Helminthology
Laboratory of Hydrogeological Problems imeni F. P. Savarenskiy, 650
Laboratory of Motors, 653
Laboratory of Neuro-Humoral Regulation
Laboratory of Precambrian Geology, 655
Laboratory of Scientific and Applied Photography and
Cinematography
Laboratory of Sedimentary Mineral Resources
Laboratory of Volcanology
Latin American Institute
Leningrad Branch of the Institute of Terrestrial Magnetism,
Ionosphere, and Radio-Wave Propagation, 662
Leningrad Computer Center, 663
Leningrad Physical-Technical Institute imeni A. F. Ioffe, 684
Magnetics Laboratory, 700
Main Astronomical Observatory, 703
Main Botanical Garden
Mathematics Institute imeni V. A. Steklov, 707
Mineralogical Museum imeni A. Ye. Fersman
Mountain Astronomical Station, 760
Nikolayev Section of the Main Astronomical Observatory, 769
Northeastern Branch of the Permafrost Institute imeni
V. A. Obruchev, 773
Oka Radio-Astronomy Station of the Physics Institute imeni
P. N. Lebedev, 805
Order of Labor Red Banner Institute of Physical Problems
imeni S. I. Vavilov, 809
Paleontological Institute
Permafrost Institute imeni V. A. Obruchev, 819
Physics Institute imeni P. N. Lebedev, 835
Power Engineering Institute imeni G. M. Krzhizhanovskiy, 843
Radium Institute imeni V. G. Khlopin, 849
Sakhalin Complex Scientific-Research Institute, 862
Sevastopol Biological Station imeni A. O. Kovalevskiy
Sukhumi Scientific Marine Station
Volcanology Station, 1106

B

Name: Academy of Sciences, U.S.S.R., Siberian Department
(Akademiya nauk SSSR, Sibirskoye otdeleniye)

Address: Novosibirsk

President: M. A. Lavrent'yev (1962)

Vice Presidents: B. V. Belyanin (1961)
S. Kh. Dadayan (1961)

B (Continued)

T. F. Gorbachev (1961)
S. A. Khristianovich (1962)
A. A. Trofimuk (1962)

Scientific Secretary: B. V. Ivanov (1961)

Other Presidium Members:

N. N. Bogolyubov (1961)
G. I. Budker (1961)
V. T. Bykov (1961)
G. A. Khvel'kvist (1961)
L. V. Kirenskiy (1961)
A. A. Koval'skiy (1961)
V. D. Kuznetsov (1961)
N. N. Nekrasov (1961)
A. V. Nikolayev (1961)
M. M. Odintsov (1961)
B. I. Piyp (1961)
G. A. Prudenskiy (1961)
I. S. Rozhkov (1961)
S. L. Sobolev (1961)
I. N. Vekua (1961)
N. B. Zhukov (1961)

Principal Facilities:

Baykal Limnological Station, 161
Biological Institute
Buryat Complex Scientific-Research Institute, 179
Central Siberian Botanical Gardens
Chemical-Metallurgical Institute, 223
Chita Complex Scientific-Research Institute
East Siberian Biological Institute
East Siberian Geological Institute, 261
Far-Eastern Geological Institute, 267
Institute of Automation and Electrometry, 310
Institute of Biology
Institute of Catalysis, 313
Institute of Chemical Kinetics and Combustion, 314
Institute of Chemistry, 325
Institute of Cytology and Genetics
Institute of Economics and Organization of Industrial
Production, 355
Institute of Electrochemistry, 360
Institute of Experimental Biology and Medicine
Institute of Forestry and Wood Processing
Institute of Geochemistry, 376
Institute of Geography of Siberia and the Far East
Institute of Geology
Institute of Geology and Geophysics, 393
Institute of Hydrodynamics, 409

B (Continued)

Institute of Inorganic Chemistry, 412
Institute of Languages, Literature, and History
Institute of Mathematics and Computer Center, 420
Institute of Mining, 437
Institute of Nuclear Physics, 445
Institute of Organic Chemistry, 450
Institute of Permafrost
Institute of Physics, 466
Institute of Radio Physics and Electronics, 496
Institute of the Complex Working of Fuel
Institute of Theoretical and Applied Mechanics, 507
Institute of Thermophysics, 513
Irkutsk Institute of Organic Chemistry, 520
Kamchatka Complex Expedition
Kamchatka Geological-Geophysical Observatory, 539
Kamchatka Volcanological Institute
Laboratory of Cosmic Rays, 646
Laboratory of Enriching Diamond-Containing Ores and Sands
Laboratory of Measuring and Computer Electronics
Laboratory of Physical Problems
Laboratory of Technology of Construction Materials
Limnological Institute
North Eastern Complex Scientific-Research Institute
Photographic Laboratory
Sakhalin Complex Scientific-Research Institute
Siberian Institute of Terrestrial Magnetism, Ionosphere and
Radio-Wave Propagation, 954
Siberian Power Engineering Institute
Transportation and Power-Engineering Institute, 1050

C

Name: Academy of Sciences, Armenian S.S.R.
(Akademiya nauk Armyanskoy SSR)

Address: Yerevan, ulitsa Abovyana, 61

President: V. A. Ambartsumyan (1961)

Vice Presidents: G. Kh. Bunyatyan (1962)
A. L. Mndzhoyan (1961)
M. G. Nersisyan (1961)

Scientific Secretary: S. S. Mkrtchyan (1962)

Department Secretaries:

V. A. Fanardzhyan, Biological Sciences (1961)
A. Karinyan, Social Sciences (1961)
I. G. Magak'yan, Technical Sciences (1961)
A. L. Shaginyan, Physical-Mathematical Sciences (1961)

C (Continued)

Other Presidium Members:

N. Kh. Arutyunyan (1961)
S. N. Mergelyan (1961)

Principal Facilities:

Byurakan Astrophysical Observatory, 181
Computer Center, 232
Heliolaboratory
Institute of Archeology and Ethnography
Institute of Biochemistry
Institute of Botany
Institute of Cardiology
Institute of Economics, 349
Institute of Electrical Engineering, 356
Institute of Fine Organic Chemistry, 369
Institute of Geological Sciences, 382
Institute of Geophysics and Engineering Seismology, 403
Institute of History
Institute of Hydropower Engineering
Institute of Language
Institute of Literature
Institute of Mathematics and Mechanics, 421
Institute of Microbiology
Institute of Organic Chemistry, 447
Institute of Physics, 461
Institute of Physiology
Institute of Power Engineering and Hydraulics, 486
Institute of Radio Physics and Electronics
Institute of Zoology
Laboratory of Chemical Physics
Laboratory of Instrument Building
Laboratory of Physical Chemistry
Physical-Technical Laboratory
Scientific-Research Institute of Mathematical Machines, 914
Scientific-Research Institute of Radio Physics and Electronics, 923
Water-Power Institute, 1122

D

Name: Academy of Sciences, Azerbaydzhan S.S.R.
(Akademiya nauk Azerbaydzhanskoy SSR)

Address: Baku, Kommunisticheskaya ulitsa, 10

President: Z. I. Khalilov (1962)

Scientific Secretary: M. F. Nagiyev (1962)

D (Continued)

Department Secretaries:

D. M. Guseynova, Agricultural Sciences (1961)
Z. I. Khalilov, Physical-Technical Sciences (1961)
M. F. Nagiyev, Chemical and Geological Sciences (1961)
A. S. Sumbatzade, Social Sciences (1961)
M. A. Topchibashev, Biological Sciences (1962)

Principal Facilities:

Botanical Institute imeni V. L. Komarov
Computer Center, 233
Institute for the Development of Petroleum and Gas Deposits
Institute of Agrochemistry and Soil Studies
Institute of Architecture and Art imeni U. Gadzhibekov
Institute of Chemistry, 317
Institute of Economics
Institute of Experimental and Clinical Medicine
Institute of Genetics and Selection
Institute of Geography, 378
Institute of Geology imeni I. M. Gubkin, 397
Institute of History and Philosophy imeni A. Bakikhanov
Institute of Literature and Language imeni Nizam
Institute of Mathematics and Mechanics, 422
Institute of Oriental Studies
Institute of Petrochemical Processes, 454
Institute of Physics and Mathematics, 470
Institute of Zoology
Power Engineering Institute imeni I. G. Yes'man, 844
Scientific-Research Institute of Agriculture
Seismic Station (Nizami)
Shemakha Astrophysical Observatory, 951
Soil Erosion Station

E

Name: Academy of Sciences, Belorussian S.S.R.
(Akademiya nauk Belorusskoy SSR)

Address: Minsk, prospekt Stalina, 108

President: V. F. Kuprevich (1962)

Vice Presidents: K. K. Atrakhovich-Kropiva (1961)
K. I. Lukashev (1961)

Scientific Secretary: F. P. Vinokurov (1961)

Department Secretaries:

T. S. Gorbunov, Social Sciences (1961)
N. D. Nesterovich, Biological Sciences (1961)

E (Continued)

F. P. Vinokurov, Technical Sciences (1961)
N. F. Yermolenko, Physical-Mathematical, Chemical, and Geological
Sciences (1961)

Other Presidium Members:

I. S. Lupinovich (1961)
A. N. Sevchenko (1961)

Principal Facilities:

Institute of Art Study, Ethnography, and Folklore
Institute of Biology
Institute of Chemistry, 318
Institute of Construction and Architecture, 339
Institute of Economics, 350
Institute of General and Inorganic Chemistry, 373
Institute of Geological Sciences, 383
Institute of History
Institute of Languages imeni Yakub Kolas
Institute of Literature imeni Yanka Kupala
Institute of Machine Sciences, 414
Institute of Mathematics and Computer Technology, 419
Institute of Peat, 453
Institute of Philosophy
Institute of Physical-Organic Chemistry, 460
Institute of Physics, 462
Institute of Physics and Mathematics, 471
Institute of Physiology
Institute of Power Engineering, 479
Laboratory of Biophysics and Isotopes
Laboratory of Finite Groups
Laboratory of Mechanics
Laboratory of Physical Chemistry of Silicates, 654
Laboratory of Scientific Cinematography
Physical-Technical Institute, 828

F

Name: Academy of Sciences, Estonian S.S.R.
(Akademiya nauk Estonskoy SSR)

Address: Tallin, Kokhtu ulitsa, 6

President: I. G. Eykhfel'd (1961)

Vice Presidents: A. K. Khumal' (1961)
G. I. Naan (1961)

Scientific Secretary: I. G. Kheyl' (1962)

F (Continued)

Department Secretaries:

Kh. M. Khaberman, Biological and Medical Sciences (1961)
R. T. Makhl', Technical and Physical-Mathematical Sciences (1961)
I. M. Saat, Social Sciences (1961)

Principal Facilities:

Computer Center
Institute of Chemistry, 319
Institute of Construction and Construction Materials, 341
Institute of Cybernetics, 343
Institute of Economics
Institute of Experimental and Clinical Medicine
Institute of Experimental Biology
Institute of Geology, 386
Institute of History
Institute of Language and Literature
Institute of Physics and Astronomy, 468
Institute of Power Engineering, 480
Institute of Oceanology
Institute of Zoology and Botany
Laboratory of Chemistry and Technology of Oil Shales at Tallin
Polytechnic Institute
Scientific-Research Institute of Electrical Engineering
Scientific-Research Institute of Pedagogy
Tallin Astronomical Observatory
Tartu Observatory, 1023

G

Name: Academy of Sciences, Georgian S.S.R.
(Akademiya nauk Gruzinskoy SSR)

Address: Tbilisi, ulitsa Dzerzhinskaya, 8

President: N. I. Muskhelishvili (1961)

Vice Presidents: A. T. Bochorishvili (1961)
I. S. Dolidze (1961)
R. R. Dvali (1961)

Scientific Secretary: S. V. Durmishidze (1961)

Department Secretaries:

A. I. Dzhanelidze, Mathematical and Natural Sciences (1961)
N. N. Ketskhoveli, Biological Sciences (1961)
V. V. Makhaldiani, Technical Sciences (1961)
G. V. Tsereteli, Social Sciences (1961)

G (Continued)

Other Presidium Members:

A. S. Chikobava (1961)
G. N. Dzhibladze (1961)
G. S. Dzotsenidze (1961)
Ye. K. Kharadze (1961)
V. D. Kupradze (1961)

Principal Facilities:

Abastumani Astrophysical Observatory, 2
Computer Center
Dusheti Geophysical Observatory of the Geophysics Institute, 258
Forestry Institute
Geological Institute, 274
Geophysics Institute, 278
Heliolaboratory
Institute of Applied Chemistry and Electrochemistry, 302
Institute of Botany
Institute of Chemistry imeni P. G. Melikishvili, 331
Institute of Clinical and Experimental Cardiology imeni
M. D. Tsinamdzgvrishvili
Institute of Clinical and Experimental Neurology
Institute of Construction, 338
Institute of Cybernetics, 344
Institute of Economics, 351
Institute of Electronics, Automation, and Remote Control, 365
Institute of Experimental and Clinical Surgery and Hematology
Institute of Experimental Morphology imeni A. N. Natishvili
Institute of Geography imeni Vakhushti, 380
Institute of History imeni I. Dzhavakhishvili
Institute of History of Georgian Art
Institute of History of Georgian Literature imeni Shota Rustaveli
Institute of Language, Literature, and History imeni D. I. Gulia
Institute of Linguistics
Institute of Machine Science
Institute of Metals and Mining, 431
Institute of Oriental Studies
Institute of Philosophy
Institute of Physics, 463
Institute of Physiology imeni I. S. Beritashvili
Institute of Power Engineering imeni A. I. Didebulidze, 488
Institute of Psychology imeni D. N. Uznadze
Institute of Urology
Institute of Zoology
Laboratory of Cosmic Rays of the Geophysics Institute, 645
Physical-Technical Institute, 829
Scientific-Research Institute of Paleobiology
Tbilisi Mathematics Institute imeni A. M. Razmadze, 1035
Yugo-Osetinsk Scientific-Research Institute

H

Name: Academy of Sciences, Kazakh S.S.R.
(Akademiya nauk Kazakhskoy SSR)

Address: Alma-Ata, Shevchenko ulitsa, 28

President: Sh. Ch. Chokin (1962)

Vice Presidents: S. B. Baishev (1961)
A. P. Polosukhin (1961)
K. I. Satpayev (1962)
Zh. S. Takibayev (1961)

Scientific Secretary: O. A. Baykonurov (1962)

Department Secretaries:

R. A. Borukayev, Mineral Resources (1962)
A. D. Dzhangaliyev, Biological and Medical Sciences (1961)
M. V. Pentkovskiy, Physical-Mathematical Sciences (1962)
M. Silchenko, Social Sciences (1962)

Principal Facilities:

Altay Scientific-Research Mining and Metallurgical Institute, 118
Astrophysical Institute, 140
Chemical-Metallurgical Institute, 222
Coronal Station of the Astrophysical Institute, 236
Institute of Architecture, Construction, and Construction
Materials, 305
Institute of Botany
Institute of Chemical Sciences, 316
Institute of Chemistry of Petroleum and Mineral Salts, 333
Institute of Economics
Institute of Experimental and Clinical Surgery
Institute of Geological Sciences, 384
Institute of History, Archaeology and Ethnography
Institute of Ichthyology and Fish Economy
Institute of Linguistics
Institute of Literature and Arts
Institute of Mathematics
Institute of Metallurgy and Ore Beneficiation, 428
Institute of Microbiology and Virusology
Institute of Mining, 436
Institute of Nuclear Physics, 442
Institute of Petroleum, 456
Institute of Philosophy and Law
Institute of Physiology
Institute of Power Engineering, 481
Institute of Refractories and Construction Materials, 497
Institute of Regional Pathology
Institute of Seismology and Geophysics
Institute of Soil Science, 502

H (Continued)

Institute of Solar Energy and Heliotechniques
Institute of Zoology
Laboratory of Calculating Machines
Laboratory of Machine and Computer Mathematics, 652
Mountain Astrophysical Observatory of the Astrophysical
Institute, 761
Physical-Technical Institute, 830

I

Name: Academy of Sciences, Kirghiz S.S.R.
(Akademiya nauk Kirgizskoy SSR)

Address: Frunze, Pushkinskaya ulitsa, 78

President: K. K. Karakeyev (1961)

Vice Presidents: A. A. Altmyshbayev (1961)
P. A. Ryazin (1961)
A. I. Yanushevich (1961)

Scientific Secretary: V. G. Yakovlev (1961)

Department Secretaries:

I. G. Druzhinin, Natural and Technical Sciences (1961)
B. D. Dzhanbyrchinov, Social Sciences (1961)
A. A. Volkova, Biological Sciences (1961)

Principal Facilities:

Institute of Automation, 308
Institute of Botany and Plant Growing
Institute of Chemistry, 320
Institute of Economics
Institute of Geology, 387
Institute of History
Institute of Inorganic and Physical Chemistry
Institute of Language and Literature
Institute of Mining and Metallurgy, 439
Institute of Organic Chemistry
Institute of Physics, Mathematics and Mechanics, 474
Institute of Power Engineering and Water Economy, 487
Institute of Regional Medicine
Institute of Zoology and Parasitology
Laboratory of Water Balances
Tien Shan High-Mountain Physical-Geographical Station, 1041

J

Name: Academy of Sciences, Latvian S.S.R.
(Akademiya nauk Latviyskoy SSR)

Address: Riga

President: K. K. Plaude (1962)

Vice Presidents: A. M. Kirkhenshteyn (1961)
P. I. Valeskaln (1961)

Scientific Secretary: V. P. Samson

Department Secretaries:

A. I. Kalnin'sh, Chemical and Geological Sciences (1961)
A. K. Malmeyster, Physical and Technical Sciences (1962)
A. M. Ozol, Biological Sciences (1961)
K. Ya. Strazdyn', Social Sciences (1961)

Other Presidium Members: Ya. M. Berzin' (1961)

Principal Facilities:

Astrophysical Laboratory, 141
Botanical Garden
Computer Center
Institute of Automation and Mechanics, 311
Institute of Biology
Institute of Chemistry, 321
Institute of Construction and Architecture, 340
Institute of Economics
Institute of Electronics and Computer Technology, 364
Institute of Experimental and Clinical Medicine
Institute of Forestry Problems and Chemistry of Wood Pulp, 370
Institute of Geology and Useful Minerals, 396
Institute of History and Material Culture
Institute of Language and Literature
Institute of Microbiology
Institute of Organic Synthesis, 452
Institute of Physics, 464
Institute of Power and Electrical Engineering, 484
Laboratory of Astrophysics
Laboratory of Radioactive Isotopes
Laboratory of Soil Biochemistry and Trace Elements

K

Name: Academy of Sciences, Lithuanian S.S.R.
(Akademiya nauk Litovskoy SSR)

Address: Vil'nyus, K. Pozhelos ulitsa, 2/8

K (Continued)

President: Yu. Yu. Matulis (1961)

Vice President: Yu. I. Zhyugzhda (1961)

Scientific Secretary: K. K. Belyukas (1961)

Department Secretaries:

K. P. Korsakas, Social Sciences (1961)

V. L. Lashas, Natural Sciences (1961)

A. P. Yutsis, Physical-Chemical and Technical Sciences (1961)

Principal Facilities:

Computer Center

Institute of Biology

Institute of Botany

Institute of Chemistry and Chemical Technology, 329

Institute of Construction and Architecture

Institute of Economics

Institute of Experimental Medicine

Institute of Geology and Geography, 392

Institute of History

Institute of Physics and Mathematics, 472

Institute of Power and Electrical Engineering, 485

Institute of the Lithuanian Language and Literature

Institute of Zoology and Parasitology

L

Name: Academy of Sciences, Moldavian S.S.R.
(Akademiya nauk Moldavskoy SSR)

Address: Kishinev

President: Ya. S. Grosul (1962)

Vice President: A. A. Spasskiy (1961)

Scientific Secretary: Yu. S. Lyalikov (1961)

Department Secretaries:

A. V. Ablov, Natural and Technical Sciences (1961)

P. I. Dvornikov, Biological and Agricultural Sciences (1961)

I. K. Vartichan, Social Sciences (1961)

Other Presidium Members: V. A. Andrunakevich (1961)

I (Continued)

Principal Facilities:

Institute of Chemistry, 322
Institute of Economics
Institute of Economics of the National Economy
Institute of Geology and Mineral Resources, 394
Institute of History
Institute of Language and Literature
Institute of Physics and Mathematics, 473
Institute of Physiology and Biochemistry of Plants
Institute of Power Engineering and Automation
Institute of Zoology
Seismological Station

M

Name: Academy of Sciences, Tadzhik S.S.R.
(Akademiya nauk Tadzhikskoy SSR)

Address: Dushanbe, Leninskaya ulitsa, 19

President: S. U. Umarov (1962)

Vice Presidents: G. A. Aliyev (1961)
I. K. Narzikulov (1961)
K. T. Poroshin (1961)

Scientific Secretary: A. Sh. Shukurov (1961)

Department Secretaries:

R. B. Baratov, Geological, Chemical, and Technical Sciences (1961)
P. N. Ovshinnikov, Natural Sciences (1961)
Z. Sh. Radzhabov, Social Sciences (1961)

Principal Facilities:

Astronomical Observatory
Institute of Animal Husbandry and Veterinary Sciences
Institute of Astrophysics, 306
Institute of Botany
Institute of Chemistry, 323
Institute of Earthquake-Resistant Construction and Seismology, 347
Institute of Geology, 388
Institute of History, Archeology and Ethnography, 407
Institute of History imeni A. Donish
Institute of Horticulture imeni I. V. Michurin
Institute of Language and Literature
Institute of Regional Medicine
Institute of Soil Science, Improvement, and Irrigation

M (Continued)

Institute of Water Problems
Institute of Zoology and Parasitology
Laboratory of Physiology and Biophysics of Vegetation

N

Name: Academy of Sciences, Turkmen S.S.R.
(Akademiya nauk Turkmenskoy SSR)

Address: Ashkhabad, Komsomol'skaya ulitsa, 31

President: Sh. B. Batyrov (1961)

Vice Presidents: K. K. Mashrykov (1961)
S. R. Sergiyenko (1961)

Scientific Secretary: I. S. Rabochev (1961)

Department Secretaries:

T. B. Berdyev, Social Sciences (1961)
K. K. Mashrykov, Physical-Technical, Geological, and
Chemical Sciences (1961)
I. S. Rabochev, Biological Sciences (1961)

Principal Facilities:

Ashkhabad Astrophysics Laboratory, 181
Heliolaboratory
Institute of Botany
Institute of Chemistry, 324
Institute of Earthquake-Proof Construction, 346
Institute of Economics, 352
Institute of Geology, 389
Institute of History
Institute of Linguistics
Institute of Literature
Institute of Physics and Geophysics, 469
Institute of Soil Studies and Desert Management
Institute of Zoology and Parasitology
Physical-Technical Institute, 831
Vannovsk Observation Station of the Institute of Physics
and Geophysics, 1097

O

Name: Academy of Sciences, Ukrainian S.S.R.
(Akademiya nauk Ukrainiskoy SSR)

Address: Kiyev, Vladimirska ulitsa, 54

O (Continued)

President: B. Ye. Paton (1962)

Vice Presidents: V. M. Glushkov (1962)
A. F. Makarchenko (1962)
N. P. Semenenko (1962)
A. N. Shcherban' (1962)

Scientific Secretary: G. S. Pisarenko (1962)

Department Secretaries:

A. S. Koroyed, Social Sciences (1961)
A. F. Makarchenko, Biological Sciences (1962)
Yu. A. Mitropol'skiy, Physical-Mathematical Sciences (1961)
F. D. Ovcharenko, Chemical and Geological Sciences (1961)
G. V. Samsonov, Technical Sciences (1961)

Other Presidium Members:

M. M. Bogolyubov (1962)
V. S. Gutyrya (1962)
P. N. Pershin (1961)

Principal Facilities:

Institute of Archeology
Institute of Art Studies, Folklore, and Ethnography
Institute of Biochemistry
Institute of Biophysics
Institute of Botany
Institute of Chemistry of Polymers and Monomers, 335
Institute of Cybernetics, 345
Institute of Economics, 353
Institute of Electrical Engineering, 357
Institute of Electric Welding imeni Ye. O. Paton, 358
Institute of Ferrous Metallurgy, 368
Institute of Foundry Production, 371
Institute of Gas Utilization, 372
Institute of General and Inorganic Chemistry, 374
Institute of Geological Sciences, 385
Institute of Geology of Useful Minerals, 399
Institute of Geophysics, 401
Institute of History, 405
Institute of Hydrobiology
Institute of Hydrology and Hydraulic Engineering, 410
Institute of Linguistics
Institute of Machine Science, 415
Institute of Machine Science and Automation, 417
Institute of Mathematics, 418
Institute of Mechanics, 424
Institute of Metal Physics, 430
Institute of Microbiology imeni D. K. Zabolotnyy

O (Continued)

Institute of Mineral Resources, 435
Institute of Mining imeni M. M. Fedorov, 441
Institute of Organic Chemistry, 448
Institute of Philology imeni A. A. Potebin
Institute of Philosophy
Institute of Physical Chemistry imeni L. V. Pisarzhevskiy, 459
Institute of Physiology imeni A. A. Bogomolets
Institute of Physics, 465
Institute of Powder Metallurgy and Special Alloys, 478
Institute of Radio Engineering, 492
Institute of Radio Engineering Problems, 494
Institute of Radio Physics and Electronics, 495
Institute of Semiconductors, 499
Institute of Social Sciences
Institute of Thermal Power Engineering, 512
Institute of Ukrainian History
Institute of Ukrainian Literature imeni T. G. Shevchenko
Institute of Zoology
Karadag Biological Station
Laboratory of Hydraulic Machines, 649
Main Astronomical Observatory, 702
Marine-Hydrophysics Institute, 706
Odessa Biological Station
Odessa Laboratories of the Institute of General and Inorganic
Chemistry, 800
Physical-Technical Institute of Low Temperatures, 834
Poltava Gravimetric Observatory, 841
Sevastopol Biological Station imeni A. O. Kovalevskiy
Ukrainian Physical-Technical Institute, 1063

P

Name: Academy of Sciences, Uzbek S.S.R.
(Akademiya nauk Uzbekskoy SSR)

Address: Tashkent, ulitsa Kuybysheva, 15

President: U. A. Arifov (1962)

Vice Presidents: I. M. Muminov (1961)
S. V. Starodubtsev (1962)

Scientific Secretary: M. Z. Khamodkhanov (1962)

Department Secretaries:

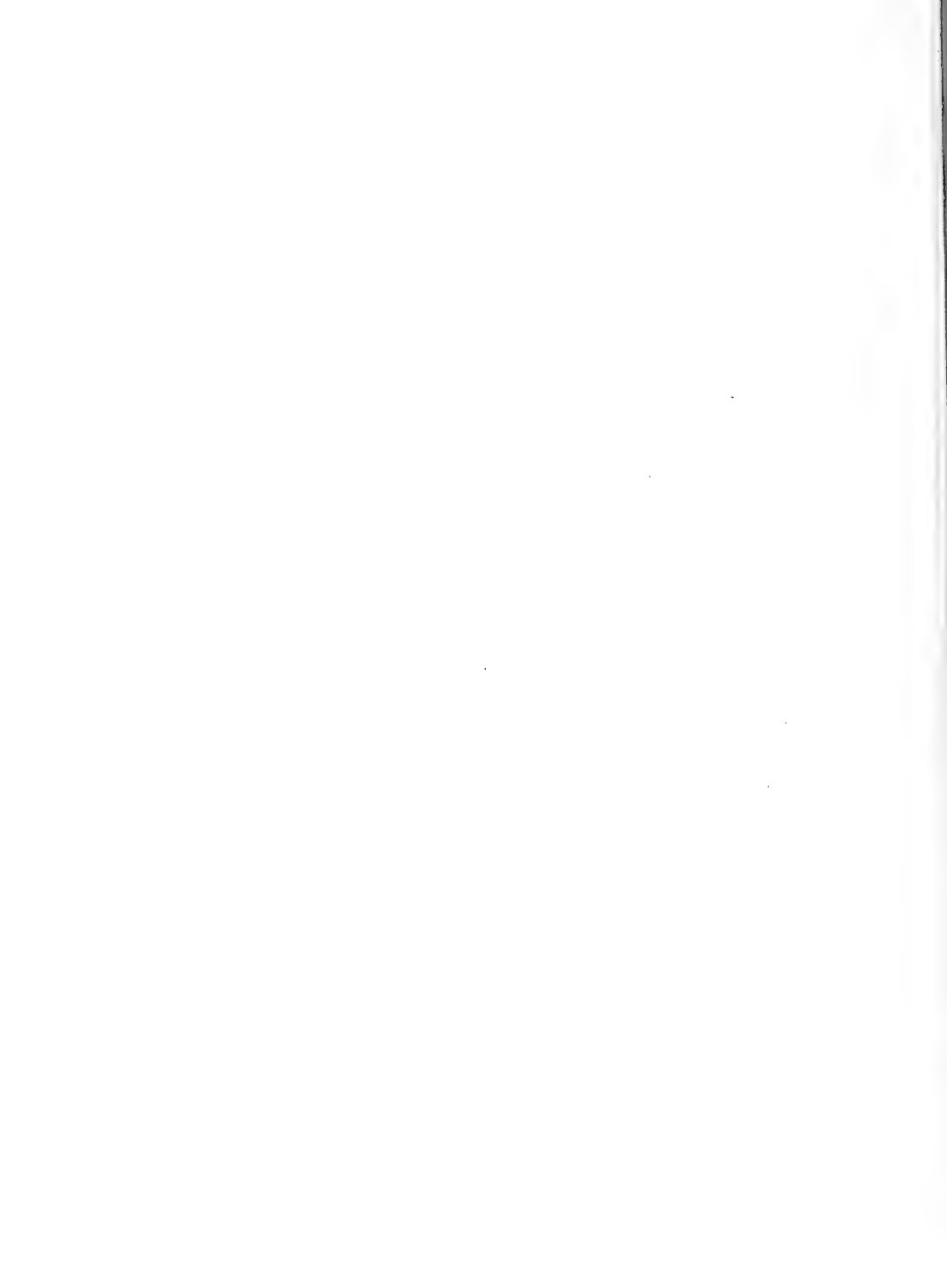
Kh. F. Fazylov, Technical Sciences (1962)
V. I. Gubin, Physical-Mathematical Sciences (1962)
G. A. Mavlyanov, Geological Sciences (1962)
A. M. Muzafarov, Biological Sciences (1962)
Kh. U. Usmanov, Chemical Sciences (1962)

Other Presidium Members:

I. I. Atakhanov (1962)
V. I. Gubin (1962)
N. V. Lavrov (1962)
V. Ye. Yeremenko (1962)
V. Yu. Zakhidov (1962)

Principal Facilities:

Computer Center, 235
Heliolaboratory
Institute of Botany
Institute of Chemistry, 326
Institute of Chemistry of Plant Substances, 334
Institute of Genetics and Plant Physiology
Institute of Geology, 391
Institute of Geology and Development of Oil and Gas Deposits
Institute of Mathematics imeni V. I. Romanovskiy, 423
Institute of Mechanics, 426
Institute of Nuclear Physics, 443
Institute of Power Engineering and Automation, 483
Institute of Regional Medicine
Institute of Structures, 503
Institute of the Chemistry of Polymers, 505
Institute of Water Problems and Hydrotechnics, 515
Kara Kalpak Branch
Kitab International Latitude Station imeni Ulugbek of the
Tashkent Astronomical Observatory, 600
Physical-Technical Institute, 832
Solar Laboratory of the Tashkent Astronomical Observatory, 961
Tashkent Astronomical Observatory, 1026
Time Laboratory of the Tashkent Astronomical Observatory, 1042



**PART III. DIRECTORY OF SELECTED SCIENTIFIC
INSTITUTIONS IN THE U.S.S.R.**

PART III

DIRECTORY OF SELECTED SCIENTIFIC INSTITUTES IN THE U.S.S.R.

1

Name: Abakan Pedagogical Institute
(Abakanskiy pedagogicheskiy institut)

Address: Abakan, Oktyabr'skaya ulitsa, 82

Director: I. A. Kiselev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

The Institute offers courses in Russian language, literature, and history, Khakass language and literature, and mathematics and physics. It publishes a Uchenyye Zapiski.

2

Name: Abastumani Astrophysical Observatory
(Abastumanskaya astrofizicheskaya observatoriya--AAO)

Address: On Mt. Kanobili, 200 km west of Tbilisi

Director: Ye. K. Kharadze, Academician, Georgian S.S.R. (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

M. V. Dolidze

V. P. Dzhapiashvili

L. A. Ksamfomaliti

T. G. Megrelishvili

N. A. Razmadze, Scientific Secretary

Description:

The Abastumani Observatory is the main astronomical center of Georgia. It was founded in 1932 in Abastumani. Since 1937, it has been

located on Mt. Kanobili, 1,600 meters above sea level. Its most important instruments are a 70-cm-meniscus telescope with an objective prism of the same diameter, installed in 1956; a Zeiss 40-cm refractor with two 20-cm photographic chambers, which is located in the main dome; a 36-cm Schmidt-system telescope; a 32-cm reflector with electrophotometer; a chromosphere telescope; and an astrograph tower and radio-astronomy and electronics laboratories for the observation of the solar system, installed in 1962.

Workers of the Observatory have completed research projects on the absorption of light in interstellar space and stellar movements in the Galaxy; they have made electrophotometric observations of variable stars, the lunar surface, etc; they have published catalogues of color indexes of the light of stars and other celestial objects. The Observatory publishes a Byulleten'.

3

Name: Acoustics Institute
(Akusticheskiy institut)

Address: Moscow, ulitsa Televideniya, 4

Director: L. M. Brekhovskikh, Corresponding Academician (U.S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

V. Ya. Afanasyev
 ↪ N. N. Andreyev, Academician (U.S.S.R.)
 M. Ye. Arkhangel'skiy
 V. S. Grigor'yev
 M. A. Issakovich, Assistant Head of Theoretical Section
 I. N. Kanevskiy
 L. O. Makarov
 G. D. Malyuzhinets
 L. D. Rozenberg, Professor, Head of Ultrasonics Laboratory
 M. Sirotyuk
 Yu. M. Sukharevskiy

Description:

In late 1953, the Acoustics Laboratory of the Physics Institute imeni P. N. Lebedev was reorganized as the Acoustics Institute. Studies have been conducted on the piezoelectric properties of materials and the magnetic structure of and cavitation in liquids. Current or recent projects include the investigation of the structure of the ocean bottom, electro-physical research on the transmission of sonic vibrations to the brain, and a study of sound propagation in a waveguide.

The Institute has developed and produced much of the equipment that it uses in its research. Recently, the staff developed an ultrasonic machine capable of generating sounds with an energy density of 100 kev per cm² and peak pressures up to hundreds of atmospheres. Also, the staff has developed ultrasonic machining methods and methods for supersonic cutting and cleaning. The Institute grants Candidate's and Doctor's Degrees.

Name: Adygey Pedagogical Institute
(Adygeyskiy pedagogicheskiy institut)

Address: Maykop, Sovetskaya ulitsa, 183

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: Kh. B. Daurov, Head of Chair

Description:

The Institute offers courses in Russian and native language and literature, foreign language, and mathematics and physics.

Name: Agrophysical Scientific-Research Institute
(Agrofizicheskiy nauchno-issledovatel'skiy institut)

Address: Leningrad, ulitsa Gertsena, 42

Director: --

Deputy Director: --

Administrative Affiliation: All-Union Academy of Agricultural Sciences
imeni V. I. Lenin (1961)

Selected Staff Members:

A. F. Chudnovskiy, Professor, Head of Instrument-Designing Laboratory

M. A. Kaganov, Candidate

G. A. Volkov

Description:

This institute is engaged in physics research applicable to agriculture. Among the many projects carried on at the Institute is research on the light physiology of plants, soil physics, and the use of semiconductors, polymers, and radioactive substances in agriculture.

Many instruments have been designed by this institute, such as a computing machine for the remote measurement of humidity, an automatic device to measure evaporation in the fields, remote thermometers, a semiconductor refrigerator for cooling milk, and a computing machine to forecast frost 24 hours in advance. The Institute grants the Candidate's Degree.

Name: Air Force Engineering Academy imeni N. Ye. Zhukovskiy
(Voyenno-vozdushnaya inzhenernaya akademiya imeni N. Ye.
Zhukovskogo--VVIA)

Address: Moscow

Director: V. Volkov, Colonel General of Engineering Technical Service
(1962)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. F. Bolkhovitin, Professor, Major General, Head of Chair
R. V. Fedyakin, Candidate, Lieutenant Colonel
P. T. Kolomytsev
I. I. Kornilov
A. A. Kosmodem'yanskiy, Professor
V. S. Kulebakin, Academician
G. I. Pokrovskiy, Professor, General Major
V. S. Pugachev, Professor, Major General
A. S. Vol'mir
B. K. Vul'f

Description:

This institute was organized in 1919 as the Moscow Technical Institute. A five-year program in military engineering is offered. The Institute trains military officers for the technical branch of the Soviet Air Force, gives a military background to aircraft and missile designers, and updates high-command officers in their technical fields. Soviet cosmonauts are trained here for space flight.

Aerodynamic studies have included the calculation of shock waves in plane flow, the laboratory testing of apparatus for supersonic flight, and the theory of ramjet engines. The stability of cylindrical shells under pressure has been studied, and some theoretical analyses on the subject have been made using a digital computer. Phase and distribution studies of binary and tertiary metallic systems are conducted.

Among the departments of the Institute are the Departments of Radio Technology and Radio Navigation, Aerodynamics, Electrification of Aircraft, Theory of Mechanics and Machine Components, Construction and Design of Aircraft, Construction Mechanics, and Technology and Repair of Aircraft and Aircraft Engines. Candidate's and Doctor's Degrees are granted, and a Trudy is published.

Name: Akmolinsk Agricultural Institute
(Akmolinskiy sel'skokhozyaystvennyy institut)

Address: Akmolinsk

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers, Kazakh
S.S.R. (1960)

Selected Staff Members: A. I. Lazarev

Description:

The Institute was organized during late 1958 or early 1959. The only known research done at the Institute concerned qualitative analytical determinations of rhenium, molybdenum, and tungsten. The Institute offers courses in agronomy, soil science, and mechanization of agriculture.

Name: All-Russian Scientific-Research Chemical Institute of Local Industry
(Vserossiyskiy nauchno-issledovatel'skiy khimicheskiy institut mest-
nogo podchineniya--NIKhIMP)

Address: Moscow, Shabolovka, 4

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

S. A. Gintsberg
L. Ye. Vinitzkiy

Description:

This institute has done research on atmospheric corrosion of steel, hydrogen embrittlement in electroplating, and regeneration of natural rubber. A Trudy is published.

9

Name: All-Union Aluminum-Magnesium Institute
(Vsesoyuznyy alyuminiyevy-magniyevyy institut--VAMI)

Address: Leningrad, 20-ya liniya, 5-7

Director: --

Deputy Director: V. M. Guskov, Professor (1957)

Administrative Affiliation: --

Selected Staff Members:

M. S. Beletskiy, Doctor
A. P. Belyayev, Candidate
V. A. Bernshteyn, Candidate
R. M. Gol'shteyn, Engineer
V. G. Gopiyenko
I. P. Gupalo
A. I. Ivanov
M. A. Korobov, Candidate
V. P. Mashovets, Professor
V. A. Mazel'
M. B. Rapoport
R. A. Sandler
M. N. Smirnov
R. V. Svoboda, Candidate
G. M. Vorob'yev
T. A. Zavaritskaya
V. V. Zholobov

Description:

The Institute's research considers other light metals besides aluminum and magnesium. It has been foremost in the study of titanium

tetrachloride, especially in its development for the production of titanium metal by reduction with magnesium. The Berezniki Branch of VAMI has been active in these titanium studies. The Institute has also developed new methods for the industrial extraction and recovery of gallium and calcium.

The staff has continuously worked on improving methods of sintering, roasting, and leaching, concentrating especially on the Bayer process of producing aluminum from bauxite. They have also developed instruments for the automatic control of aluminum, magnesium, and titanium production for increased and cheaper yields. Another important development was an electro-thermal method of extracting and producing aluminum and its alloys directly from the ores. They have worked on improving the purity of aluminum and magnesium through electrolytic refining. Their studies of the mechanical and physical properties of these metals have resulted in improved methods of pressing, drawing, extrusion, and rolling.

VAMI is one of the groups responsible for the development and production of standard samples, which are distributed to other institutes for use in spectral analysis.

A considerable number of investigations are in progress or have been completed on the anode and cathode processes in aluminum and magnesium electrolyzers. The effect of temperature, magnetic forces, and additives on their parameters have received emphasis.

The Institute grants the Candidate's Degree and periodically publishes a Trudy.

10

Name: All-Union Central Scientific-Research Institute of the Sugar Industry
(Vsesoyuznyy tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti--TsINS)

Address: Kiyev

Director: A. N. Shakin (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

- V. M. Kats, Head of Chemical Control Laboratory
- M. Z. Khelmskiy, Professor, Head of Research Laboratories
- V. A. Novikov, Head of Laboratory for Mechanization of Loading and Unloading Field Work
- B. K. Zibenov, Head of Economics Department

Description:

This institute is responsible for the development of the technology of beet-sugar production. Its various groups are involved in equipment design, construction, and general mechanization; the study of economic factors influencing the industry; and research leading to uses for byproducts.

11

Name: All-Union Correspondence Agricultural Institute
(Vsesoyuznyy sel'skokhozyaystvennyy institut zaochnogo obrazovaniya)

Address: Balashikha, Moscow oblast'

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

The curriculum of the Institute includes courses in agronomy, vineyards, animal husbandry, mechanization of agriculture, hydromelioration, electrification, economics and organization of agriculture, and bookkeeping. It publishes a Trudy.

12

Name: All-Union Correspondence Construction-Engineering Institute
(Vsesoyuznyy zaochnyy inzhenerno-stroitel'nyy institut)

Address: Moscow, Srednyaya Kalitnikovskaya ulitsa, 30

Director: I. S. Zen'kov, Docent (1961)

Deputy Director: P. K. Shchukin (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. I. Babat, Professor
B. L. Babitsky
P. Kh. Bestsenyy, Docent, Dean
V. G. Epshteyn

V. F. Kozhinov, Professor, Dean
 I. N. Lebedev, Docent, Head of Chair
 Ye. A. Merkulov, Docent, Dean
 B. P. Mikhaylov, Professor, Head of Chair
 V. A. Poyedavsher, Docent
 V. I. Prokof'yev, Professor
 D. I. Shil'krut, Docent
 I. A. Simvulidi, Professor, Head of Chair
 L. Ye. Vinit'skiy

Description:

This institute is for correspondence education of production workers. Although the main interests of the Institute are architecture, construction, and construction materials and equipment, it also conducts research in chemistry, structural mechanics, high-frequency heating, and production of rubber.

The Institute, which does not grant advanced degrees, offers courses in physics, chemistry, construction, silicates, reinforced-concrete structures, chemical machines and apparatus, construction and road-building equipment, architecture, and the economics and organization of the chemical industry and the construction industry.

A Trudy is published irregularly and infrequently by the Institute.

The Institute has branches at Alma-Ata (ulitsa Abaya, 126) and Krasnodar (Krasnaya ulitsa, 170).

Name: All-Union Correspondence Electrical Engineering Institute of Communications
 (Vsesoyuznyy zaochnyy elektrotekhnicheskiy institut svyazi--VZEIS)

Address: Moscow, Aviamotornaya ulitsa, 8

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

V. N. Aksenov, Docent
 G. M. Bartenev, Docent
 Z. Sh. Blokh, Doctor
 A. A. Pirigov, Docent
 V. A. Ushakov, Docent

Description:

The Institute, organized about 1945, offers degrees in radio engineering, TV, telephone and telegraph communications, and economics and organization of communications. Advanced degrees (Candidate and Doctor) have been offered since 1958.

Staff members have conducted research in forecasting short-wave ionospheric propagation and periodic and aperiodic interference relative to TV reception quality. A. A. Pirogorov invented a "ballistic", mastless, portable antenna, and transistorized converters (using semiconductors) have been developed. The Institute publishes a Sbornik Nauchnykh Trudov.

14

Name: All-Union Correspondence Finance-Economics Institute
(Vsesoyuznyy zaochnyy finansovo-ekonomicheskiiy institut)

Address: Moscow, Kuznetskiy Most, 15

Director: P. S. Bychkov, Docent (1961)

Deputy Director: N. G. Sychev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. V. Bliznenkov, Dean
V. M. Buzyrev, Docent, Head of Chair
A. Sh. Martulis, Professor, Head of Chair
A. I. Merkushev, Docent, Dean
V. I. Remizovich, Docent, Head of Chair
N. N. Ryauzov, Professor, Head of Chair
V. N. Zamyatnin, Professor, Head of Chair

Description:

This institute has branches in Ashkhabad, ulitsa Shevchenko, 5; Voronezh, ulitsa K. Marksa, 71; Gor'kiy, ulitsa Sverdlova, 26; Kemerovo, ulitsa Chernyakhovskogo, 2; Kursk, Krasnaya Ploshchad', 6; Moscow, ulitsa Gertsena, 11/4; Novosibirsk, Krasnyy prospekt, 48; Penza, ulitsa Volodarskogo, 98/5; Sverdlovsk, ulitsa M. Sibiryaka, 49; Ufa, ulitsa Kirova, 65; Frunze, ulitsa Stalina, 173; Khabarovsk; and Yaroslavl', ulitsa Kirova, 16.

The courses offered include economic planning, labor economics, industrial economics, agricultural economics, finances and credit, accounting, and statistics.

The Institute publishes a Nauchnyye Zapiski.

Name: All-Union Correspondence Forestry Institute
(Vsesoyuznyy zaochnyy lesotekhnicheskiy institut)

Address: Leningrad, Institutskiy pereulok, 3

Director: P. Ye. Osipov, Docent (1961)

Deputy Director: Ye. S. Murakhtanov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. P. Gubarev, Docent, Dean
S. Ya. Korotov, Professor, Head of Chair

Description:

The Institute publishes a Trudy. It offers courses in logging, civil engineering, logging equipment, woodpulp, automation, chemistry of woodpulp, plastics technology, cellulose-paper production, and forestry economics and organization.

Name: All-Union Correspondence Institute of Railroad Transportation Engineers
(Vsesoyuznyy zaochnyy institut inzhenerov zheleznodorozhnogo transporta--VZIIT)

Address: Moscow, Ambulatornyy pereulok, 19

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

A. A. Barsegov, Docent
B. V. Didov, Professor, Head of Chair
M. N. Popov, Docent

Description:

Students are trained for technical careers in the railway industry. In addition to mechanical engineering, civil and electrical engineering are taught. A Trudy is published, and research has been done in electronics, ferrous metallurgy, and applied mathematics.

The Institute's curriculum includes courses in steam locomotives, railroad-car construction, construction equipment, railroad electrification, railroad automation, remote control, and communications, thermal electric power installations, utilization of railroads, railroad construction, bridges and tunnels, civil engineering, economics and organization of railroads, and economics and organization of construction.

Name: All-Union Correspondence Institute of the Food Industry
(Vsesoyuznyy zaochnyy institut pishchevoy promyshlennosti)

Address: Moscow, Ul'yanovskaya ulitsa, 30

Director: V. G. Krivosheyev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

K. Ye. Filatov, Docent, Head of Chair
M. G. Golik, Professor, Head of Chair
M. K. Goroshenko, Docent, Dean
V. N. Ivanovskiy, Docent, Head of Chair
V. I. Kozitsyn
A. L. Mal'chenko, Professor, Head of Chair
K. K. Ponomarev

Description:

Trudy of the Institute's research covers many diversified fields, including theoretical mathematics, hydrodynamics and soil research, and theoretical mechanics. The curriculum of the Institute includes courses in machinery and installations of food industry, grain processing and storage, bakery goods, macaroni, and related products, sugar and sugar products, brewing industry, wine making, vegetable fats (aromatic oils, perfumes, and cosmetics), preserved and canned goods (including refrigeration technology), subtropical agriculture (citrus fruit, tea, and spices), and economics and organization of food-products industry.

Name: All-Union Correspondence Institute of the Textile and Light Industry
(Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti--
VZITLP)

Address: Moscow, Leninskiy prospekt, Vystavochnyy pereulok, 2

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. D. Kamenetskiy
I. I. Kapustin, Professor
B. M. Yavorskiy, Professor

Description:

The Institute is conducting research in metal-alloy development aimed at improving textile equipment. Interest is also expressed by the staff in increased automation of fiber production and automation of production facilities for textile-machine assembly.

Research in various long-chain polymers, improved dyeing characteristics of common polymers, and synthetic and natural-fiber property improvements is being conducted.

The available courses of study include industrial thermal power engineering (oven and gas heat thermal engineering and heat-transfer installations), machinery and installations of light and textile industries (leather, fur processing and manufacturing, and garment industries), mechanical technology of fiber materials, chemical technology of fiber materials, technology of synthetic fibers, technology of garment industry, technology of leather and fur industry, technology of synthetic-leather materials, technology of manufactured leather goods, and economics and organization of consumer-goods industry.

The Institute publishes Nauchno-Issledovatel'skiye Trudy.

Name: All-Union Correspondence Polytechnic Institute
(Vsesoyuznyy zaochnyy politekhnicheskiy institut--VZIPI)

Address: Moscow, Mazutnyy prospekt, 37-a

Director: S. K. Kantenik, Docent (1961)

Deputy Directors: G. P. Lyzo, Candidate (1961)
F. A. Bakhshiyev, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. A. Bortkevich, Docent
A. S. Britkin, Professor, Head of Chair
M. F. Fedorov, Professor
M. L. Korolev, Professor, Head of Chair
Ye. S. Kukharkin, Docent
V. S. Lovchikov, Docent
B. P. Nadeynskiy, Docent, Head of Chair
I. M. Pirogov, Docent
K. M. Pogodina-Alekseyeva, Docent, Head of Chair
N. G. Trupak, Professor, Head of Chair
A. N. Varnavskiy
K. I. Vetoshkin, Professor, Head of Chair
V. P. Yumatov, Candidate

Description:

Founded over 25 years ago, the Institute is the largest of its kind in the Soviet Union. In 1959, its student body comprised 36,000 in ten departments, and specialists were trained in 62 professions. Its specialties include machine building, metallurgy, mining, and power engineering, but almost every branch of science and engineering is covered.

Research at the Institute is varied and includes problems such as stresses in cylindrical shells, ultrasonic applications in metal studies, heat resistance of high-chromium steel, and the use of radioactive isotopes in investigating ore-dressing processes.

It publishes the Sbornik Statey Vsesoyuznogo Zaochnogo Politekhni-cheskogo Instituta. Candidate's Degrees are granted.

Courses of Study: Electrification of industrial enterprises and installations
Mining electromechanics
Thermal power installations of power stations (boiler and turbine installations)
Industrial thermal power engineering (oven and gas-heat engineering; heat-transfer installations)
Ferrous metallurgy
Nonferrous metallurgy
Metallurgical furnaces
Thermal processing of metals (metallography, equipment, and technology)
Corrosion and protection of metals
Powder metallurgy
Electronic instruments
Industrial electronics
Radio equipment
Petroleum and natural-gas technology
Fuel technology (synthetic liquid fuels, gases, and carbon electrodes)

Electrochemical processes
 Silicates (binders and cementitious materials, ceramics
 and refractories, and glass)
 Organic synthesis and synthetic-rubber manufacturing
 Dyes and intermediate products
 Medical drugs and aromatic compounds
 Plastics
 Automobile roads
 Economics and organization of mining industry
 Economics and organization of machine-building industry
 Economics and organization of chemical industry
 Economics and organization of construction
 Geology and exploration of mineral deposits and oil and
 gas deposits
 Geophysical methods of prospecting
 Hydrogeology and engineering geology
 Mine surveying
 Mining
 Enrichment and concentration of minerals (minerals
 beneficiation)
 Exploitation of oil and gas deposits (including drilling)
 Electric power stations, networks, and systems
 Metalworking (forging, stamping, rolling, and sheathing)
 Machine building, metal-cutting tools, and instruments
 Mining machinery
 Machinery and equipment of oil and gas fields (including
 transportation and storage)
 Lifting, hoisting and transportation machinery and
 equipment
 Construction and road-building machinery and equipment
 Automobiles and tractors
 Chemical industry machinery and installation (including
 machinery for inorganic and organic processes,
 silicates, cellulose and wood-pulp processes, liquid,
 and gas fuels)
 Electrical machinery and equipment
 Automatic, telemechanical, and electric measuring instru-
 ments and systems
 Varnishes, paints, and nonmetallic coatings
 Rubber
 Industrial and civil construction
 Hydrotechnical construction of river installations and
 hydroelectric power stations
 Urban construction and municipal works of services
 installations
 Water supply and sewage systems

Address: Moscow, Krasnokazarmennaya ulitsa, 14

Director: N. S. Kurbatova, Professor (1961)

Deputy Directors: A. V. Koritskiy, Professor (1961)
V. A. Nadezhdin (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

D. V. Aleksandrov, Docent, Head of Chair
L. A. Bessonov, Professor, Head of Chair
V. K. Gusev, Docent, Head of Chair
N. A. Mel'nikov, Professor, Head of Chair
I. I. Petrov, Professor, Head of Chair
P. V. Sakharov
P. Ya. Shibanov, Head of Publishing Division

Description:

This institute was organized in the latter part of 1947 to provide higher education to the Soviet people without requiring them to leave their place of work.

The subject material is slanted toward electrical and electronic engineering, but it is not restricted to this course of study. There is some work done in mathematics, materials, mechanics, and thermal engineering also, as exemplified by the courses offered in thermal-power engineering power installations, electrical stations, networks, and systems, hydropower engineering, industrial electrification, electrical engineering, dielectrics and semiconductors, automation and remote control, electric measuring technology, electronic instruments, and mathematical machines and computers. It publishes a Trudy.

In 1956, there was a Ukrainian Branch of this institute.

Name: All-Union Institute for Planning Scientific-Research Institutes and
Laboratories
(Vsesoyuznyy institut po proyektirovaniyu nauchno-issledovatel'skikh
institutov i laboratorii--GIPRONII)

Address: Moscow

Director: P. I. Domoratskiy (1957)

Deputy Director: --

Administrative Affiliation: Presidium of the Academy of Sciences, U.S.S.R.
(1960)

Selected Staff Members: --

Description:

GIPRONII was established by the Academy of Sciences, U.S.S.R., in 1953 to plan and design new research centers for the Academy of Sciences, U.S.S.R., and the Academies of the Union Republics.

Research is conducted on construction materials and technology.

The Institute has a Leningrad branch and a Central Asian branch in Tashkent. Chief Engineer of the Central-Asian Branch is I. Shakhshvarov.

Name: All-Union Institute of Scientific and Technical Information
(Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii--VINITI)

Address: Moscow, Baltiyskaya ulitsa, 14

Director: A. I. Mikhaylov, Professor (1961)

Deputy Director: A. A. Fomin (1961)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Coordination of Scientific Research and Academy of Sciences, U.S.S.R.
(1961)

Selected Staff Members:

- A. I. Chernyy
- L. I. Gutenmakher, Professor, Head of Laboratory for Electro-modeling
- S. M. Lisichkin, Doctor
- I. A. Lunacharskaya
- I. I. Nikolayev, Corresponding Academician (U.S.S.R.)
- B. M. Rakov, Head of Laboratory of Mechanization and Automation of the Information Service

Description:

VINITI is the central translating, abstracting, and disseminating organ for scientific and technical information in the U.S.S.R. It publishes the abstract journal, Referativnyy Zhurnal, which comes out in 123 editions, each devoted to particular branches of the physical and mathematical, chemical, geological, biological, technical, and economic sciences. Also,

it publishes a monographic series, Itogi nauki (Findings of Science), Ekspress-informatsiya (Express Information), and books summarizing topical scientific and technical subjects. Its staff members publish articles on information retrieval, machine translation, and other topics related to information processing and dissemination. Research studies have been performed on mechanizing various library functions and in the field of information storage and retrieval. VINITI has cooperated extensively with the Electric Modeling Laboratory on research problems in machine translation and documentation. Some 1,800 translators work for the Institute, producing some 400,000 translated articles for Soviet scientific and technical workers yearly.

Name: All-Union Jurisprudence Correspondence Institute
(Vsesoyuznyy yuridicheskiy zaochnyy institut--VYuZI)

Address: Moscow, ulitsa F. Engel'sa, 3/5

Director: K. A. Mokichev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

- G. K. Amelin, Candidate
- G. S. Kalinin, Docent, Head of Chair
- S. P. Mitrichev, Professor, Head of Chair
- I. G. Panaiotov, Docent
- V. A. Ryasentsev, Professor, Head of Chair

Description:

This institute has the following branches: Gor'kiy, ulitsa Mayakovskogo, 24; Ivanovo, prospekt Stalina, 16; Krasnodar, ulitsa Krasnaya, 59; Kuybyshev, ploshchad' Revolyutsii, 60; Moscow, Prodol'nyy pereulok, 3; Novosibirsk, Krasnyy prospekt, 12; Ufa, ulitsa Matrosova, 1; Khabarovsk, Sovetskaya ulitsa, 45-a; and Chita, ulitsa Kalinina, 56. Law is the course of study offered.

The Institute publishes a Uchenyye Zapiski.

Name: All-Union Magadan Scientific-Research Institute
(Vsesoyuznyy Magadanskiy nauchno-issledovatel'skiy institut--VNII-1)

Address: Magadan

Director: N. A. Shilo (1957)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. V. Kanyukova
N. M. Kazurina

Description:

The Institute, which was organized in 1949, is located in the center of a large mining and industrial area in the permafrost region of the northeast U.S.S.R. It conducts geological, permafrost, and ore-concentration studies, the results of which are applied in construction and mining industries and adapted to the local conditions of the area.

Their work on exhaustive extraction of various ores has included improved gravitational and flotation methods and the utilization of the jigging and hydrocyclone process and machines. Considerable investigations on the spectral and polarographic analysis of ores has been conducted here.

The Institute periodically publishes a Trudy.

Name: All-Union Order of Lenin Electrical Engineering Institute imeni V. I. Lenin
(Vsesoyuznyy ordena Lenina elektrotekhnicheskiiy institut imeni V. I. Lenina--VEI)

Address: Moscow, Krasnokazarmennaya ulitsa, 12

Director: M. F. Kostrov (1958)

Deputy Director: V. G. Byuryukov (1958)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1961)

Selected Staff Members:

K. A. Andrianov, Corresponding Academician (U.S.S.R.)
Yu. V. Butkevich
P. V. Chebyshev
N. M. Chernyshev

V. M. Degtev, Candidate
V. G. Fastovskiy, Professor, Head of Low-Temperature Laboratory
V. L. Granovskiy
L. G. Guseva
I. G. Kesayev
B. N. Klyarfel'd, Professor
V. K. Kozhukov
G. A. Lebedev
V. Ye. Nikitenkov
V. I. Pruzhina-Granovskaya
V. P. Savelev
N. N. Sokolov
P. V. Terent'yev
P. V. Timofeyev, Corresponding Academician (U.S.S.R.)
Ya. Ya. Udris, Candidate
V. V. Voskresenskiy, Candidate
S. B. Yuditskiy, Head of Semiconductor Laboratory
E. Zelrov

Description:

VEI was founded in 1921 and was formerly known as the State Experimental Electrical Engineering Institute. The Institute has created special institutes for research and development and design laboratories for electrical machines and apparatus, radio engineering, television, acoustics, vacuum-tube technology, illumination engineering, electric motors, wire communications, remote control, and automation.

The Institute has done research and/or development work on the following: arc quenching, automation, cathode-ray oscilloscopes, dielectrics, gas dynamics, gas analysis, fluorescent neon and sodium lamps, mirror reflector lamps, insulation materials, photoelements, spark gaps, switching circuits, synchronous generators, high-voltage technology, thermal conductivity, vacuum technology, voltage drop, and voltage dividers. More recently the staff of the Institute has worked on high-voltage a-c and d-c equipment, silicon, mercury, and germanium rectifiers, spark gaps in gases, plasma research, new types of insulation materials, and industrial electronics.

K. A. Andrianov, a leading Soviet polymer scientist, has directed extensive research at VEI on organosilicon compounds, silicones containing inorganic oxides, and high-molecular dielectrics.

The insulation laboratories have developed some new materials: "Viniflex", polyether thermosetting resins, epoxide resins, Micanite, nonwoven glass-fiber bands, and varnishes.

The Institute has an experimental plant, a branch at the "Elektroapparat" plant, and a branch laboratory for measurement at the "Elektropribor" plant.

VEI publishes a Trudy of the staff's research frequently. The Institute grants the Candidate's and Doctor's Degrees.

Name: All-Union Planning and Technological Institute
(Vsesoyuznyy proyektno-tekhnologicheskii institut--VPTI)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Moscow City Sovnarkhoz (1961)

Selected Staff Members:

I. Bolshakov, Engineer
M. M. Korobeynikov
A. F. Kovalenko, Chief Engineer
D. P. Krasavin
N. A. Porvatov
M. Vesnik, Chief Engineer
L. S. Zhovernovskiy, Assistant Head of Department

Description:

This institute is interested in the development of mass-production procedures and establishing standards for manufacturing processes. It has published a collection of books on standards for the microstructure of gray cast iron, maintenance and operation of various metal-cutting machines, and welding procedures. Specific accomplishments include the design of parts for a welding manipulator, the design of a high-pressure hydraulic press, mechanizing the assembly of over-head travelling cranes, design of foundries for precision castings, and studies on the existing degree of mechanization of foundries.

Name: All-Union Planning-Technological Institute of Heavy Machine
Construction
(Vsesoyuznyy proyektno-tekhnologicheskii institut tyazhelogo
mashinostroyeniya--VPTITyazhMash)

Address: Moscow

Director: M. Umyagin (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1959)

Selected Staff Members:

I. Ya. Al'shits, Candidate
A. D. Gitlevich, Engineer
I. M. Likhshiteyn, Engineer
K. K. Vinogradov, Department Head
L. V. Yemel'yanov, Chief Engineer
L. A. Zhivotinskiy, Engineer, Head of Welding Section

Description:

This institute is concerned with developing large-scale automation in the machine-building industry. Interest centers specifically around automating the production of machines for welding and surface hardening of large shell molds. The TM-2 metal-spray gun was developed here for spraying pseudo-coatings on bearings, bushings, and shaft surfaces. A mechanized line was developed for the sand-slinging production of molds for large-size castings. A welding manipulator was also produced.

A branch of this institute in Leningrad shares the same goals of mechanizing the production of machines. A profile-grinding machine for machining turbine blades was designed at this branch.

Name: All-Union Scientific-Research and Designing-Technological Institute
of the Bearing Industry
(Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorsko-tehnologicheskii institut podshipnikovoy promyshlennosti--VNIPP)

Address: Moscow

Director: A. I. Sprishevskiy, Candidate (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. N. Fedotov
T. Ya. Gorazdovskiy
D. S. I'vov
V. A. Sinopal'nikov
I. M. Sakhonko
P. D. Volkov

Description:

This institute is responsible for planning and organizing the expansion of the bearing industry. It has developed plans for the expansion and creation of complex automated production facilities (lines, shops, and plants) for the manufacture of special bearings. Some of the machines which made this expansion possible were also developed and built by the Institute, including automatic operators for single- and multi-spindle lathes, automatic facing machines, and automated inspection equipment.

They are also active in the development of standards for the bearing industry, especially for nonmetallic inclusions that affect the quality of ball- and roller-bearing steels.

The Institute's staff has conducted basic investigations on sliding and friction, and also on the treatment of various bearing steels.

Plastic bearings, especially those made of polyamide resins, have been studied. Also, they have investigated the use of plastic parts in bearings for reduction of noise and vibration.

The Institute publishes a Trudy approximately four times per year.

Name: All-Union Scientific-Research and Design Institute of Chemical-Machine Construction
(Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya--NIIKhimash)

Address: Moscow, Bol'shaya Novodmitrovskaya ulitsa, 14

Director: I. I. Salamatov (1961)

Deputy Director: Yu. M. Vinogradov (1960)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1960)

Selected Staff Members:

A. P. Akshentseva, Candidate
P. T. Dmitriyev, Head of Welding Laboratory
N. S. Dombrovskaya
N. V. Khimchenko, Candidate
I. Koretskiy, Head of Division
V. N. Prikhod'ko
M. B. Shapiro
B. N. Shevelkin, Candidate
K. P. Shumskiy, Candidate

G. L. Shvarts, Candidate
M. I. Zilverfarb, Head of Laboratory

Description:

NIIKhimash, organized in 1942, is the leading institute in the Soviet Union for the design and development of chemical equipment. It conducts research on materials and on processes including corrosion, metal coatings, strength of materials, welding and casting, metal physics, phase diagrams of alloys and salts, heat treatment of metals, distillation-column design, centrifuge design, flow of fluids in pipes, automation, ultrasonic methods for detecting defects in materials, and plastic-molding-equipment design.

The Institute has branches in Khar'kov, Irkutsk, Leningrad, Sverdlovsk, and Penza. It is supported by an experimental plant located in Moscow. The Institute publishes a Sbornik Statey and a Trudy.

Name: All-Union Scientific-Research and Planning-Design Institute of Metallurgical Machine Building
(Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut metallurgicheskogo mashinostroyeniya--VNIIMETMASH)

Address: Perovo, Moscow oblast', 1-ya Gorodskaya ulitsa, 10

Director: A. I. Tselikov, Corresponding Academician (U.S.S.R.) (1962)

Deputy Director: A. D. Kuzmin (1961)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., for Automation and Machine Building (1961)

Selected Staff Members:

S. Granovskiy, Head of Laboratory for Hot Tube Rolling Mills
N. I. Krylov, Head of Department
B. V. Rozanov, Head of Department
Ye. A. Zhukevich-Stoshe, Head of Sector
V. Zhukov, Director of the Moscow Experimental Plant

Description:

This institute has been active in the design and development of rolling methods and mills. About 1959, a completely mechanized and automated cross-helical rolling process was announced that reportedly saves 30 to 35 per cent of the metal being worked. The following year, in collaboration with the Reinforced-Concrete Research Institute, a 50,000-ton hydraulic

press, reportedly both economical and efficient, was constructed by the Institute, and in the same year, a new Institute mill for rolling shaped tubes became operational at the Khar'kov Bicycle Plant. The Institute completed and began operation of the first Soviet, completely automated unit for continuous production of aluminum rod from liquid metal in 1961. At the same time, a process and equipment for rolling extremely thin shapes were developed. The Institute maintains a Moscow Experimental Plant. Research has also been done on metal deformation resulting from ultra-high pressures. A Trudy appears each month.

Name: All-Union Scientific-Research and Planning Institute for Mechanical Treatment of Minerals

(Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut mekhanicheskoy obrabotki poleznykh iskopayemykh--Mekhanobr)

Address: Leningrad, Vasil'yevskiy ostrov, 21-ya liniya, 8-a

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1958)

Selected Staff Members:

K. S. Archakov
 O. G. Bogdanov, Professor
 V. Yu. Brand
 K. S. Chepurnykh
 G. A. Finkel'shteyn
 V. Ya. Khaynman
 B. V. Kizeval'ter
 A. S. Konev
 E. L. Kritskiy
 M. A. Necheporenko
 A. M. Parfenov
 A. B. Patkovskiy
 A. K. Podnek
 A. I. Povarov
 V. A. Rundkvist
 I. N. Shorsher
 G. S. Strel'tsyn
 K. P. Tatarintsev
 N. Ya. Yanis
 V. K. Zhakhvatkin

Description:

This institute was created after 1918 for research on ore concentration. It is mainly a design organization and is credited with plant

plans and machine and equipment designs. Experimental work on ores, ore beneficiation and mineral flotation, and flotation agents is conducted. The same type of research and planning is done by the Ural Branch of this institute.

Name: All-Union Scientific-Research and Planning-Technological Institute of Coal-Mining-Equipment Construction
(Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-tehnologicheskii institut ugol'nogo mashinostroyeniya--VNIIPUGlemash)

Address: Moscow, 8-ya Kozhukhouskaya ulitsa, 7

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1960)

Selected Staff Members: --

Description:

This institute is responsible for designing and developing coal-mining equipment, including that for the automation of coal-mining operations. A department of the Institute is conducting research on plastic materials for use in machine construction. Work has been done on the development of plastic gears and reinforced-glass-fiber mine cars. Other research includes work on foundry technology.

Name: All-Union Scientific-Research Chemical and Pharmaceutical Institute imeni S. Ordzhonikidze
(Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze--VNIKhFI)

Address: Moscow, Zubovskaya ulitsa, 7

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Health, U.S.S.R. (1958)

Selected Staff Members:

A. K. Chizhov
M. Ya. Kraft
O. Yu. Magidson, Professor
Ye. Ye. Mikhlina
M. V. Rubtsov, Professor
S. I. Sergiyevskaya
M. N. Shchukina
Yu. N. Sheynker
L. N. Yakhontov
V. G. Yashunskiy

Description:

VNIKhFI is one of the leading pharmaceutical research institutes in the U.S.S.R. They not only engage in synthesizing new drugs and research on synthesis processes for diversified organic compounds, but also test compounds synthesized and developed by other institutes and groups for possible pharmacological use. They are also responsible for research and development on the problems of analytical control and quality standards of drug production in the chemical-pharmaceutical industry.

Since 1944, they have conducted research on insecticides (especially those used in louse control), synthetic antisyphilitics, and estrogens. They have continuously worked on the extraction of alkaloids from plants and the definition of their structures; cocaine and quinine substitutes have been included in this work. Antidotes for phenylnitrite poisoning, antibiotics for dysentery, and antimalarials are just a few of their developments.

The synthesis procedures studied and perfected include those for basic organics, e.g., thiosemicarbazoles, sulfonamides, and organophosphorus and organometallic compounds, as well as for anesthetics and opiates such as anesthesin, novocain, and cocaine.

The Institute has also developed specific drugs for the market-- "Dimedrol", an antihistamine with antianaphylactic and atropenilike effects and properties; "Tropacin", a spasmolytic for use to control disturbances due to diseases of the central nervous system; and "Ethoxyd", to aid in combatting tuberculosis.

Their work on the toxicity, structure, and synthesis of polymeric arseno-compounds, especially Salvarsan, has received considerable recognition.

For the past few years, several laboratories, including the Laboratory of Heterocyclic Compounds, the Analytical, and the Physics and Chemistry Laboratories have been investigating the tautomerism of certain hydroxy-, oxy-, and oxo-derivatives of heterocyclic compounds using spectroscopic methods. They have also worked on the analysis of organic compounds using a nickel catalyst.

The Ural Branch of VNIKhFI has been active in research on analytical control methods, such as paper chromatography, conductometry, and polarography.

The Institute offers graduate work in organic synthesis and also grants the Candidate's Degree.

Name: All-Union Scientific-Research Cinema-Photographic Institute
(Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut--NIKFI)

Address: Moscow, Leningradskiy prospekt, 47

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

O. D. Burkov, Head of Department
K. U. Chibisov, Corresponding Academician (U.S.S.R.)
S. I. Ivanov
P. G. Tager, Professor

Description:

Organized in Moscow in 1929, the Institute has branches in Kazan' and Shostka, and offers undergraduate and graduate-level training to students following careers in the photographic industry. Both the Candidate's and Doctor's Degrees are granted, and Trudy are frequently published by the technical staff. Academic programs are complemented by extensive research in theoretical and applied photography, and in related disciplines. The major interest of the Institute appears to be emulsion technology, although much emphasis is given to high-speed photography, cinema apparatus, electrophotography, electronics (including magnetic-recording techniques), and stereophotography and photogrammetry. Recent research in emulsion chemistry indicates interest in nuclear emulsions, dye and radiochemistry, polymer studies, and aging characteristics of all types of film. Some work has also been done in acoustics and the effect of ultrasonics on emulsification properties of materials.

Name: All-Union Scientific-Research Coal Institute
(Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut--VUGI)

Address: Stantsiya Panki, Moskva-Ryazanskoy zheleznoy dorogi

Director: A. V. Dokukin (1958)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute specializes in training workers for the coal industry. Most of its research is concerned with mining equipment and automation. It publishes a Nauchnyye Raboty. The Institute has branches in Vorkuta and Kizel'.

Name: All-Union Scientific-Research Geological Institute
(Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut--
VSEGET)

Address: Leningrad, Vasil'yevskiy ostrov, Sredniy prospekt, 72-b

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. G. Grushevoy, Doctor

G. M. Vlasov, Professor

N. N. Yakovlev, Corresponding Academician (U.S.S.R.)

Description:

The broad geological interests of the Institute are reflected in its diverse research work, which have included studies related to the Baltic shield, seismology, paleomagnetism, geochemistry, and diamond and oil geology. Interest has also been shown in crystal-phosphor luminescence and rare-metals material analysis. The technical staff numbers more than 100 members. A Trudy is published by the Institute.

Name: All-Union Scientific-Research Geological Surveying Institute for
Petroleum
(Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy
institut--VNIGNI)

Address: Moscow, Shosse Entuziastov, 124

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

G. A. Mogilevskiy
G. I. Nosov
Kh. Sterin, Head of Gas Laboratory
N. N. Turkel'taub, Doctor
F. M. Yefimov
A. G. Zavidovova, Docent
A. A. Zhukhovitskiy

Description:

The Institute is concerned primarily with petroleum geology, petroleum chemistry, and related scientific disciplines. Numerous Trudy have been published. Both the Candidate's and Doctor's Degrees are granted.

Name: All-Union Scientific-Research Geological Surveying Institute for
Petroleum
(Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy
institut--VNIGNI)

Address: Leningrad, Dvortsovaya naberezhnaya, 18

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Geology and Mineral Conservation,
U.S.S.R. (1962)

Selected Staff Members:

P. F. Andreyev
G. E. Ayzenshtadt
A. I. Bogomolov

N. I. Bogoroditskaya
 M. F. Dvali
 Ya. S. Eventov
 Z. A. Kolesnik
 A. K. Kotina
 Z. L. Maymin
 N. V. Nevolin
 B. S. Sokolov, Corresponding Academician (U.S.S.R.)
 V. A. Uspenskiy
 N. B. Vassoyevich

Description:

This institute is preoccupied mainly with the geology and petrology of the Volga-Ural region, including stratigraphy and correlation of volcanic formations. Other important subjects investigated are the geochemistry and biochemistry of petroleum; petroleum and natural-gas prospecting; meteorology; classification of crude oils and isolation of aromatic hydrocarbons from them; modeling of processes occurring at earthquake foci; paleomagnetism and its application to stratigraphy, paleoclimatology, paleontology, geotectonics, and paleovolcanism.

Name: All-Union Scientific-Research Institute for Asbestos, Mica, Asbestos-Cement Products, and Planning Mica Plants
 (Vsesoyuznyy nauchno-issledovatel'skiy institut asbesta, slyudy, asbesto-tsementnykh izdeliy i proyektirovaniya predpriyatiy slyudyanoy promyshlennosti--VNIIAsbesttsement)

Address: Moscow, Pervomayskaya ulitsa, 104

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Construction Materials Industry, U.S.S.R. (1957)

Selected Staff Members:

I. Dodonov
 D. M. Kheyker
 M. S. Leyzerson

Description:

Synthetic micas developed at the Institute include Ftorflogopit [$\text{KMg}_3(\text{Si}_3\text{AlO}_{10})\text{F}_2$], Teniolit [$\text{KMg}_2\text{Li}(\text{Si}_4\text{O}_{10})\text{F}_2$], and metal-crystalline micas such as Novomycalex, mica ceramics, and foamed mica. The Institute

has developed insulating materials based on mica and on asbestos fibers and synthetic rubber (Elektronit and Ashodin). Analytical studies have included the spectral analysis of mica, the determination of unit-cell parameters by a diffractometer, the use of a scintillation counter in X-ray structural analysis, and phase analysis with an X-ray spectrometer.

The Institute publishes a Trudy.

The Leningrad Institute VNIAsbesttsement is a branch of this institute. A laboratory of this branch is supervised by V. O. Brzhezanskiy. A unit for producing rolled-mica laminate was developed at the branch under the direction of designer V. M. Petropavlovskiy and design-group supervisor B. L. Nikolayevskiy.

Name: All-Union Scientific-Research Institute for Autogenous Treatment of Metals
(Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov--VNIIAvtogen)

Address: Moscow, Shelaputinskiy pereulok, 11

Director: A. N. Shashkov, Candidate (1961)

Deputy Director: I. A. Antonov, Candidate (1960)

Administrative Affiliation: --

Selected Staff Members:

G. A. Asinovskaya
S. G. Guzov
V. Ivanov
O. Sh. Spektor, Engineer
I. I. Strizhevskiy, Candidate
K. V. Vasil'yev, Candidate
K. P. Voshchanov, Engineer
G. B. Yevseyev, Candidate

Description:

VNIIAvtogen is the leading research institute in the Soviet Union for work in metal cutting and flame hardening. Research of the Institute is in two directions: (1) the development of metal cutting machines with remote control and (2) the development of machines with program control.

Other important fields of research are gas-flame machining, application of metallized and antifriction layers, study of acetylene, gas substitutes and equipment for generating acetylene and other gases, application of

plastic coatings on metals using the gas-flame-spraying techniques, soldering and brazing of metals, and welding of metals and plastics.

A Trudy is published frequently.

Name: All-Union Scientific-Research Institute for Construction of Enterprises of the Gas and Oil Industry
(Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu predpriyatiy gazovoy i neftyanoy promyshlennosti--VNIISTroyneft')

Address: Moscow, Okrzhnoy proyezd, 19

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. S. Fal'kevich, Candidate
F. I. Kislyuk, Doctor
L. S. Livshits, Candidate
A. G. Mazel', Candidate

Description:

Engineering resources of the Institute are particularly applied to welding problems occurring in gas and oil pipelines. The published Trudy indicate research efforts in special steel and aluminum alloys, gas-shielded arc welding, automatic and semiautomatic welding, nondestructive testing, cathodic protection and anticorrosion coatings for pipelines, and the chemistry and physics of weld joints.

The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute for Organization of Production and Labor in Ferrous Metallurgy
(Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii proizvodstva i truda v chernoy metallurgii--VNIIOChermet)

Address: Khar'kov

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: Yu. I. Nikolayevskiy

Description:

The Institute has been active in developing rolling procedures for metallurgical plants. Studies have been directed toward improving the wear life of mills by reducing the work hardening of the rolls, repair of mill equipment, and efficiency of production. Supply and demand studies have been conducted for pipe. Automation of strip-rolling mills and the drawing and finishing of tubing have been investigated. Improving the bearing life of textolite bearings and blast-furnace wear have also been investigated. Management studies of the efficiency of rolling mills have been conducted. Investigations of loss of working time in metallurgical plants and labor productivity have been made.

The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute for Petroleum Gas
(Vsesoyuznyy nauchno-issledovatel'skiy neftegazovyy institut--
VNIINeft')

Address: Moscow, 1-y Dmitrovskiy proyezd, 10

Director: M. I. Maksimov (1958)

Deputy Director: A. P. Krylov (1957)

Administrative Affiliation: --

Selected Staff Members:

S. Ya. Beyder, Candidate
R. S. Raskina
M. F. Sukharev

Description:

Radioactive methods of checking the exploitation of oil deposits have been investigated by the staff of this institute. Theoretical studies have considered the maximum solubility of a component of a gas mixture in a liquid, filtration of gases, and processes occurring in oil deposits during exploitation. Physical-chemical analysis studies of hydrocarbons have been carried out. Extractive crystallization as a method of separating solid hydrocarbons has been studied.

The Institute publishes a Trudy.

The Institute has the following branches: Krasnodar Branch, Turkmen Branch, Azerbaydzhan Scientific-Research Institute for Petroleum Extraction, Tartar Petroleum Scientific-Research Institute, Azerbaydzhan Scientific-Research Institute of Petroleum Machinery Construction, Bashkir Scientific-Research Institute for Petroleum Refining, Bashkir Scientific-Research Institute of the Petroleum Industry, and Kuybyshev Scientific-Research Institute of the Petroleum Industry.

Name: All-Union Scientific-Research Institute for Physical-Technical and Radiotechnical Measurements
(Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy--VNIIFTRI)

Address: Stantsiya Kryukovo, Oktyabr'skoy zheleznoy dorogi

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Standards, Measures, and Measuring Devices (1960)

Selected Staff Members:

D. I. Astrov
A. S. Borovik-Romanov
A. N. Golenkov
A. I. Konstantinov
V. N. Kostryukov
N. M. Kreynes
V. R. Lopan
V. F. Lubentsov
M. P. Orlova
P. G. Strel'kov, Professor
V. N. Tel'pukhorskiy

Description:

VNIIFTRI has developed equipment such as an electrodynamic ammeter for use at frequencies up to 300 Mc/s, a hydrophone calibrator, a synchroscope, a frame field-strength-meter calibrator, a cylindrical volume-resonator device, a bellows-type regulation pressure valve, an astronomical pendulum clock, a monofrequency oscillation system, and a sound-absorbing coating of glass fiber for anechoic chambers.

Thermodynamic studies have considered the energy-absorption mechanism in anisotropic bodies; specific heats of lithium hydride, lead

monoxide, cadmium bromide, dodecane derivatives, and liquefied gases at low temperatures, and the thermal expansion of diamonds, metals, graphite, and silicon at low temperatures. Magnetic studies have considered magnetoelectric effects in chromium oxide and in antiferromagnetic materials, and the antiferromagnetism of sulfates and carbonates of nickel, cobalt, iron, copper, and manganese at low temperatures. Other interests of the Institute include the development of high-quality quartz rods, the study of optical properties of piezoelectric crystals, the use of platinum thermometers for calorimetric work, the comparison of low-temperature scales of platinum resistance thermometers, the study of the shift in Curie temperature during compression of manganese and cobalt fluorides and the reducing of photographic observations to astronomical time.

VNIIFTRI was formed in 1955 to replace the former Central Scientific-Research Institute for Radio Measurements (TsNIIR) and the Low-Temperature and High-Pressure Laboratories of the Moscow State Institute of Measures and Measuring. The Institute has five laboratories: Radio Measurements, Measurements of Time and Frequency, Acoustic Measurements, Heat Measurements, and Measurements of Super-High Pressures. The Institute has a Time Service at Irkutsk.

The Institute publishes a Trudy and grants Candidate's Degrees.

Name: All-Union Scientific-Research Institute for Rural Electrification
(Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva--VIESKh)

Address: Stantsiya Plyushchevo, Moskva-Ryazanskoy zheleznoy dorogi

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Member: K. A. Didebulidze, Candidate

Description:

The Institute serves as a training center for technical personnel associated with the agricultural industry. Both undergraduate and graduate programs are offered, and the Candidate's and Doctor's Degrees are granted. Research has included work on high-frequency heating techniques, electric cabling, instruments and equipment related to electrification, and tractor technology. It publishes a Nauchnyye Trudy.

Name: All-Union Scientific-Research Institute for Standardization in Machine Building
(Vsesoyuznyy nauchno-issledovatel'skiy institut po normalizatsii v mashinostroyeni--VNIINMash)

Address: --

Director: N. I. Yevstyushin (1961)

Deputy Director: L. V. Kuznetsov (1959)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Standards, Measures, and Measurement Instruments (1961)

Selected Staff Members: --

Description:

Work carried out by VNIINMASH in 1956-1957 included investigations of new constructions and advanced methods in manufacturing machine parts for general machine building, hydraulic machinery, and textile, sewing, and other machines. They have also developed a process of making two-layer shell molds for iron castings.

In 1961, the Institute was made responsible for the approval of standardized parts for tools, devices, dies, and general assemblies in order to promote mechanization and automation. Their numerical system for designating iron and steel types has been widely adapted. They are now attempting to establish a unified numerical code for raw materials, semi-finished goods, machinery, tools, technological processes, workers' occupational titles, etc.

The Institute conducts improvement courses for technical workers in the normalization and standardization field. It also publishes a Trudy.

The organization of a Leningrad Branch of the Institute was approved in 1961.

Name: All-Union Scientific-Research Institute for the Refrigeration Industry imeni A. I. Mikoyan
(Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti imeni A. I. Mikoyana--VNIKHII)

Address: Moscow, 1-y Astradamskiy tupik, 1a

Director: Sh. N. Kobulashvili (1960)

Deputy Director: D. G. Ryutov (1960)

Administrative Affiliation: --

Selected Staff Members:

A. B. Khatyurov
G. Noskova

Description:

This institute was founded to do research in thermodynamics. Work has been conducted in developing pulse control circuits, a semiconductor thermometer, a differential logometer, piezoelectric indicators, and air-cooled condensers. Phenolic laminates have been developed for blades of rotary compressors and vacuum pumps. Tests have also been conducted on honeycomb plastics.

Name: All-Union Scientific-Research Institute for Water Supply, Sewerage, Hydrotechnical Structures, and Engineering Hydrogeology
(Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii--VODGEO)

Address: Moscow, Kochki 17-a

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute concentrates primarily on the improvement of water-treatment methods used in various industries. Their studies have included purification of the return water for cleaning top gases in blast furnaces and treatment of the refuse from alcohol and oil production. Some research has also been performed on the synthesis of ionites and anionites with specific properties. Investigations of plastic concretes for use in water-resistant buildings have been conducted recently.

The Institute publishes a Trudy and has a Ukrainian branch.

Name: All-Union Scientific-Research Institute "Goznak"
(Vsesoyuznyy nauchno-issledovatel'skiy institut "Goznaka"--VNIIG)

Address: Moscow, Mytkaya ulitsa, 19

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: Yu. V. Gogish-Klushin

Description:

The staff of this institute has conducted research on electrolytic deposition, machinability of new alloys, forging of metals, and electrolytic polishing. The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Abrasives and Grinding
(Vsesoyuznyy nauchno-issledovatel'skiy institut abrazivov i shlifovaniya--VNIASH)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: State Committee on Automation and Machine
Building of the Council of Ministers, U.S.S.R.
(1961)

Selected Staff Members:

E. Ye. Telezhkina
Zh. I. Vert
M. A. Zaytseva

Description:

The work of the Institute has included the development of an abrasive tool for fine grinding of copper, study of the distribution of thermal stresses in abrasives during thermal treatment, production and development of monocorundum, thermocorundum, boron silicocarbide, and S-1 (a carbide alloy), the mechanization of production methods for use in abrasive factories, and development of extra-thin abrasive wheels of corundum, silicon carbide, and V-1 abrasive with an organic binder. Studies also have been

made of sodium aluminate in the system $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$, the design of a small-size furnace to operate at 1000 C, physicochemical properties of melts in the system B-Si-C, the agglomerate from Hungarian bauxite, a photo-electric method to disconnect a machine tool when prescribed dimensions are reached, properties of aluminum oxycarbides and alumina, reduction of TiO_2 with carbon, synthesis of alumina spinel, and a device for determination of magnetic substances in nonmagnetic powders.

The Institute publishes *Abrazivny*.

Name: All-Union Scientific-Research Institute of Agricultural-Equipment Construction
(Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya--VSKhOM)

Address: Moscow, Listvennichnaya ulitsa, 6

Director: --

Deputy Director: --

Administrative Affiliation: Administration of Agricultural Machines and Motor Vehicles of the State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1960)

Selected Staff Members: G. G. Balovnev, Candidate

Description:

The Institute has developed a small rubber pressure indicator and a device to test the wear resistance of boron and titanium steels. It maintains a Laboratory of Strength and Calculations of Agricultural Machines.

Name: All-Union Scientific-Research Institute of Asbestos Technical Products
(Vsesoyuznyy nauchno-issledovatel'skiy institut asbestovoykh tekhnicheskikh izdeliy--VNIATI)

Address: Yaroslavl'

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. N. Klopyschkina
 F. P. Smolkina
 I. G. Taranenko

Description:

The Institute was founded in 1958. It has participated in the development of friction material called Retinaks. A study of the applications and properties of this material has been made. Analytical methods of interest include trilonometric method for determining iron, zinc, manganese, and copper; dityzone method for copper and zinc; and ferrometer method for magnetic iron oxide. The selection of polymers for work under conditions of local severe overheating is also of interest to the Institute.

Name: All-Union Scientific-Research Institute of Aviation Materials
 (Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov--VIAM)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. F. Alekseyenko, Candidate
 I. Yu. Babkin
 N. B. Baranovskaya
 A. A. Berlin, Doctor, Professor
 S. Z. Bokhshteyn
 S. V. Chernobrovov
 M. V. Chukhrov
 Ya. B. Fridman
 A. V. Frolov
 Ye. N. German
 M. M. Gudimov
 B. N. Kabanov
 V. F. Kalugin, Candidate
 V. A. Kargin, Academician (U.S.S.R.)
 O. Ye. Kestner, Candidate
 S. T. Kishkin, Corresponding Academician (U.S.S.R.)
 A. M. Nikol'skoy
 B. I. Panshin
 G. L. Popova

K. I. Portnoy
 Ya. M. Potak
 A. I. Pugachev, Candidate
 S. Ratner
 B. M. Rovinskiy
 I. M. Roytman
 A. L. Sel'yano
 D. S. Shrayber, Candidate
 M. G. Smirnov
 M. G. Stepanova
 N. M. Tikhova
 I. I. Titarenko
 M. I. Yegorova
 V. I. Zykov

Description:

VIAM, founded in 1932, conducts research on the production and testing of all aircraft materials for the Soviet aviation industry. It has conducted extensive investigations on high-temperature alloys and metallo-ceramic materials, refractories, heat-resistant steels, plastics and other polymers, melting and casting techniques, and improved methods of welding.

It is conducting a broad program on titanium- and magnesium-alloy research. Various types of materials-testing equipment have been developed and patented by the Institute.

It assumes responsibility for setting standards for rods, forged pieces, profiles, pipes, and wires for the aviation industry, and publishes a Trudy.

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Name: All-Union Scientific-Research Institute of Chemical Reagents
 (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov--IREA)

Address: Moscow, Samokatnaya ulitsa, 4a

Director: --

Deputy Director: --

Administrative Affiliation: State Committee for Chemistry of the Council of Ministers, U.S.S.R. (1959)

Selected Staff Members:

I. I. Angelov
 Ye. A. Bozhevol'nov

V. M. Dzionko
 G. I. Gorshteyn, Doctor
 I. D. Kalinina
 V. A. Kargin, Academician (U.S.S.R.)
 G. N. Kosheleva
 R. P. Lastovskiy, Professor
 A. M. Lukin
 Ye. A. Nikitina
 I. G. Shafran
 S. S. Shraybman

Description:

This institute has been in existence at least since 1949. It has branches at Khar'kov, Leningrad, and Stalino, the latter having been organized about 1959. The Institute publishes a Trudy.

The Institute studies methods of reagent analysis, as well as the preparation of new chemicals for reagent and other uses. It has studied the preparation of chemicals of extreme purity, and has conducted special analysis and tests for other institutes. Examples of its work are studies on ultra-pure potassium bromide and lithium fluoride chelating agents, and scintillators.

Name: All-Union Scientific-Research Institute of Complex Automation
 (Vsesoyuznyy nauchno-issledovatel'skiy institut kompleksnoy avtomat-
 izatsii--VNIKA)

Address: Moscow, Ol'khovskaya ulitsa, 25

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1958)

Selected Staff Members:

R. A. Auzan
 V. V. Kazakevich, Professor
 V. V. Solodovnikov

Description:

The scope of this institute's work was extended in 1956 and 1957 to include the coordination, and sometimes the conduct, of research work of other institutes. This institute is also one of the principal organizers and implementers for a large portion of the over-all industrial-automation

program of the Seven-Year Plan. In this context, it is engaged in reducing engineering and economic calculations to algorithms for the mechanization of the administration of production. The Institute's development activities include control computers and computer devices. A Special Construction Bureau for Standardization and Normalization is part of the Institute, as is a Laboratory to study automation of the chemical industry. A Trudy is published by the Institute.

Name: All-Union Scientific-Research Institute of Construction and Road-Building Machine Building
(Vsesoyuznyy nauchno-issledovatel'skiy institut stroitel'nogo i dorozhnogo mashinostroyeniya--VNII Stroidormash)

Address: Moscow, 2-ya Frunzenskaya ulitsa, 8

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute is engaged primarily in design activities associated with heavy machinery such as tractors, cranes, and road-building items.

It publishes a Trudy.

Name: All-Union Scientific-Research Institute of Construction Ceramics
(Vsesoyuznyy nauchno-issledovatel'skiy institut stroitel'noy keramiki--NIISTroykeramika)

Address: Stantsiya Kuchino, Moscow oblast'

Director: A. A. Kopeykin (1959)

Deputy Director: --

Administrative Affiliation: All-Russian Sovnarkhoz (1962)

Selected Staff Members: A. A. Grebennik, Head of the Planning and Construction Bureau

Description:

The Institute is active in all phases of ceramic research and development. Included among the numerous Trudy published are works on ceramic materials, production and testing equipment, inorganic and physical chemistry, and economics of the industry. It publishes a Trudy.

Name: All-Union Scientific-Research Institute of Current Sources
(Vsesoyuznyy nauchno-issledovatel'skiy institut istochnikov toka--
VNIIT)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1960)

Selected Staff Members:

N. M. Bordina
S. A. Gantman
V. P. Orlovskiy
N. D. Rosenblyum
Yu. G. Silver
A. M. Vasil'yev
A. A. Vyselkov

Description:

This institute has conducted important research on the use of solar energy and operates a heliotechnical laboratory for this work. Much of this research is in the field of solar cells. It has also developed miniature dry and wet electric cells.

A Nauchno-Issledovatel'skiye Raboty of the Institute is published.

Name: All-Union Scientific-Research Institute of Drilling Techniques
(Vsesoyuznyy nauchno-issledovatel'skiy institut burovoy tekhniki--
VNIIBT)

Address: Moscow, 4-y Verkhniy Mikhaylovskiy proyezd, 8-a

Director: --

Deputy Director: N. S. Timofeyev (1961)

Administrative Affiliation: State Economic Council, U.S.S.R. (1962)

Selected Staff Members:

A. V. Kol'chenko, Candidate

A. A. Silin, Candidate

Description:

The Institute develops drilling devices and mining monitors. They are especially known for their work on turbodrills, including research and development of light-alloy and plastic polyamide components. Some research has been done in solid-state physics.

Name: All-Union Scientific-Research Institute of Electrical Measuring Instruments
(Vsesoyuznyy nauchno-issledovatel'skiy institut elektroizmeritel'nykh priborov--VNIIEP)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers
U.S.S.R. on Automation and Machine Building
(1960)

Selected Staff Members:

V. P. Matveyev

Ye. N. Radzivilov

A. V. Yeryukhin

Description:

This institute conducts research on various types of electrical apparatus. It has worked out a standardization system for electrical measuring instruments and specifications for permanent magnets. It has developed new methods for manufacturing microwire and microwire resistors. It has also successfully investigated methods of designing circuits of nuclear magnetometers. The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Electric Power Engineering
(Vsesoyuznyy nauchno-issledovatel'skiy institut elektroenergetiki--
VNIIE)

Address: Moscow, Bersenevskaya naberezhnaya, 16

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

V. L. Bakinovskiy
L. A. Biber
Ya. N. Luginskiy
A. S. Maykopar
G. V. Mikutskiy
A. P. Osadchiy
N. I. Sokolov

Description:

This institute conducts varied electrical engineering research, but emphasis is on techniques of remote control. Other areas of research are testing and development of various types of electrical equipment, high-frequency communications, radio interference, low-frequency telemetry, vibration transmitters, induction motors, methods of stress analysis, ferrites, and vibration studies. The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Electric Welding Equipment
(Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo
oborudovaniya--VNIIESO)

Address: Leningrad

Director: --

Deputy Director: N. Ya. Kochanovskiy, Candidate (1958)

Administrative Affiliation: Leningrad Sovnarkhoz (1957)

Selected Staff Members:

I. B. Baranov, Engineer
D. G. Bykhovskiy, Engineer
L. G. Gromyko, Engineer
A. L. Ryvkin

S. K. Sliozberg, Candidate
 I. M. Stroyman, Engineer
 S. M. Taz'ba
 Yu. Terent'yev, Head of Technical-Information Division
 V. I. Vill', Engineer, Head of Laboratory
 L. V. Zaychik, Candidate
 M. P. Zaytsev, Engineer, Head of Laboratory

Description:

VNIIESO has developed machines for the friction, fusion, butt, and spot welding of a wide range of materials, including polyethylene films, aluminum and copper wires, titanium, bronze, and steel. These machines have been adapted for production-line manufacture of diesel and electric locomotives, automobile bodies, mine shafts, and agricultural machines.

Special interests of the Institute include cold welding of metals and welding in an inert (specifically argon) atmosphere. One notable achievement is the development of a semiautomatic machine for underwater welding in a carbon dioxide atmosphere.

Welding transformers, motor-generator converters, resistance welding machines, automatic and semiautomatic arc welders, power-supply sources, rectifiers, ferromagnetic and semiconductor devices, and other control instrumentation are typical examples of machinery the staff has designed, developed, and produced.

The Institute has cooperated with Plant Elektrik on many projects. The Riga Branch has done research on plasma-jet cutting of metals, including the development of a special generator for use in this process.

Name: All-Union Scientific-Research Institute of Electromechanics
 (Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki--
 VNIIEEM)

Address: --

Director: A. G. Iosif'yan, Academician (Armenian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
 U.S.S.R., on Automation and Machine Building
 (1960)

Selected Staff Members:

A. B. Al'tman
 I. N. Charakhch'yan

G. I. Dudko
 P. A. Gladyshev
 B. M. Kagan, Doctor
 S. M. Kagan
 Z. K. Khavin
 S. M. Minasyan
 Ye. M. Pel'tsam, Candidate
 N. A. Tishchenko
 Ye. L. Urman, Candidate

Description:

This institute conducts research on electric drives and designs and produces new types of electric motors for industry. It has developed airtight electric pumps for corrosive liquids and has conducted research in computer technology. It publishes a Trudy. The Institute has branches in Leningrad and Yerevan.

Name: All-Union Scientific-Research Institute of Ferrous Metallurgy
 (Vsesoyuznyy nauchno-issledovatel'skiy institut chernoy metallurgii--
 VNIIChermet)

Address: --

Director: G. P. Peychev (1960)

Deputy Director: --

Administrative Affiliation: Gosplan, Ukrainian S.S.R. (1960)

Selected Staff Members: --

Description:

Through its research, the Institute provides assistance to ferrous-metallurgy enterprises, for example, creation of new alloys for use in automatic control and regulation devices. The Laboratory of Safety Engineering is responsible for the analysis and elimination of the causes of injuries in the ferrous-metallurgy industry.

Name: All-Union Scientific-Research Institute of Fertilizers and Soil
 Science
 (Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i
 agropochvovedeniya--VIUA)

Address: Moscow, ulitsa Pryanishnikova, 31

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Agricultural Sciences (1958)

Selected Staff Members: --

Description:

This institute has been engaged in studies of the gamma irradiation of seeds and plants. Also under investigation have been surface-active agents from petroleum distillates as aids in soil chemistry. A Central Test Station is maintained at St. Barybino. The Institute publishes Byulleten' Nauchno-Tekhnicheskoy Informatsii and a Trudy.

Name: All-Union Scientific-Research Institute of Film Materials and Artificial Leather
(Vsesoyuznyy nauchno-issledovatel'skiy institut plenoch'nykh materialov i iskusstvennoy kozhi--VNIIPK)

Address: Moscow, Luzhnikovskaya ulitsa, 11

Director: V. I. Alekseyenko (1959)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

B. I. Dinzburg
Ye. S. Khoroshaya
I. U. Mishustin
A. P. Pisarenko
S. I. Rubina, Head of Raw Materials Laboratory
S. S. Voyutskiy
A. D. Zayonchkovskiy

Description:

This institute was formed about 1958 from the Central Scientific-Research Institute of Leather Substitutes. The Institute's staff has studied the use and processing of various fillers in rubber, polyamides, and polyvinyl chloride or their mixtures. It has also investigated the adhesion of polymers to other polymers and other materials, such as

rubbers on polyvinyl chlorides for shoe soles, the vulcanization of polymer materials, the plasticizing of polymers, and the properties of mixtures of rubber polymers with other polymers or with leather fibers.

The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Flax
(Vsesoyuznyy nauchno-issledovatel'skiy institut l'na--VNIIIL)

Address: Torzhok, ulitsa Lunacharskogo, 37

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Agricultural Sciences (1960)

Selected Staff Members: --

Description:

The work of this research institute is directed toward the improvement of textile fibers. The Institute has successfully used seed irradiation to increase the yield of natural plant fibers.

Name: All-Union Scientific-Research Institute of Fodder imeni V. R. Vil'yams
(Vsesoyuznyy nauchno issledovatel'skiy institut kormov imeni V. R. Vil'yamsa--VIK)

Address: Moscow, Stantsiya Lugoraya, Severnoy zheleznoy dorogi, Sovolovskiy vokzal

Director: M. P. Yelsukov (1958)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, U.S.S.R. (1958)

Selected Staff Members:

A. D. Dalin, Doctor
N. S. Konyushkov
P. A. Sergeev, Doctor
S. S. Shayn, Doctor

Description:

This facility was organized in 1930. There is a branch in Poltava, a North Caucasus Division in Rostov Oblast', and an Experimental Pastorage Station in Moscow Oblast'. The parent Institute has a Laboratory of Plant Protection. It has Departments for Meadows and Pasturelands, Field-Grass Sowing, Species and Grade Testing of Pasture Grasses, Annual Grasses, Cultivated Crops, Mechanization of Feed Production, and Economics and Organization of Feed Production. Furthermore, the Department of Haymaking and Ensilage has an experimental shop. The Institute has an experimental farm to study pasture improvement, seed productivity, irrigation, and fertilizers. Candidate's and Doctor's Degrees are conferred.

Name: All-Union Scientific-Research Institute of Fuel Utilization
(Vsesoyuznyy nauchno-issledovatel'skiy institut toplivoispol'zovaniya
--VNIIT)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. I. Koval
Ye. M. Oparina
A. U. Pugovkin
V. N. Vorob'yeva
A. S. Yermilov

Description:

This institute has conducted research on non-oxidizing heating of steel blanks for stamping, on the action of ultrasound on the thermal stability of silicone liquids, and on the use of manganese monoxide to replace nickel oxide in alkali accumulators. It has also designed probes for measuring temperatures in furnaces, as well as gas burners for steel plants. It publishes a Trudy.

Name: All-Union Scientific-Research Institute of Glass Fiber
(Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo
volokna--VNIISV)

Address: Moscow, Bol'shaya Semenovskaya ulitsa, 32

Director: V. Ye. Sheyko (1958)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. S. Aslanova, Doctor
M. G. Chernyak, Candidate
A. I. Ivanova, Senior Scientific Worker
B. S. L'vov, Engineer
S. F. Pyatkin, Candidate
Ya. A. Shkol'nikov
A. G. Sorochishin

Description:

VNIISV is an outgrowth of earlier institutes. In 1922, the first research institutes for glass were combined into the Institute of Silicates. In 1930, this institute was split into two: an institute for glass and an institute for ceramics. Later, possibly in 1943, the All-Union Institute of Glass Fiber was formed from the All-Union Institute of Glass. It is known to have a Physical-Chemical Laboratory.

This institute studies all phases of the technology of glass fibers. It cooperates with other institutes and with factories on problems involving glass fibers. Examples of glass-fiber research are:

- (1) Effect of chemical agents on glass fibers
- (2) Adsorption of impurities on glass fibers and its effect on physical properties
- (3) Development of heat-resistant glass fibers
- (4) Development of ultra-fine glass fibers
- (5) Development of apparatus and control instruments for glass-fiber production.

Nauchno-Issledovatel'skiy Trudy is published by the Institute.

Name: All-Union Scientific-Research Institute of Gold and Rare Metals
(Vsesoyuznyy nauchno-issledovatel'skiy institut zolota i redkikh metallov)

Address: Magadan, ulitsa Stalina, 11/14

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute publishes a Trudy. The staff has conducted research in the treatment of refractory ores. The chemical laboratory conducts analytical investigations by chemical and X-ray methods.

Name: All-Union Scientific-Research Institute of Halurgy
(Vsesoyuznyy nauchno-issledovatel'skiy institut galurgii--VNIIG)

Address: Leningrad, Vasil'yevskiy ostrov, Tiflisskaya ulitsa, 1

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

S. M. Korenevskiy
T. V. Korobochkina
A. A. Nechayeva
M. G. Valyashko
V. V. Vyazovov
N. A. Zabrodin
A. V. Zhdanovskiy

Description:

The primary mission of this institute is the investigation of salts and the prospecting and processing of minerals and ores, particularly those of the alkali and alkaline-earth metals and boron. It has studied the production of polyacrylamide for ore dressing and mineral fertilizers and multicomponent aqueous salt systems.

The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Hard Alloys
(Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov--
VNIITS)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Moscow City Sovmarkhoz (1958)

Selected Staff Members:

I. S. Borkhin
V. F. Funke
V. A. Ivensen
A. Ye. Kovalskiy
V. G. Shcherbakov
Ye. A. Shchetilina
T. A. Sultanyan
R. M. Veytsman

Description:

The work of the Institute has influenced the development of the Soviet cemented-carbide-producing industry. Development of "throw-away" carbide cutting tools, carbide dies, sintered-carbide cutting tools, and carbides to machine cast iron has concerned the Institute, as has the welding of sintered carbides. Devices for welding plastic films to metals, a continuous-vacuum furnace for production of hard alloys, have been developed.

Research has been conducted on new methods to detect microquantities of trace elements in carbides and metal alloys.

The Institute publishes a Sbornik Trudov.

Name: All-Union Scientific-Research Institute of Hoisting and Transport
Machine Construction
(Vsesoyuznyy nauchno-issledovatel'skiy institut pod'yemno-transport-
nogo mashinostroyeniya--NIIPIMASH)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. I. Medyanov
S. A. Shuvalov, Candidate
G. A. Vorontsov
N. M. Zolotukhin, Candidate

Description:

The Institute has been interested in bending-fatigue resistance in the upset end sections of pipe, aluminum alloys for crane structures, the design of highly elastic sleeves, cutting stainless steel with an arc plasma jet, automatic control of materials-handling machinery, modernization of crane equipment, and the development of an electrohydraulic activator.

The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Hydraulic Engineering and Land Reclamation imeni A. M. Kostyakov
(Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii imeni A. M. Kostyakova--VNIIGIM)

Address: Moscow, ulitsa Pryanishnikova, 19

Director: A. M. Tsarevskiy (1959)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: V. A. Yemelyanov

Description:

The Institute studies neutronic moisture and slime meters, vacuum air lifts, the construction of automatic water-meter regulators, and the construction of storage bins for containers of materials emitting gamma rays.

The Institute grants the Candidate's Degree and publishes a Trudy and a Byulleten' Nauchno-Tekhnicheskoy Informatsii.

Name: All-Union Scientific-Research Institute of Hydraulic Engineering imeni
B. Ye. Vedeneyev
(Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki imeni
B. Ye. Vedeneyeva--VNIIG)

Address: Leningrad, Politekhnicheskaya ulitsa, 1-3

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. Z. Basevich
V. M. Gornshteyn
S. I. Goryunov
N. L. Granat
V. V. Stolnikov

Description:

The staff, with its major interest in hydraulics, has studied viscous friction, flow potential, and theoretical hydraulics. Turbines that might be used in the generation of electricity from ocean-wave movements have been investigated.

The Candidate's Degree is granted, and the Institute publishes an Izvestiya.

Name: All-Union Scientific-Research Institute of Hydraulic Machinery Construction
(Vsesoyuznyy nauchno-issledovatel'skiy institut gidromashinostroyeniya--VIGM)

Address: Moscow, ulitsa Baumana, Novokirochnyy pereulok, 6

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building,
(1960)

Selected Staff Members:

A. I. Golubev, Candidate

V. S. Kvyalkouskiy, Professor
 D. N. Popov, Candidate
 K. K. Shal'nev

Description:

Studies on hydraulic turbines conducted at the Institute include cavitation characteristics, average flow velocities, flow during acceleration, design of rotor blades of radial-axial turbines, and design of hydraulic turbines. Studies on pumps include low-capacity and high-pressure labyrinth pumps for corrosives, airtight electric pumps for corrosives, feed pumps for boilers, suction capacity of screw pumps, efficiency of axial pumps, radial-impeller clearance effects on axial-pump performance, finishing of mass-produced cantilevered pumps, guide devices in centrifugal pumps, and stalling cavitation of centrifugal pumps. The Institute has also manufactured hydraulic amplifiers and studied spool-valve control mechanisms.

A Trudy is published by this institute.

Name: All-Union Scientific-Research Institute of Hydrogeology and
 Engineering Geology
 (Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i
 inzhenernoy geologii--VSEGINGEO)

Address: Moscow, Pyshevskiy pereulok, 7

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

VSEGINGEO conducts engineering geological research. It has been especially active in the analysis of natural waters and mineral ores. The Institute has a hydrogeological station, and at some time prior to 1961, sponsored a Central Asian expedition to study short-period seismic surface waves.

Name: All-Union Scientific-Research Institute of Industrial Structures
 (Vsesoyuznyy nauchno-issledovatel'skiy institut promyshlennykh
 sooruzheniy--VNIIPS)

Address: Chelyabinsk

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Construction and Architecture,
U.S.S.R. (1959)

Selected Staff Members: --

Description:

This institute was organized in 1956, and at that time, included an experimental construction department and several laboratories, in addition to branch offices at Stalinsk, Sverdlovsk, and Magnitogorsk. Essential tasks of the Institute are the development of new types of structures for heavy industry and the utilization of materials from the local economy, i.e., magnesit tailings, slags, shales, etc. The Sverdlovsk Branch has investigated the utilization of copper alloys to replace pure copper in contact-welding equipment. The Magnitogorsk Branch has designed a new type of aerometer balance.

Name: All-Union Scientific-Research Institute of Light Engineering
(Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut--
VNISI)

Address: Moscow, prospekt Mira, 106

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1960)

Selected Staff Members:

N. Dimma
V. I. Dolgoplov
M. A. Dubas
R. G. Izvekov
G. N. Rokhlin
S. G. Yurov
M. Zezulya

Description:

This institute is responsible for approving new models of lighting fixtures before they are mass produced, as well as for testing, standardizing, and developing better lighting. Members of the staff have worked on developing stroboscopic tachometers, ultraviolet measuring devices, ultraviolet-producing devices, and pulse-light tubes. Research has been conducted on polarization effects of heterogeneous luminophor systems and improved starters for fluorescent lamps.

Name: All-Union Scientific-Research Institute of Metallurgical Thermal Engineering
(Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki--VNIIMT)

Address: Sverdlovsk

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. V. Arseyev, Candidate
I. V. Belov
I. V. Dubrovin, Candidate
A. V. Kavaderov, Doctor

Description:

This institute was formed as the result of a reorganization of the Eastern Institute for Fuel Utilization. It is primarily concerned with problems of the iron and steel economy, nonferrous metallurgy, and industrial heat and power. Work has been carried out on the use of oxygen in blast furnaces, the use of natural gas for firing open-hearth furnaces (at the Krasnyy-Oktyabr Works' 50-ton furnaces), new methods for heating metals and heat-exchange apparatus, combustion technology, gasification of solid fuels, and preparation of fuels. In the latter context, an experimental plant for the dehydration of fuel oil was designed for the Verkh-Issetkiy Works and put into operation about 1958. Automated heating of open-hearth furnaces for the Nizhniy-Tagil Combine was developed, in collaboration with the "Ural metallurgavtomatika" Institute. High-temperature heat transfer under aerodynamic conditions has also been the subject of research. The Institute publishes a Trudy on a monthly basis.

Name: All-Union Scientific-Research Institute of Metrology imeni
D. I. Mendeleev
(Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni
D. I. Mendeleeva--VNIIM)

Address: Leningrad, prospekt I. V. Stalina, 19

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., for Standards, Measures, and
Measuring Equipment (1961)

Selected Staff Members:

P. N. Agaletskiy, Doctor
K. K. Aglintsev
V. O. Arutyunov
Ye. N. Chechurina, Candidate
B. S. Dzhelepov
N. N. Ergardt, Candidate
A. N. Gordov, Candidate
A. S. Karamyan
Ye. A. Khol'nova
A. A. Konstantinov
V. A. Korndorf, Candidate
V. Ya. Kurbatov
E. A. Lapina
N. D. Lebedeva, Candidate
G. P. Ostromukhova
S. A. Shestopalova
S. S. Tovchigrechko
V. B. Veynberg, Doctor
B. M. Yanovskiy, Professor
M. F. Yudin, Head of Radiometric Laboratory
L. V. Zalutskiy, Professor

Description:

VNIIM was organized in the early 1900's to replace the Main Board of Measures and Weights. Under its control are seven scientific departments with 24 laboratories, six inspection laboratories, a designing bureau, and the experimental plant "Etalon". In 1942, the Sverdlovsk Branch was established with seven scientific laboratories. It is now the metrologic base of the Urals, inspecting standards, measures, and measuring instruments for the regions between the Volga and Ob Rivers.

The Laboratory of High Temperatures, organized in 1925, has designed and developed a furnace for the calibration of thermocouples. They have

especially done considerable research on the platinum-rhodium-platinum thermocouple, reporting precision measurements of temperatures within the range of 300-1,100 C for a period of three years.

The Time Service of the Institute, considered one of the best in the U.S.S.R., has designed and constructed instruments and devices for use in their observations. They were the first group to do serious research on astronomic pendulum clocks and synchronous motors used in conjunction with quartz clocks.

VNIIM's Kavgolovo Branch has reported work on magnetic-loss measurements of steels and other sheet materials.

Various laboratories and departments have cooperated on the Institute's vast program of electrical, thermal, magnetic, optical, and mechanical measurements. Measuring and inspecting equipment adaptable to industrial applications has resulted from many of these projects, including interferometers for measuring very small lengths, photoelectric microscopes for checking line standards, optical pyrometers, piston pressure gages, a photoelectric profiloscope for surface-roughness measurements, mine surveying gyrocompasses, and an electrothermal comparator for checking microammeters.

One of the more notable long-term investigations (1947-1960) was the determination of the absolute value of the acceleration of the force of gravity by three independent methods.

The Institute is now responsible for research on the problems of thermophysical measurements. They are studying and testing model devices in order to develop standard methods and improved instruments to facilitate exchange of information among groups engaged in this field.

The Institute is also currently engaged in radiation-measurement research, including the design, development, and calibration of phosphor and polymer dosimeters and scintillators for X-rays, ultraviolet, beta, and alpha particles, and slow and fast neutrons.

VNIIM publishes a Trudy and grants both the Doctor's and Candidate's Degrees.

Name: All-Union Scientific-Research Institute of Mineral Raw Materials
(Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya--VIMS)

Address: Moscow, Pyzhevskiy pereulok, 7

Director: I. V. Shmanenkova, Professor (1958)

Deputy Directors: V. I. Titov (1958)
Ye. I. Zheleznov (1958)

Administrative Affiliation: Ministry of Geology and Preservation of
Mineral Resources, U.S.S.R. (1960)

Selected Staff Members:

V. M. Alekseyeva
A. A. Dunina
M. A. Eygeles, Professor
A. I. Ginzburg
M. I. Gosteva
R. G. Lebova, Senior Analyst
A. K. Rusanov, Doctor
L. M. Shamovskiy
F. V. Zaykovskiy

Description:

Established in the early 1900's, the Institute has had several name changes. Its interest in ores and minerals has been concentrated mainly on compositional analysis of minerals, rocks, and marine deposits. The Laboratory of Physical-Chemical Methods of Analysis has been instrumental in developing methods utilizing organic reagents. Spectral, polarographic, and photometric methods for determining selenium, tellurium, zirconium, thallium, beryllium, gallium, hafnium, germanium, indium, and lithium have been drawn up and tested. The staff has also been doing research on the use of radioisotopes in determining boron, beryllium, and lithium, including the development of methods and apparatus. Also, geological surveys have been conducted on boron, tin, and titanium deposits.

The staff is studying the luminescence and semiconductor properties of alkali halide phosphors and applying their findings to the development of scintillators for radiation dosimeters. Currently, they also are engaged in developing improved ore-concentration methods.

The Institute grants the Candidate's and Doctor's Degrees. Its publications are numerous and include a series of volumes of chemical analysis of ores and a Trudy.

Name: All-Union Scientific-Research Institute of Natural Gas
(Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnogo
gaza--VNIIGaz)

Address: Moscow, 1-y Dmitrovskiy proyezd, 10

Director: --

Deputy Director: --

Administrative Affiliation: Main Administration of the Gas Industry,
U.S.S.R. (1960)

Selected Staff Members:

G. G. Grigor'yev
S. F. Gudkov
P. P. Ivanchuk
B. P. Zhizhchenko

Description:

This institute has worked on the problems in electronics connected with prospecting for deposits of petroleum and natural gas. It also investigated the production of acetylene by incomplete oxidation of methane, the incomplete oxidation of ethane to oxygenated compounds, the production of hydrogen by thermal decomposition of natural gas, and the low-temperature rectification and purification of helium.

The Institute has an Uzbek branch directed by Ye. V. Kudryashov and it publishes a Trudy.

Name: All-Union Scientific-Research Institute of New Construction
Materials
(Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov--VNIINSM)

Address: Moscow, 2-y Verkhniy Mikhaylovskiy proyezd, 5

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Construction and Architecture,
U.S.S.R (1962)

Selected Staff Members:

V. N. Alekseyev
Yu. S. Cherkinskiy
V. M. Kalashnikova
V. A. Sokolov
S. G. Vasil'kov

Description:

This institute is engaged in research on new materials for construction. Various compositions of concrete, such as reinforced-plastic and lightweight concretes, have been investigated to improve on building materials. Glass compounds are also studied as construction materials.

Name: All-Union Scientific-Research Institute of Oxygen-Machine Construction
(Vsesoyuznyy nauchno-issledovatel'skiy institut kislородnogo mashino-
stroyeniya--VNIIMASH)

Address: Moscow, G-270, Pochtovyy Yashchik 1392

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

B. V. Denishchuk, Engineer
M. G. Kaganev, Candidate
Ye. I. Mikhaylov, Engineer
A. I. Moroz, Candidate
S. S. Petukhov, Candidate
Ye. V. Vagin, Candidate
J. J. Vasil'yev, Candidate
A. A. Zhukovitskiy

Description:

This institute, which has a Laboratory of Metal Investigations and one of Technical and Economic Research, does work on mechanical properties of steels, fractionation devices, effects of gases on nozzles, low-temperature properties, gas chromatography, adsorption of gases on metals, and machinery for oxygen production. Work is primarily concentrated on oxygen.

The Institute has developed oxygen-drying systems, a procedure for determination of viscosity of compressed gases at low temperatures, oxygen producing units (BR-1), and a device for the determination of krypton and the xenon contents.

A Trudy is published.

Name: All-Union Scientific-Research Institute of Petrochemical Processes
(Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov--VNIINeftekhim)

Address: Leningrad, Zheleznodorozhnyy proyezd, 40

Director: I. Osadchenko (1962)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

L. A. Glikman, Doctor
V. V. Ipat'yev, Professor
V. Klimenko, Head of Laboratory for Technical-Economic Research
V. P. Teodorovich, Candidate

Description:

Recent research of the Institute has been concerned with allene preparation, production of standard and aviation fuels, hydrogen diffusion in steel, catalytic cracking, fuel additives, high aliphatic alcohols, and the oxidation of titanium. A Trudy is published.

Name: All-Union Scientific-Research Institute of Prospecting Geophysics
(Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geofiziki--VIRG)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

L. A. Khalfin
I. M. Khavkovich

Description:

The Institute is primarily interested in developing new metering methods and high-sensitivity geophysical apparatus. In order to accomplish this, investigations of the electrical and magnetic parameters of rocks have

been conducted. The magnetic-prospecting methods were further adapted for aerial surveys of regions such as the Kara Sea Basin and the Northern and Polar Urals. The Institute has also developed a theory and apparatus for high-frequency investigations of the upper layer of the earth's crust. Other equipment developed includes a device for recording the readings of measuring instruments in rectangular coordinates and a feedback prospecting seismometer.

Some theoretical investigations have been undertaken by the Institute in perfecting the various prospecting methods, i.e., mathematical analysis of sound. They have also reported research on theories for the interpretation of geophysical investigations. Other current research involves a cooperative project for the development of the basic designs and models of electronic equipment for use in electrical prospecting.

VIRG periodically publishes a Trudy.

Name: All-Union Scientific-Research Institute of Railroad Construction and Planning
(Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo stroitel'stva i proyektirovaniya)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute's staff has published research on the vibrational strength of lap-welded joints, density of hydraulic mixtures pumped through pipes of 200 to 300 mm in diameter, modeling of a-c electromagnetic fields for geophysical prospecting, testing methods for concrete, and electric sounding in shallow water. A Trudy of the Institute has been published.

Name: All-Union Scientific-Research Institute of Railroad Transportation
(Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta--VNIIZhT)

Address: Moscow, 3-ya Mytishchinskaya ulitsa, 10

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. A. Ivanov
V. Ya. Ovlasyuk
A. P. Petrov, Professor, Head of Computer Technology Department
N. P. Shchapov, Professor

Description:

The Institute's primary research covers the fields of metallurgy, electronics, and computers. They have been especially active in the investigation of corrosion fatigue and the fatigue strength and heat treatment of various steels. They have also done outstanding research and development on automatic systems for controlling railroad traffic.

A Trudy is periodically published by the Institute, and the Candidate's Degree is granted.

Name: All-Union Scientific-Research Institute of Refractory Materials
(Vsesoyuznyy nauchno-issledovatel'skiy institut ogneporov--VIO)

Address: Leningrad

Director: N. P. Gordeyev, Director

Deputy Director: --

Administrative Affiliation: State Economic Council, U.S.S.R. (1961)

Selected Staff Members:

R. I. Bresker
A. S. Frenkel
M. S. Gal'perin, Chief Designer
V. V. Goncharov
N. I. Krasotkina
Ya. A. Prokof'yeva
S. P. Shmitt-Fogelevich
N. I. Voronin
V. P. Zegzhda, Candidate

Description:

In 1928, the first specialized organization in the U.S.S.R. for planning plants for the production of refractories was established at Leningrad. The All-Union Institute of Refractory Materials is descended from this organization. It conducts research on all types of refractory material and serves as consultant to the plants that produce the refractories. Many of these plants or departments within them were designed by the Institute.

Name: All-Union Scientific-Research Institute of Shale Processing
(Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke slantsev)

Address: Leningrad, Zaozernaya, 1

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

E. E. Feofilov
B. E. Gurevich
M. V. Kobyl'skaya
A. K. Mityurev
V. F. Polozov
S. S. Semenov
N. I. Zelenin

Description:

This institute has studied the preparation of chemicals and distillate fractions derived from shale oils for use as solvents, gasoline, plastics, and plasticizers. It has also classified shale oils from various shales according to physical properties and chemical components. It has studied methods of analysis of shale oils.

The Institute publishes a Trudy. The Candidate's Degree is granted.

Name: All-Union Scientific-Research Institute of Sound Recording
(Vsesoyuznyy nauchno-issledovatel'skiy institut zvukozapisi--VNAIZ)

Address: Moscow, ulitsa Kachalova, 24

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Radio Broadcasting and Television
(1960)

Selected Staff Members:

M. V. Barkova
B. Ya. Kaznachey
V. I. Parkhomenko, Chief Designer
M. A. Rozenblatt, Doctor
A. A. Vroblevskiy

Description:

The Institute is actively engaged in the development of magnetic tape for sound recording. Fluoro-layer-base tapes, adhesives for glueing tapes, and fine-powder dispersions of cobalt ferrite and ferric oxide have been investigated. Theoretical problems on sound and materials for use in sound equipment have been studied. Other work of the Institute has concerned dictating equipment, motors for winding tape, sound-reproduction and sound-recording equipment, special magnetic alloys, electrodeposition and porosity of highly coercive alloys, and magnetic video tape. The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of Synthetic and Natural
Aromatic Substances
(Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i
natural'nykh dushistykh veshchestv--VNIISNDV)

Address: Selo Vorontsovo, Leninskiy Rayon, Moskovskoy oblasti

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. N. Belov
L. A. Kheyfits
Ye. N. Novikova

L. N. Petrova
E. K. Smol'yaniova

Description:

The Institute has been active in research on the synthesis and determination of aromatic alcohols, ketones, aldehydes, unsaturated fatty acids, and associated substances. It has cooperated on studies of the structure of natural and synthetic citral. The correlation between odor and structure has also been investigated for cyclic and aromatic ketones. Studies on the by-products of the synthesis of aromatic substances included methods for the electrochemical regeneration of chromium alums used in some processes.

Candidate's Degrees are granted by the Institute. A Trudy is published periodically.

Name: All-Union Scientific-Research Institute of Synthetic Fibers
(Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna--VNIIV)

Address: Mytishchi, Moscow oblast', ulitsa Kolontsova, 5

Director: --

Deputy Director: G. I. Kudryavtsev (1960)

Administrative Affiliation: --

Selected Staff Members:

E. Z. Faynberg
A. A. Geller
B. E. Geller
V. D. Gorbacheva
V. A. Kargin, Academician (U.S.S.R.)
V. S. Klimenkov
V. Ye. Kotina
N. V. Mikhaylov, Professor
A. B. Pakshver
Z. A. Rogovin, Doctor
Z. V. Ukhanova
Yu. A. Voitelev
M. P. Zverev, Head of Laboratory of Carbon-Chain Fibers

Description:

This institute is the leading center in the U.S.S.R. for synthetic-fiber synthesis, testing, and production technology. Research on

polypropylene and polyacrylonitrile fibers and on heat-resistant caprone cord is done here. New phosphorus-organic polyesters and polyamides and a resistant fabric, Polifen, for arctic and tropical use were synthesized here. In cooperation with the Scientific-Research Institute of the Tire Industry, viscose and caprone tire cord has been tested and much research for a cord of higher strength has been carried on at this institute. The Institute publishes a Trudy, and as an educational institute, participates in the granting of advanced degrees.

Several branches of the All-Union Scientific-Research Institute of Synthetic Fibers have been established. The branches at Kiyev and Krasnoyarsk were to be formed in 1958. Other branches are in Kalinin and Leningrad.

Name: All-Union Scientific-Research Institute of Synthetic Rubber imeni S. V. Lebedev
(Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S. V. Lebedeva--VNIISK)

Address: Leningrad, Gapsal'skaya ulitsa, 18

Director: I. V. Garmonov (1960)

Deputy Director: A. I. Marey (1962)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Chemistry (1961)

Selected Staff Members:

S. N. Borisov
B. A. Dolgoplosk, Corresponding Academician (U.S.S.R.)
Yu. A. Gorin, Professor, Head of the Laboratory of Synthesis of Monomers
N. A. Isakova
A. V. Karlin
V. N. Kartsev
A. L. Klebanskiy, Professor, Head of Laboratory
V. B. Kogan
D. Sh. Korotkina
A. A. Korotkov, Corresponding Academician (U.S.S.R.)
V. A. Krol'
A. V. Lebedev
I. A. Livshits
L. P. Mal'shina
I. A. Malysheva
S. M. Monozon
M. S. Nemtsov, Professor

I. Ya. Poddubinyy, Professor, Head of a Laboratory
 I. I. Radchenko, Candidate, Head of a Laboratory
 V. N. Reykh
 M. A. Smirnov
 I. K. Stavitskiy, Candidate

Description:

This institute has branches in Yerevan and Voronezh. The Yerevan Branch has a laboratory of polymerization and synthesis of monomers, which has developed KR, a new Nairite-type chloroprene rubber. A continuous polymerization installation for Nairite has been established at Yerevan.

The Institute publishes a Trudy and grants the Candidate's Degree. The Institute in Leningrad has among its laboratories the Laboratory of Mechanical Testing and the Laboratory of Synthesis of Monomers.

Rubber-industry competition awards for 1960 were presented to the Institute for the synthesis of divinyl-styrene latex to be used for the production of textile dyes. In 1959, liquid Nairite won second prize at the All-Union Chemical Society imeni D. I. Mendeleev competition. An improved technique for producing thiokol type rubber also won an award in 1960. A patent was granted for the production technique for cold-resistant polysiloxane rubber.

In addition, the production of SKI isoprene rubber is a major accomplishment by the Institute. Isoprene has been synthesized from isopentane. Other rubber-synthesis research has been directed toward improved polysiloxane rubbers, SKS-30 (a butadiene-styrene carboxylate latex), low-temperature elastomers, and the development of oil-filled rubbers with improved properties.

The Institute has investigated the uses of rubbers as adhesives in paints and as corrosion preventives for metal parts. Foam rubber has been produced from butadiene-styrene and butadiene-acrylonitrile latexes. Divinyl was synthesized from propylene and formaldehyde. Various analysis techniques for rubbers have been developed at the Institute. The separation of C₅ hydrocarbon mixtures by extractive rectification has been accomplished.

Name: All-Union Scientific-Research Institute of the Baking Industry
 Vsesoyuznyy nauchno-issledovatel'skiy institut khlebopekarnoy
 promyshlennosti--VNIKhP)

Address: Moscow

Director: N. Ye. Morev (1960)

Deputy Director: I. N. Maslov (1960)

Administrative Affiliation: --

Selected Staff Members: V. V. Sherbotenko, Head of Technological
Laboratory

Description:

This institute studies all aspects of the baking industry. Machine design and plant layout for commercial bakeries are among the Institute's activities. A pilot plant is maintained, as is a full-size experimental bakery. Studies are conducted in the fields of microbiology, colloid chemistry, and biochemistry as they relate to baking. The raw materials of baking, including yeasts, are also studied. A Trudy is published.

Name: All-Union Scientific-Research Institute of the Dairy Industry
(Vsesoyuznyy nauchno-issledovatel'skiy institut molochnoy
promyshlennosti--VNIMI)

Address: Moscow, Lyusinovskaya ulitsa, 35

Director: N. Ya. Luk'yanov, Doctor (1956)

Deputy Director: P. F. D'yachenko (1956)

Administrative Affiliation: Moscow City Sovmarkhoz (1957)

Selected Staff Members:

V. M. Bogdanov, Candidate
V. Butin
S. F. Kivenko
N. Mazokhina
T. G. Romanovich
A. I. Titov
I. N. Vlodavets, Candidate

Description:

This institute develops milk products and has investigated their preservation in studies of lactic acid formation, butterfat, and micro-organisms. It publishes a Trudy and a Sbornik Referatov Nauchnykh Rabot.

Name: All-Union Scientific-Research Institute of the Fat Industry
(Vsesoyuznyy nauchno-issledovatel'skiy institut zhirovoy
promyshlennosti--VNIIZh)

Address: Moscow, Balakirevskiy pereulok, 1

Director: A. G. Sergeev (1958)

Deputy Director: --

Administrative Affiliation: State Economic Council, U.S.S.R. (1961)

Selected Staff Members:

B. A. Khaskin
N. K. Man'kovskaya, Head of Laboratory

Description:

Research has been conducted on the production of synthetic fatty acids, synthesis of detergents, synthesis of fatty amines and quaternary ammonium compounds of aliphatic acids, use of ozone in the oxidation of liquid hydrocarbons, and preparation of sulfonic acids. A Trudy is published each month.

The Institute has a branch in Leningrad.

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Name: All-Union Scientific-Research Institute of the Fishing Economy and Oceanography
(Vsesoyuznyy nauchno-issledovatel'skiy institut rybnogo khozyaystva i okeanografii--VNIRO)

Address: Moscow, Verkhne Krasnosel'skaya ulitsa, 17

Director: V. P. Zaytsev (1959)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: P. A. Moiseyev, Professor

Description:

The Institute has divisions in Latvia, Murmansk, and Kaliningrad, and also a Georgian station. Only the administration is in Moscow. The Institute's staff has cooperated with other Soviet institutes in measuring water currents, the geological structure of the ocean bottom, and the variability of the thermal and chemical states of the oceans' waters. They are especially active in the use of the submarine to study surface and underwater movements and the habits of fish. They have outfitted the submarine Severyanka for several expeditions, and are now planning to obtain another.

The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of the Hydrolysis and Sulfite Alcohol Industries
(Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirovoy promyshlennosti--VNIIGS)

Address: Leningrad

Director: --

Deputy Director: S. Sukhanovskiy (1957)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., for Chemistry (1959)

Selected Staff Members:

N. V. Chalov, Candidate
B. K. Kremlevskiy, Candidate
N. P. Mel'nikov
N. S. Postnikova
Yu. A. Tsirlin

Description:

This institute has pursued the development of basic chemicals for the rubber and plastics industry. Of primary interest was the evolution of a new technology for furfural production, which was adopted into industry by the Leningrad Hydrolysis Factory about 1956. Further investigations have concerned the hydrolysis of lignins as fillers for synthetic rubber; production of polysaccharides and corrosion-resistant materials; and the development of automatic-control-system measurement devices.

A Trudy is published by the Institute. A branch of the Institute is located in Moscow.

Name: All-Union Scientific-Research Institute of the Hydrolysis and Sulfite Alcohol Industry, Moscow Branch
(Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirovoy promyshlennosti, Moskovskoye otdeleniye--VNIIGS MO)

Address: Moscow, Turchaninovskiy pereulok, 4

Director: --

Deputy Director: M. Shpuntova (1958)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., for Chemistry (1957)

Selected Staff Members: --Description:

The work of this institute has been in the field of polymer chemistry. Like the Leningrad Institute, work has been pursued on a streamlined method to obtain furfural, a raw material important in the synthetic-fiber, -plastic, and -resin industries. Extensive research on the hydrolysis of cotton fiber was carried out prior to 1959, at which time this work was transferred to the Institute of Polymer Chemistry associated with the Uzbek Academy of Sciences. Published investigations also consider work on the hydrogenation of glucose. Members of the Institute participated in the First All-Union Conference on Organic Catalysis, held in Moscow, November 16-20, 1959. A Sbornik Trudov is published.

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Name: All-Union Scientific-Research Institute of the Meat Industry
(Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti--VNIIMP)

Address: Moscow, ulitsa Talalikhina, 26

Director: V. M. Gorbатов (1960)

Deputy Director: K. D. Sinitsyn (1960)

Administrative Affiliation: State Economic Council, U.S.S.R. (1961)

Selected Staff Members:

- V. V. Krylova, Head of Department of Meat Biochemistry and Physical-Chemical Meat Investigation
- L. L. Kukharkova, Head of Laboratory for Microbiology and Antibiotics
- G. M. Lavrova
- S. C. Liberman
- L. S. Pozhariskaya, Doctor
- A. P. Sheffer
- I. V. Shur, Professor
- G. S. Unanov, Assistant Head of Department of Raw Meat Material

Description:

Members of the Institute's staff have performed extensive research in the fields of slaughtering (including preparation of animals for slaughter) and meat dressing, processing, storage, and handling. Specifically, meat preservation by irradiation and antibiotic treatment have been studied, as well as canning procedures for various meats. The latter work

includes pilot-plant studies. Microbiological studies have been applied to plant sanitation and sausage making. Pathogens in meats have also been studied. The development and production of various therapeutic and pharmacological preparations from animal organs have been investigated, including some enzyme preparations. Uses for waste products are sought. The Institute publishes a Trudy.

Name: All-Union Scientific-Research Institute of the Petroleum Industry
(Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy
promyshlennosti--VNIINP)

Address: Moscow, Aviamotornaya ulitsa, 6

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. V. Agafonov
V. I. Anosov
A. I. Dintses
B. A. Lipkind
Ye. M. Oparina
A. A. Petrov
L. N. Sentyurikhina
G. I. Shor
A. I. Tarasov
K. M. Timofeyeva
A. S. Yermilov
Yu. S. Zaslavskiy
L. G. Zherdeva

Description:

The research activities of the Institute encompass many areas of interest to the petroleum industry. The purification of petroleum fractions by a continuous process of absorption separation has been studied. The hydrofining of lubricants and the use of sulfurous petroleum products also have been investigated. An effort in corrosion research has been mounted, and studies of catalysts have been undertaken.

The macroscopic kinetics of hydrogenation, the oxidation of solid hydrocarbons, and the purification of low-molecular-weight paraffins have been investigated. Hydrogenation also has been studied relative to the production of lubricants of various grades.

The aging and properties of greases have been studied, and ultrasonic techniques were used to increase the thermal stability of commercial greases. Lithium greases were investigated for use in continuous manufacturing techniques. MoS_2 has been investigated as a high-temperature, high-vacuum grease.

Relative to the use of sulfurous fuels and oils in diesel engines, the chlorine content of such fuels has been studied and investigations have been made of corrosive action in diesel engines, the mechanism of corrosion by additives in oil, and anticorrosion methods. The use of radioactive isotopes in the corrosion studies is being considered; other analytical tools utilized involve gas-chromatographic, polarographic, and mass-spectra techniques.

In the area of catalysis, studies have been made of the size and shape of catalyst particles in an effort to maximize production. Aluminosilicates have been studied relative to their catalytic properties and their use in silica gels.

A method has been developed for determining the effectiveness of an engine oil based on its filterability index, and the sensitivity of high-octane (over 100) fuels to detonation also is being investigated.

An analog computer is available for use in handling problems of hydraulics associated with the development of large-scale underground petroleum resources.

The Institute publishes a Trudy.

The Institute maintains a branch at Leningrad, which studies similar problems of catalysts and also the synthesis of high polymers. The Deputy Director of the Leningrad Branch in 1958 was A. Vvedenskiy.

Name: All-Union Scientific-Research Institute of Transportation Construction
(Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva--VNIIS)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. A. Artanov
K. P. Bol'shakov

V. I. Karpenskiy, Head of a Laboratory
 I. A. Maiseyev
 G. G. Malenkov
 K. S. Silin, Head of a Department

Description:

Workers from the Institute, heading groups from other construction institutes in the development and application of deep, prefabricated, reinforced-concrete foundations without "caissons", were awarded a 1962 Lenin Prize in science and technology. Investigations have also been carried out on stresses and endurance of welded structures, aerial-radio-survey methods, and the molecular structure of water. A Trudy is published monthly.

Name: All-Union Scientific-Research Instrument (Tool) Institute
 (Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut--
 VNII)

Address: Moscow, Bol'shaya Semenovskaya ulitsa, 49

Director: Ye. P. Nadeinskaya, Professor (1959)

Deputy Director: K. Imshennik (1959)

Administrative Affiliation: State Committee of the Council of Ministers,
 U.S.S.R., on Automation and Machine Building
 (1961)

Selected Staff Members:

Yu. A. Gellen, Professor
 G. Kossovich, Assistant Head of the Metallurgy Section
 Ye. A. Lebedeva
 Ye. I. Malinkina
 Ts. L. Olevosa

Description:

The Institute has conducted research to develop better alloy tool steels, determine crack formation during heat treatment of steels, and develop better brazing solders.

The Cutting Laboratory is active in developing better carbide and diamond cutting tools. Hard-alloy multifaced tips for cutting tools to be attached to normal shanks have been investigated. High-speed grinding, sharpening, and lapping carbide tools are also being investigated.

Radioactive isotopes are being used to check faults in machines and materials.

Laboratories are maintained for metallography, thermal-property investigations, and chemistry.

Name: All-Union Scientific-Research Locomotive Institute
(Vsesoyuznyy nauchno-issledovatel'skiy teplovoznnyy institut--VNITTI)

Address: Kolomna

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: I. V. Kudryavtsev, Professor

Description:

The Institute's research is concentrated mainly in metallurgy, especially the fatigue testing of metals. In this area, they have been active in the production and development of fatigue-testing machines, and in their application to specific problems associated with the railroad industry.

Name: All-Union Scientific-Research Mine Surveying Institute
(Vsesoyuznyy nauchno-issledovatel'skiy marksheyderskiy institut--VNIMI)

Address: Leningrad, Sredniy prospekt

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

F. V. Drobyshev
V. I. Lavrov
N. P. Tikhomirova
I. B. Zhitomirskiy

Description:

This institute is engaged in research on mine-survey equipment and the development of various electromechanical devices. This institute is considered as a highly specialized research and design facility. Surveying instruments are apparently the main and only concern to which any effort is devoted. Compasses, both magnetic and gyro, are designed for accuracy and stability. There is also some effort devoted to the design of other instruments, such as leveling instruments, phototachometers, and geodimeters.

Name: All-Union Scientific-Research Mining-Metallurgical Institute of Nonferrous Metals
(Vsesoyuznyy nauchno-issledovatel'skiy gorno-metallurgicheskiy institut tsvetnykh metallov--VNIITsvetmet)

Address: Ust'-Kamenogorsk

Director: A. P. Snurnikov (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

L. S. Getskin
S. L. Iofin
I. I. Kershanskiy
B. S. Khristoforov
Yu. Kiselev
V. I. Lysenko
T. I. Makarov, Head of Laboratory of Rare Metals
Ye. V. Margulis
V. I. Plotnikov
Ye. S. Pronina
A. I. Safronov
V. P. Savrayev
M. G. Sayun
A. P. Sychev
P. P. Tsyb, Candidate

Description:

This institute has investigated the commercial extraction or separation of 15 metals. Rare-earth elements have been separated by exchange resins; and indium has been extracted from dust from lead plants; gallium, by electrolysis; and zinc, from silver crust. Studies on the recovery of metals from waste products of metallurgical processes also are made.

An ore crusher has been developed which uses shock waves from an electric discharge in water. The Institute is responsible for research and collecting information on selenium and tellurium. The Institute also prepares standard samples to be used for spectral analysis, and has conducted studies to find applications for radioactive isotopes.

The Institute has an Experimental Plant, which was completed in 1958, to check research in ore beneficiation, metallurgical processes, and methods of charge preparation, and a Laboratory of Rare Metals. A Trudy is published.

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Name: All-Union Scientific-Research Storage-Battery Institute
(Vsesoyuznyy nauchno-issledovatel'skiy akkumulyatornyy institut)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1959)

Selected Staff Members:

M. A. Dasoyan, Candidate

N. N. Fedorova

L. Rustovoyt, Director of Podolsk Branch (1960)

Description:

As a possible solution to the weight problem of alkali storage batteries, the Institute has studied magnesium alloys, especially their corrosion. They have also investigated the corrosion of lead parts for storage batteries and the corrosion of nickel and possible methods of inhibiting it. The possibility of varying the electrical characteristics of multicomponent semiconductor alloys also has been studied.

The Podol'sk Branch of the Institute cooperated on the production of new improved types of automobile and tractor batteries. During 1960, they introduced a constant-flow line for the uninterrupted production of negative plates and conveyors for the formation of battery plates.

The Institute grants the Candidate's Degree.

Name: All-Union Scientific-Research Technological Institute of Instrument Construction
(Vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskii institut priborostroyeniya--VNIIPRIBOR)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1959)

Selected Staff Members:

B. Zastenker, Candidate, Head of Laboratory
Ye. Zhil'tsov, Head of Department

Description:

The primary interests of the Institute relate to industrial-instrument technology and include subject matter in the areas of reliability, theory and design of vibratory feeding devices, automation and mechanization processes, and standardization and normalization procedures. Recent Trudy have been concerned with items such as mechanization of cold stamping, industrial manometers, and quality-control equipment.

Name: All-Union Scientific-Research Thermal Engineering Institute imeni F. Ye. Dzerzhinskiy
(Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskii institut imeni F. Ye. Dzerzhinskogo--VFI)

Address: Moscow, Leninskaya sloboda, 23

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

P. A. Akol'zin, Doctor
L. D. Berman, Doctor
N. I. Davydov, Candidate
E. S. Ginzburg, Candidate

V. N. Gulyayev, Candidate
 K. I. Ivanov, Professor, Head of Laboratory
 Yu. N. Ivanov
 I. N. Laguntsov, Candidate
 R. E. Mazel', Candidate
 Ye. I. Molchanov, Candidate
 B. Ye. Neymark, Candidate
 A. V. Ratner, Candidate
 A. M. Sirota, Candidate
 D. L. Temrot, Professor, Head of Section
 N. B. Vargaftek, Professor
 Ye. D. Vilyanskaya, Candidate

Description:

VII, established in 1921, is one of the most important Soviet institutes doing research in heat and power engineering. At present, there are over 30 laboratories which, except for the District-Heating and Petroleum Laboratories, are included in the Fuel, Furnace, Boiler, Turbine, Metallurgical, Water, Thermal-Automation, and Thermal-Physics Divisions. These are frequently reorganized and renamed due to shifts in research emphasis.

The Institute has its own heat- and electric-power station with boiler installations for supercritical steam conditions, a gas turbine, and other experimental equipment. Full-scale investigations are made in actual power plants and stations; these make up about 40 per cent of the total scientific work carried out by the Institute. Research and development on atomic energy have been carried out through the use of the Institute's 14-Mev cyclotron, 7-Bev proton accelerator, and heavy-water, enriched-uranium reactor which has a flux of 2×10^{13} neutrons.

At present, over 100 Doctors and Candidates are employed. The Institute itself grants both the Candidate's and Doctor's Degrees.

Research and development at the Institute include work on the automatic regulation and control of steam turbines and boiler units. For this purpose, they have developed program networks for electronic computers, thermocouple activating elements, sensitive pressure and color gages, servo motors, electronic hydraulic regulators, relaxation feedbacks, and an electro-heating reverse relay called "isodrom".

Problems of heat exchange under high pressure and other special conditions have been analyzed. Special cases included heat exchange from wall to water covering cases of ordinary and surface boiling, heat transfer to steam and water under supercritical conditions, heat exchange from pipe wall to gas under high pressure, and the hydraulic resistance of a heated tube.

They have investigated the properties and treatment of various steels for use in power engineering. These studies have included the effect of aging, heat treatment, hardening, and sulfiding of austenitic stainless and carbon steels. The Department of Metals has analyzed the causes of

damage to certain parts of power-plant equipment. Methods for water preparation to ensure steam purity have been developed to combat scale, corrosion, cracking, and steam pollution in high-pressure boilers and atomic power stations. Problems associated with operating dependability of welded joints in steam piping for high- and extra-high-pressure boilers, and the "dry-pressure" bonding of metals under high-temperature conditions, have been investigated.

Several groups, including the Turbine Shop and Petroleum (Oil) Laboratory, have conducted experiments pertaining to the oxidation and aging of lubricants, turbine oils and hydraulic fluids, and the effect of inhibitors, additives, and antioxidants. Resulting developments included a graphite-copper lubricant and a fire-resistant substitute for turbine oils.

Miscellaneous studies on subjects such as grain drying, dielectric heating for the textile industry, and treatment of inorganic salts also have been conducted.

An Eastern Branch of the Institute has been established in Chel-yabinsk to give scientific and technical help to Ural and Siberian power-engineering installations. It has Furnace-Boiler and Turbine Divisions and also groups working on thermal automatics, water chemical problems, and metals. Their research is parallel to the main Institute's, but on a more limited scale.

The Institute has also been instrumental in convening numerous meetings and conferences. It publishes an Izvestiya and a Trudy.

Name: All-Union State Institute of Cinematography
(Vsesoyuznyy gosudarstvennyy institut kinematografii--VGIK)

Address: Moscow, ulitsa Tekstil'shchikov, 3

Director: A. N. Groshev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Culture, R.S.F.S.R. (1961)

Selected Staff Members:

Yu. V. Bogdankevich
S. A. Gerasimov, Professor, Head of Chair
N. A. Lebedev, Professor, Head of Chair
G. P. Shirokov, Docent, Dean
G. A. Tavrizyan, Dean

Description:

This institute grants the Candidate's Degree. It offers courses in literary work, dramatic theater and cinema acting, cinema production, staging, and directing, cinema operation techniques, history and development of cinema arts, painting, and graphics.

Name: All-Union State Scientific-Research Institute of Glass
(Vsesoyuznyy gosudarstvennyy nauchno-issledovatel'skiy institut stekla--VNIIS)

Address: Moscow, Semenovskaya ulitsa, 10

Director: F. G. Solinov (1958)

Deputy Director: --

Administrative Affiliation: Gosplan, R.S.F.S.R. (1961)

Selected Staff Members:

G. M. Bartenev
O. K. Botvinkin, Professor
V. A. Dubovitskiy, Director of Ukrainian Branch
V. A. Fedotov, Candidate
V. G. Gutop, Head of Laboratory
L. K. Kovalev, Candidate, Head of Laboratory
S. G. Lioznyanskaya
V. V. Polyak, Candidate
Ya. Rogozhin, Candidate, Head of Laboratory
V. A. Ryabov, Head of Laboratory of Glass-Fiber Materials
and Coatings
M. R. Savitskiy
N. N. Semenov
N. V. Solomin, Professor, Head of Laboratory
M. G. Stepanenko, Professor, Head of Laboratory
I. D. Tykachinskiy, Candidate, Head of Laboratory of Glass
Melting
A. S. Yeremeyeva

Description:

VNIIS is an important research institute for the development of new glasses and glass-production techniques. Most work has been devoted to the development of high-strength, heat-resistant glasses, inorganic glasses, glasses with rare-earth components, alkali-free glasses, glass laminates, heat-resistant foam glass, aluminized glass, and glass fibers. Additional work has been done on polymers, polymer adhesives and coatings, electrically

conductive metal-oxide films, high-voltage insulators, heat-resistant transparent varnishes for insulating conductive glasses, and glass greases for use in metalworking (extrusion).

The structure and scope of research of the Institute are reflected by its laboratories. Among them are the Laboratory of Light Filters, Laboratory of Physics, Laboratory of Glass Lubrication, Refractories Laboratory, Thermal Engineering Laboratory, Laboratory of Standards, Glass-Melting Laboratory, and Pyrometric Laboratory.

Also located within the Institute is the State Planning and Design Bureau for Glass (PKB stekla).

The Institute has three branches: the Ukrainian Branch in Kiyev, under the direction of Doctor V. A. Dubrovskiy; the Saratov Branch, and the Gus'-Khrustal'nyy Branch, established in 1961.

The Institute publishes a Trudy in which staff research is reported, and grants the Candidate's Degree.

Name: Altay Agricultural Institute
(Altayskiy sel'skokhozyaystvennyy institut)

Address: Barnaul, Pushkinskaya ulitsa, 82

Director: Ye. N. Davydov, Docent (1961)

Deputy Director: D. P. Sokol'skiy, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

N. A. D'yachkov, Docent
K. Ya. Fesko, Docent
S. A. Lobanov, Dean
M. M. Shubin, Docent, Head of Chair

Description:

Supplementing its educational program, this institute has published both a Trudy and collected reports by its staff members. The titles indicate work in civil and/or architectural engineering (i.e., orthogonal projection methods as applied to thermodynamics; calculation of critical loads and frequency of natural vibrations for parabolic arches). The courses offered by the Institute include agronomy, animal husbandry, and mechanization of agriculture.

Name: Altay Polytechnic Institute imeni I. I. Polzunov
(Altayskiy politekhnicheskiy institut imeni I. I. Polzunova)

Address: Barnaul, prospekt Lenina, 61

Director: --

Deputy Director: T. V. Yershov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. D. Grigorov, Docent
L. P. Leonov, Head of Chair
F. V. Rodin, Docent, Dean
V. F. Solyanik, Docent, Head of Chair

Description:

The curriculum of the Altay Polytechnic Institute includes studies in metallurgy and the economics, planning, and organization of production. In-plant research is conducted by the Institute.

An affiliatated evening institute is located at Biysk.

Name: Altay Scientific-Research and Planning Technological Institute of
Machine Building
(Altayskiy nauchno-issledovatel'skiy i proyektno-tekhnologicheskiy
institut mashinostroyeniya)

Address: Barnaul

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute specializes in the research and development of automatic machinery for welding, casting, machining, and upsetting of metals.

Name: Altay Scientific-Research Mining and Metallurgical Institute
(Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy institut)

Address: Ust'-Kamenogorsk

Director: A. Ye. Yergaliyev (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members:

M. A. Abdeyev
N. S. Butenko
L. S. Dukhankina
O. A. Khan
O. G. Miller
G. F. Platonov
V. V. Vershinina

Description:

This institute is principally interested in smelting and ore beneficiation, particularly of zinc, lead, and copper. There has been work done on developing methods of open mining, on the precipitation of materials from various inorganic solutions, and on the electrolysis of materials such as tellurium and high-purity zinc. A study was made on the extent of poly-metallic raw-material reserves in the Bergozonsk-Belovsoyka field. The Institute publishes a Trudy.

Name: Andizhan Pedagogical Institute imeni the 30th Anniversary of the
Komsomol
(Andizhanskiy pedagogicheskiy institut imeni 30-letiya Komsomola) ,

Address: Andizhan, ulitsa Lenina, 8

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary
Special Education of the Council of Ministers,
Uzbek S.S.R. (1960)

Selected Staff Members:

G. Sh. Il'yasov, Dean
I. K. Karayev, Professor, Head of Chair

A. V. Kuzherskaya, Docent
Kh. Razzakov, Candidate, Head of Chair

Description:

The activities of this institute include the training of teachers. It publishes a Uchenyye Zapiski.

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Name: Arctic and Antarctic Scientific Research Institute
(Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut--
AANII)

Address: Leningrad, Fontanka, 34

Director: --

Deputy Directors: M. M. Somov, Doctor (1962)
P. A. Gordiyenko (1961)

Administrative Affiliation: Main Administration of the Northern Sea Route
(1961)

Selected Staff Members:

L. L. Balaksin, Head of an Expedition
N. Bryazgin, Head of an Expedition
A. S. Denisov, Head of an Expedition
I. Dolgin, Head of Department of Climate
V. M. Driatskiy, Head of an Expedition
K. K. Fedchenko, Head of an Expedition
A. A. Girs, Head of Department of Meteorology and Weather
Forecasting
A. F. Laktionov, Head of Department of Oceanology
A. Nikol'skiy, Head of Geophysics Department
I. V. Maksimov
M. Ye. Ostrekin, Head of a Department
I. S. Peschanskiy, Head of Laboratory of Ice Research
I. G. Petrov, Head of an Expedition
S. T. Serlapov, Head of an Expedition
V. A. Shamont'yev, Head of an Expedition
K. A. Sychev, Head of North Pole Expedition
M. K. Tarshis, Head of a Laboratory
A. F. Treshnikov, Head of Antarctic Department
N. A. Volkov, Head of an Expedition

Description:

This institute was founded in 1925, when the Northern Scientific Trade Expedition bought a small ship. Originally called the Institute for

the Study of the North, it was renamed the All-Union Arctic Scientific-Research Institute in 1930. The Institute assumed its present name in 1958.

Through the years, the Institute has established many hydrometeorological stations; at least seven drifting stations were operating in the central Arctic area. The facilities of the Institute, also include test chambers where Arctic conditions are simulated; temperatures of 45 degrees below zero are commonly maintained, but the chambers can be used at temperatures down to 100 below.

In the last 25 to 30 years, the Institute has undertaken more than 30 oceanographic expeditions, nearly 50 expeditions of the ice-hydrological patrol, at least 17 expeditions to study the estuaries of Siberian streams, 10 or more high-latitude air expeditions in the central Arctic, and several Antarctic expeditions conducted in part jointly with institutions of the U.S.S.R. Academy of Sciences and the Hydrometeorological Service. Current projects of the Institute include ways to lengthen the navigation season in northern ports and methods of long-range weather forecasting.

It was reported in 1954 that the Institute had 10,000 people under its jurisdiction at any one time, and that 50 per cent of the staff were women. Some 2,000 persons graduate from the Institute each year. The Institute grants the Candidate's Degree.

A branch of the Institute is located in Moscow at ulitsa Razina, 9.

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Name: Arctic Geophysical Institute
(Arkticheskiy geofizicheskiy institut)

Address: Murmansk

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

During the International Geophysical Year, this institute was created to investigate cosmic radiation, the ionosphere and propagation of radio waves, and auroras, and to explore the geophysical conditions of U.S.S.R.

Name: Arkhangel'sk Order of Labor Red Banner Forestry Institute imeni V. V. Kuybyshev
(Arkhangel'skiy ordena Trudovogo Krasnogo Znameni lesotekhnicheskiiy institut imeni V. V. Kuybysheva--ALTI)

Address: Arkhangel'sk, Naberezhnaya imeni Stalina, 17

Director: F. I. Koperin, Professor (1961)

Deputy Director: I. M. Bokhovkin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. S. Demchinskiy, Docent, Head of Chair
G. L. Dranishchnikov, Docent, Head of Chair
I. Ya. Golosovker, Docent, Head of Chair
P. I. Lapin, Docent, Head of Chair
G. A. Manukhin, Docent, Dean
V. V. Shchelkunov, Docent, Head of Chair
A. S. Sinnikov, Docent, Dean

Description:

The Institute publishes a Trudy. Courses are offered in forestry, logging machinery, logging, thermal power engineering, woodpulp, chemistry of woodpulp, plastics technology, and civil engineering.

Name: Arkhangel'sk State Pedagogical Institute imeni M. V. Lomonosov
(Arkhangel'skiy gosudarstvennyy pedagogicheskiy institut imeni M. V. Lomonosova)

Address: Arkhangel'sk, Petrogradskiy prospekt, 4

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. V. Dubrovich, Dean
K. S. Ivanova, Candidate, Head of Chair

Description:

As a teacher-training facility, the Institute offers courses in English, German, Russian language, literature, and history, mathematics and physics, geography and biology, and physical education.

The Institute supports a satellite-tracking station and does some research in physical metallurgy. It publishes a Uchenyye Zapiski.

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Name: Armavir Pedagogical Institute
(Armavirskiy pedagogicheskiy institut)

Address: Armavir, ulitsa Rozy Lyuksemburga, 115

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. P. Ogarkov, Candidate, Head of Chair
S. V. Protopopov, Candidate, Dean

Description:

The Institute publishes an Uchenyye Zapiski and offers courses in elementary-school instruction methods, Russian language, literature, and history, and mathematics and physics.

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Name: Armenian Agricultural Institute
(Armyanskiy sel'skokhozyaystvennyy institut)

Address: Yerevan, Teryana ulitsa, 74

Director: A. O. Mardzhanyan, Docent (1961)

Deputy Director: --

Administrative Affiliation: Committee of the Council of Ministers of the Armenian S.S.R. for Higher and Secondary Special Education (1960)

Selected Staff Members:

G. Kh. Agadzhanyan, Professor, Head of Chair
 V. V. Dovlatyan, Docent, Head of Chair of
 General Chemistry
 P. P. Kazanchyan, Docent
 Ye. M. Movsisyan, Docent, Head of Chair

Description:

The present Institute was organized about 1954, although apparently, an agricultural school was in existence prior to that date. Courses are offered in agronomy, vineyards, and mechanization of agriculture. Published work covers topics such as research on the synthesis of herbicides, reflection of X-rays from absorbent and nonabsorbent crystal faces, distribution of nickel on the cathode during electrodeposition, and a method for measuring the temperature at the friction interface of metals. A Trudy is published, and Candidate's Degrees are granted.

Name: Armenian Institute of Construction Materials and Structures
 (Armyanskiy institut stroymaterialov i sooruzheniy)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Gosstroy, Armenian S.S.R. (1960)

Selected Staff Members: A. G. Nazarov, Corresponding Academician
 (Armenian S.S.R.)

Description:

The Institute appears to be interested primarily in seismic studies, with particular reference to structures. Research work has included investigations in shear vibration, building materials, structural analysis, and instrumentation.

Name: Armenian Scientific-Research Institute of Hydraulic Engineering and
 Amelioration
 (Armyanskiy nauchno-issledovatel'skiy institut gidrotekhniki i
 melioratsii--ARMNIIGiM)

Address: Yerevan, prospekt Ordzhonikidze, 3

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Water Resources, Armenian S.S.R.
(1958)

Selected Staff Members:

G. A. Ambartsumyan
A. I. Chavtorayev, Candidate
S. A. Khachatryan, Doctor

Description:

This facility has a Hydraulic Engineering Laboratory. It has done work on hydroelectric power stations, wells, irrigation, and the stability of structures. A Trudy is published.

Name: Armenian State Correspondence Pedagogical Institute
(Armyanskiy gosudarstvennyy zaochnyy pedagogicheskiy institut)

Address: Yerevan, ulitsa Spandaryana, 44

Director: --

Deputy Director: --

Administrative Affiliation: Committee of the Council of Ministers of the
Armenian S.S.R. for Higher and Secondary
Special Education (1960)

Selected Staff Members:

S. M. Dulyan, Docent, Head of Chair
Kh. M. Kanayan, Docent, Head of Chair

Description:

This institute publishes a Trudy. Courses are offered in Russian language and literature, native language and literature of peoples of the U.S.S.R., natural sciences and chemistry, geography, history, library science and bibliography, and mathematics and physics.

Name: Armenian State Pedagogical Institute imeni Kh. Abovyan
(Armyanskiy gosudarstvennyy pedagogicheskiy institut imeni Kh.
Abovyan)

Address: Yerevan, Moskovskaya ulitsa, 5

Director: A. A. Babayan, Docent (1961)

Deputy Director: --

Administrative Affiliation: Committee of the Council of Ministers of the
Armenian S.S.R. on Higher and Secondary Special
Education (1960)

Selected Staff Members:

T. P. Aleksanyan, Docent, Head of Chair
G. S. Arzumanyan
V. O. Babayan, Docent, Head of Chair
M. V. Badalyan
S. G. Gasparyan
S. Ye. Karapetyan
P. P. Parsadanyan, Docent, Head of Chair

Description:

This institute, founded in 1934, provides training for teachers. In 1957, its staff numbered 127 and the Institute had graduated 3,000 students.

A Uchenyye Zapiski reporting on its extensive mathematical research is published.

Pedagogy and psychology, native language, literature, and history, mathematics and drafting, physics and fundamentals of production, geography and biology, and biology, chemistry, and agriculture are included in the Institute's curriculum.

Name: Arzamas State Pedagogical Institute
(Arzamasskiy gosudarstvennyy pedagogicheskiy institut)

Address: Arzamas, ulitsa K. Marksa, 36

Director: Ye. V. Vorob'yev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --Description:

The Institute publishes an Uchenyye Zapiski and offers courses in Russian language and literature, foreign language, and mathematics and physics.

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Name: Ashkhabad Astrophysics Laboratory
(Ashkhabadskaya astrofizicheskaya laboratoriya)

Address: Ashkhabad, Sad Keshi

Director: I. S. Astapovich, Candidate (1954)

Deputy Director: --

Administrative Affiliation: Institute of Physics and Geophysics,
Academy of Sciences, Turkmen S.S.R. (1960)

Selected Staff Members:

V. A. Fil'monikhin
K. Kalchayev, Head of Department of Stellar Astronomy
Ye. A. Savel'yev

Description:

Attempts to photograph meteors on color film have been made here since 1949. Meteor observation cameras were operated manually until 1955, when V. A. Fil'monikhin and Ye. A. Savel'yev developed a system whereby the operation of each camera could be controlled automatically from a control desk. This camera installation, "the automatic meteor patrol", was the first of its kind in the U.S.S.R. Meteors also have been observed here by radar, visual, and telescopic means.

The night glow was first officially recorded by the Laboratory in 1943. In 1957, a 100-mm astrograph was installed here.

The Laboratory participated in IGY work on the physical state of the upper atmosphere (using spectral analysis) and in stellar and meteor astronomy. It is one of the Soviet stations for optical observations of artificial earth satellites.

Name: Astrakhan' State Pedagogical Institute imeni S. M. Kirov
(Astrakhanskiy gosudarstvennyy pedagogicheskiy institut imeni S. M. Kirova)

Address: Astrakhan', ploshchad' Stalina, 27/37

Director: A. V. Lebedev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. M. Finkel'shteyn
P. S. Sysoyev, Docent, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski. It offers courses in Russian language and literature, foreign language, and mathematics and physics.

Name: Astrakhan' Technical Institute of the Fishing Industry and Economy
(Astrakhanskiy tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva)

Address: Astrakhan', ulitsa Tatishcheva, 16

Director: V. V. Bal', Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. M. Bliyev, Professor, Head of Chair
A. I. Cherkesov
N. V. Mushkaterov, Docent, Head of Chair
N. K. Tsvetkova, Docent, Head of Chair

Description:

This institute prepares specialists for the fishing industry, providing courses in machinery and installations of the food industry, ship power installations, refrigeration and compressor machinery and

installations, automatic, telemechanic and electric measuring instruments and systems, technology of meat, dairy, and fish products, industrial fisheries, and ichthyology, fish breeding, and conservation.

The Institute publishes a Trudy of staff research, which has included studies of refrigeration, compressors, corrosion protection of metals, and methods of determining the presence of various metals.

Name: Astronomical Observatory
(Astronomicheskaya observatoriya)

Address: Kiyev

Director: --

Deputy Director: --

Administrative Affiliation: Kiyev State University imeni T. G. Shevchenko
(1961)

Selected Staff Members:

A. K. Osipov
P. N. Polupan
V. F. Shkurdoda
S. K. Vsekhvyatskiy, Professor

Description:

The Kiyev University Observatory has been in existence for over 100 years. Its staff has published papers in the fields of gravimetry, celestial mechanics, solar physics, meteorics, positional astronomy, and artificial-earth-satellite tracking. The Observatory publishes an Izvestiya, a Publikatsii, a Trudy, and a Tsirkulyar.

Name: Astronomical Observatory
(Astronomicheskaya observatoriya)

Address: Near Riga

Director: K. A. Shteyns, Docent (1958)

Deputy Director: --

Administrative Affiliation: Latvian State University imeni Petr Stuchki

Selected Staff Members: E. Ya. Zablovskis

Description:

This observatory concentrates on maintaining a time service, photographic observations of artificial earth satellites, and theoretical cosmogony. To enhance its photographic observations, it has recently developed a long-focus camera.

Name: Astronomical Observatory
(Astronomicheskaya observatoriya)

Address: Leningrad, Universitetskaya naberezhnaya, 7/9

Director: V. V. Sharonov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Leningrad Order of Lenin State University imeni A. A. Zhdanov (1961)

Selected Staff Members:

A. A. Nikitin
K. F. Ogorodnikov
S. S. Zhuravlev

Description:

To further its solar investigations, this observatory has recently developed a solar telescope. This equipment has facilitated spectral study of sunspots. Other activities of the observatory include investigations of stellar spectra, silvery or noctilucent clouds, the planet Mars, and the surface of the moon. The Observatory also conducts a time service.

Name: Astronomical Observatory
(Astronomicheskaya observatoriya)

Address: L'vov

Director: M. S. Eygenon (1959)

Deputy Director: --

Administrative Affiliation: L'vov State University imeni I. Franko (1961)

Selected Staff Members:

Ya. T. Kapko
 S. A. Kaplan
 I. A. Klimishin

Description:

Investigators at the L'vov Observatory have developed a solar photoelectric spectrophotometer. Their solar studies include solar flares, solar effects on weather, and solar magnetic fields. Other subjects of interest include sodium clouds, stellar shock waves, light-scattering theory, and planetary observations.

Name: Astronomical Observatory
 (Astronomicheskaya observatoriya)

Address: Near Odessa

Director: V. P. Tsesevich, Professor

Deputy Director: --

Administrative Affiliation: Odessa State University imeni I. I. Mechnikov
 (1961)

Selected Staff Members:

V. M. Grigorevskiy
 Ye. N. Kramer
 S. V. Rublev

Description:

During recent years, the Odessa Observatory has done considerable work on photographic and visual observations of artificial earth satellites. It is noted for its meteor investigations. Other activities include studies of sunspots and stellar envelopes and the compilation of star catalogues. A special branch, the Dnestr Astronomical Station, was established for meteoric investigations.

The Institute publishes an Izvestiya.

Name: Astronomical Observatory imeni V. P. Engel'gardt
 (Astronomicheskaya observatoriya imeni V. P. Engel'gardta--AOE)

Address: Kazan'

Director: A. A. Nefed'yev (1961)

Deputy Director: --

Administrative Affiliation: Kazan' State University imeni V. I. Ul'yanov-Lenin (1960)

Selected Staff Members:

R. A. Botsula
Sh. T. Khabibullin
K. V. Kostylev
M. I. Lavrov
Yu. A. Pupyshev

Description:

This observatory has done work in general astronomy, meteorics, solar physics, positional astronomy, and artificial-earth-satellite tracking. It publishes a Byulleten' as a subseries of the University's Uchenyye Zapiski.

Name: Astrophysical Institute
(Astrofizicheskiy institut)

Address: Kamensk Plateau near Alma-Ata, in the Zailiysk Ala-Tau Mountains

Director: V. G. Fesenkov, Academician (U.S.S.R.) (1961)

Deputy Director: G. M. Idlis (1962)

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1962)

Selected Staff Members

P. N. Boyko
R. Kh. Gaymullina
V. M. Kazachevskiy
S. O. Obashev
Ye. V. Pyaskovskaya-Fesenkova, Head of the Atmospheric Optics
Department
D. A. Rozhkovskiy, Head of the Astrophysics Division
T. P. Toropova

Description:

This is the largest astrophysical center in the Soviet Union. Astrophysics, atmospheric optics, and solar physics constitute its three areas of interest. Investigations have been made of the structure and evolution of galactic matter relative to problems of the origin of the stars, solar activity, and the optical properties of the different layers of the earth's atmosphere.

The Institute developed from the Institute of Astrophysics which was organized in Alma-Ata early in World War II. Astronomers who had come there to observe the solar eclipse of September 21, 1941, and remained because of the war helped to found the original institute. The facilities of the Astrophysical Institute include a coronal station and a Mountain Astrophysical Observatory.

An Izvestiya is published.

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Name: Astrophysical Laboratory
(Astrofizicheskaya laboratoriya)

Address: Riga

Director: Ya. I. Kauniyek, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

Z. Alksiye
A. Alksnis
I. A. Daube
V. Perepeyka
L. E. Reyzin

Description:

The first observation station of the Astrophysical Laboratory of the Latvian Academy of Sciences became operational in July, 1958. The Laboratory studies the structure and development of the stellar system and the meta galaxy. Recent studies have been made on carbon stars. Radio-astronomical observations are also made. From radar observations of Venus, workers at this laboratory have estimated the temperature of the planet.

The Astrophysical Laboratory publishes a popular-science magazine (a quarterly) Zvaigznata Debess.

Name: Azerbaydzhan Agricultural Institute
(Azerbaydzhanskiy sel'skokhozyaystvennyy institut)

Address: Kirovabad, ulitsa Azizbekova, 222

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers,
Azerbaydzhan S.S.R. (1960)

Selected Staff Members:

A. A. Agabeyli, Professor, Head of Chair
M. M. Efendiyev, Docent, Head of Chair
N. I. Malov, Professor, Head of Chair
G. Z. Mirzoyev, Docent, Head of Chair
R. Kh. Sattar-Zade, Professor, Head of Chair

Description:

This institute was transformed from a teachers college to an agricultural school about 1930. A Trudy is currently published. Areas of research include the use of atomic tracer methods for fruit and vegetable studies, investigation of substitution reactions in oxy-radicals with radicals of organic-magnesium compounds, physical geography of Azerbaydzhan, and metal-forming processes (repair and maintenance of agricultural machinery). Candidate's Degrees are granted, and courses are offered in agronomy, animal husbandry, vineyards, veterinary medicine, mechanization of agriculture, and economics and organization of agriculture.

Name: Azerbaydzhan Order of Labor Red Banner Industrial Institute imeni
Azizbekov
(Azerbaydzhanskiy ordena Trudovogo Krasnogo Znameni industrial'nyy
institut imeni Azizbekova)

Address: Baku, prospekt Lenina, 22

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. I. Aliyev
 M. S. Aliyev
 A. A. Alizade, Academician (Azerbaijdzhan S.S.R.)
 Ya. A. Amenzade
 M. Yu. Ametov
 M. G. Mamedli
 A. M. Melik-Shakhnazarov, Docent
 A. M. Mukimov
 E. M. Plyushch, Docent
 I. Prazyan, Candidate
 M. G. Ramazanzade
 V. O. Sarkisyan, Docent
 G. B. Shakhtakhtinskiy
 I. O. Tsimel'zon

Description:

The Institute was organized in 1920. It trains students in geology, industrial and electrical engineering, designing, and economics. It specializes in research for the regional petroleum industry in areas such as petroleum geology, drilling, processing, machinery, transporting and storing, and petroleum-industry economics. The Institute publishes a Trudy and grants Candidate's and Doctor's Degrees.

Among the available courses of study are geology and exploration of mineral and gas deposits, geophysical prospecting, hydrogeology and engineering geology, exploitation of oil and gas deposits (including drilling), machinery and equipment of oil and gas fields (including transportation and storage equipment), chemical-industry machinery (inorganic and organic chemical processes, silicates, cellulose and wood-pulp processes, liquid and gas fuels), automatic, telemechanic, and electric measuring instruments and systems, control instruments for chemical processes, petroleum and natural-gas technology, organic synthesis and synthetic-rubber manufacture, and economics and organization of the oil and gas industry.

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Name: Azerbaijan Order of Labor Red Banner Institute of Oil and Chemistry
 imeni M. Azizbekov
 (Azerbaijdzhanskiy ordena Trudovogo Krasnogo Znameni institut nefti i
 khimii imeni M. Azizbekova)

Address: Baku, prospekt Lenina, 20

Director: I. A. Ibragimov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers of the Azerbaijan S.S.R. (1960)

Selected Staff Members:

A. M. Aibekova, Docent, Head of Chair
 H. Alizade, Head of Chair of Electric Measuring and Automation
 R. A. Badalov, Docent, Dean
 M. S. Belen'kiy
 P. A. Grishin, Docent, Dean
 L. A. Gukhman
 A. M. Kuliyeu, Academician (Azerbaijan S.S.R.)
 A. M. Melik-Shakhmazarov
 M. M. Movsum-zade, Professor, Head of Chair
 E. A. Orudzhaliyev
 K. V. Pokrovskiy, Professor, Head of Chair
 A. A. Spirin, Head of Chair of Electrical Networks and High-Voltage Engineering
 A. Z. Vezir-zade, Professor, Head of Chair

Description:

The Institute has studied production methods for xylene and indene coumarone resins, the oxidation of carbon monoxide, and the alkylation of benzene. Gas studies include flow at high pressure and specific heat of real gases. A servomechanism with a photoelectric transducer and an apparatus for automatic corrosion testing have been designed.

Among the departments of the Institute are the Department of Electric Drives, Machines, and Equipment for Industrial Plants and the Department of Electric Measuring and Automation. The Candidate's Degree is offered. A Trudy is published.

The Institute offers courses in geology and prospecting for oil and gas deposits, geophysical prospecting methods, development of oil and gas deposits, petroleum and gas engineering, technology of basic organic synthesis and synthetic rubber, chemical equipment, oil and gas equipment, automation and remote control, electromeasuring techniques, power stations, networks, and systems, industrial electrification, thermoelectric power installations, telephone and telegraph, and industrial economics.

Name: Azerbaijan Pedagogical Institute of Languages imeni Mirzy Fatali Akhundov
 (Azerbaijanskiy pedagogicheskiy institut yazykov imeni Mirzy Fatali Akhundova)

Address: Baku, ulitsa Shmidta, 59

Director: G. K. Mamedov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Committee of the Council of Ministers, Azerbaydzhani S.S.R., on Higher and Secondary Special Education (1960)

Selected Staff Members:

R. A. Gaibova, Docent, Head of Chair
B. B. Komarovskiy, Professor
I. S. Muslumov, Docent, Head of Chair
A. Sh. Shabanov, Docent, Head of Chair
A. A. Svarichevskiy, Docent, Head of Chair

Description:

The Institute offers courses in Russian, English, Azerbaydzhani, German, and French, and in Russian literature.

Name: Azerbaydzhani Polytechnic Institute
(Azerbaydzhanskiy politekhnicheskiy institut)

Address: Baku, prospekt Narimanova, 25

Director: A. A. Aliyev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Azerbaydzhani S.S.R. (1960)

Selected Staff Members:

L. I. Gonsiorovskiy, Docent, Head of Chair
I. I. Karayev, Docent, Head of Chair
N. G. Kasum-zade, Docent, Head of Chair of Metallurgy
and Metal Physics
G. K. Mamedov, Docent, Head of Chair

Description:

The Institute, founded in 1950, embraces five areas of study-- construction, mechanics, hydromelioration, transportation, and automation and computing technology. In the last six years, 2,000 specialists were graduated. There are now approximately 2,300 students attending the

Institute. Their work has included studies of oil processing, highly anti-corrosive stainless steels, various systems of heat treatment, hydraulic semiautomatic machines, automation of AC electric drives with automatic feeds, and finally, chemical production.

A metalworking and metallography laboratory was established at the Institute in 1961. This laboratory has a remote-control universal microscope, using radioactive isotopes, for research on metals. A rare-metals laboratory was in the planning stage also in 1961.

A branch of the Institute was opened in Sumgait in 1958.

The Institute publishes the Trudy Azerbaydzhanskogo Politekhnicheskogo Instituta. Candidate's Degrees are granted.

Courses of Study: Electric power stations, networks, and systems (thermal and hydroelectric power stations)
 Machine building; metal-cutting tools and instruments
 Casting machinery and processes
 Electrical machinery and equipment
 Architecture
 Industrial and civil construction
 Gas and heat supply and ventilation
 Water supply and sewage systems
 Automobile roads
 Hydromelioration
 Automotive transport

Name: Azerbaydzhan Scientific-Research Institute for Drilling Bores
 (Azerbaydzhanskiy nauchno-issledovatel'skiy institut po bureniyu skvazhin)

Address: Baku

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This comparatively new institute (organized in 1961) will work mainly on the technological problems of opening up mineral deposits, especially the development of new processes for very deep drilling.

Name: Azerbaydzhan Scientific-Research Institute for Petroleum Extraction
(Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti--AzNIIDN)

Address: Baku, 10-ya Zavokzal'naya ulitsa, 8

Director: --

Deputy Director: M. S. Kasumzade (1961)

Administrative Affiliation: All-Union Scientific-Research Institute for
Petroleum Gas (1960)

Selected Staff Members:

V. T. Avanesov
A. P. Buzdakov
G. Y. Dedusenko
N. I. Khatskevich

Description:

Research has been conducted on determining methods of reducing corrosion in steel pipe used in petroleum pipes and equipment. Colloidal chemistry, geochemistry, geology, and geophysics are of interest to various Institute staff members. Underground petroleum hydraulics problems are of continuing interest. Another of its research interests is corrosion protection of oil-industry equipment. Together with several other petroleum research institutes, AzNIIDN has participated in research on problems of drilling deep wells. The Institute has a Geophysics Laboratory which has worked on improvements of seismic recording equipment. A Trudy is published irregularly.

Name: Azerbaydzhan Scientific-Research Institute of Petroleum Machinery ,
Construction
(Azerbaydzhanskiy nauchno-issledovatel'skiy institut neftyanogo
mashinostroyeniya--AZINMash)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research Institute of
Petroleum and Gas (1960)

Selected Staff Members:

A. A. Farkhadov
 V. I. Timofeyev, Engineer
 G. T. Vladimirova, Engineer

Description:

Research has been conducted on welding in relation to pipe production for the petroleum industry. Properties of metals in use in the petroleum industry have been investigated. The Institute publishes a Trudy.

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Name: Azerbaydzhan State Pedagogical Institute imeni V. I. Lenin
 (Azerbaydzhanskiy gosudarstvennyy pedagogicheskiy institut imeni
 V. I. Lenina--API)

Address: Baku, ulitsa Shaumyana, 39

Director: M. Yu. Vekilov, Docent (1961)

Deputy Director: G. M. Kadyrov, Docent (1961)

Administrative Affiliation: Committee of the Council of Ministers,
 Azerbaydzhan S.S.R., on Higher and Secondary
 Special Education (1960)

Selected Staff Members:

A. O. Abduragimov, Docent, Head of Chair
 A. M. Demirchi-zade, Professor, Head of Chair
 A. S. Dzhafarov, Docent
 T. D. Gaybov, Docent, Head of Chair
 Sh. Mamedov, Doctor
 Z. M. Shakhtaktinskaya, Professor, Head of Chair

Description:

This institute, having an enrollment in 1960 of 7,100 students, trains teachers and grants the Degree of Candidate. It numbers among its laboratories, the "Laboratory of Thermal Phenomena", and includes in its scope, research on semiconductors, mathematical analysis of systems, organic chemistry of petroleum, fluid dynamics, and molecular theory of gases. The Institute publishes a Trudy frequently.

The courses of study offered include the Azerbaydzhan language, literature, and history, mathematics and drafting, physics and general science, biology and chemistry, and methods of elementary-school education.

Name: Azerbaydzhan State University imeni S. M. Kirov
(Azerbaydzhanskiy gosudarstvennyy universitet imeni S. M. Kirova--AGU)

Address: Baku, Kommunisticheskaya ulitsa, 6

Director: Sh. F. Mekhtiyev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of Council of Ministers, Azerbaydzhan S.S.R. (1961)

Selected Staff Members:

A. B. Abdinova
G. B. Abdullayev
M. K. Akhmedli
K. T. Akhmedov, Professor, Head of Computer Center
S. A. Alekperov, Docent, Head of Chair
M. I. Aliyev
S. Ashirov
I. M. Datiyev, Professor, Head of Chair
I. Efendiyev
R. Z. Guseynov, Head of the Astronomical Station
M. M. Kasumov, Professor, Head of Chair
K. Sh. Kocharli, Docent, Head of Chair
B. R. Mirzoyev, Professor, Head of Chair
P. B. Mosesov, Professor, Head of Chair
A. I. Mukhtarov
N. S. Pleshunov, Docent, Head of Chair
M. S. Salimov, Docent, Head of Chair
S. M. Suleymanov, Professor, Dean

Description:

This university opened originally as Baku State University in 1920. It was named Azerbaydzhan State University in 1924. During the 1960-1961 school year, there were about 8,750 students enrolled. Candidate's and Doctor's Degrees are granted.

Located in an important oil-producing region of the Soviet Union, the University is concerned with problems of petroleum production and petroleum chemistry. Past research investigations have included characteristics of catalytically cracked gasoline, catalytic refining of lubricating oils, alkylation of anthracene oil, breaking up of emulsions of different petroleums, dielectric properties of oil and oil products, and solid hydrocarbons in oil fractions. Related studies include dehydrogenation of benzene-dialkyl derivatives, hydration of ethylene, production of polymers from petroleum waste, alkylation of naphthalene and phenanthrene, and

catalytic bromination of ethane, plus extensive studies of olefins. Chemists at the University have also directed their attention to problems of physicochemical analysis.

The University carries on research on semiconductor materials, particularly selenium, bismuth, antimony, and their alloys. A zone-melting apparatus and a device for introducing probes into semiconductor materials have been developed.

There has been some activity in nuclear physics. For example, studies have been made of repulsion in the saturation of nuclear forces in heavy nuclei, decay of a neutral μ -meson, disintegration of the π -meson, and scattering of high-energy electrons from nuclei. Other physics investigations include electron-spin relaxation in an antiferromagnetic material and anodic vibrations during discharge in inert gases.

To aid in mathematical investigations, the University has a computer center. Mathematics studies include differential equations, boundary-value problems, and integral equations. In theoretical mechanics, mathematical analyses of structures, bending of rods, and motion of water waves have been described.

The astronomical station at the University participates in photographing artificial earth satellites.

The University publishes a Uchenyye Zapiski and a Trudy.

The available courses of study include geological surveying and prospecting for mineral deposits, merchandizing of industrial goods, finance and credit, accounting, economics of the national economy, jurisprudence, Russian language and literature, native language and literature of peoples of the U.S.S.R., eastern languages and literature, history, mathematics, mechanics, physics, chemistry, botany, zoology, journalism, geography, and library science and bibliography.

Name: Azov-Black Sea Agricultural Institute
(Azovo-Chernomorskiy sel'skokhozyaystvennyy institut)

Address: Persianovka Station, Rostov oblast'

Director: A. I. Mikhailin, Docent (1961)

Deputy Director: F. V. Kovalev, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

G. Ignatovich, Candidate

Ya. Kh. Khayrullin, Candidate
G. Mokriyevich, Candidate

Description:

This institute does research work on growth periods of plants and animals, insect control, and irrigation.

Name: Azov-Black Sea Institute for Mechanization of Agriculture
(Azovo-Chernomorskiy institut mekhanizatsii sel'skogo khozyaystva)

Address: Zernovoy

Director: V. M. Titov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

M. N. Khoroshkin, Docent, Head of Chair
M. F. Kozlikov, Candidate, Head of Chair
K. A. Rusanov, Docent, Head of Chair
V. A. Skol'zayev, Doctor, Head of Chair
A. I. Yeletskiy, Docent, Head of Chair

Description:

In addition to research on metalworking processes such as forging and machining, the Institute is actively engaged in theoretical work in mechanics, physics, and mathematics, including studies of linear transformations, solutions of differential equations, and determinations of stresses.

The Institute periodically publishes a Sbornik Trudov.

A course of study is offered in the mechanization of agricultural production processes.

Name: Balashov Pedagogical Institute
(Balashovskiy pedagogicheskiy institut)

Address: Balashov, ulitsa Stalina, 27/37

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members: --

Description:

The Institute publishes an Uchenyye Zapiski and offers courses in Russian language and literature, foreign language, and mathematics and physics.

Name: Barnaul Pedagogical Institute
(Barnaul'skiy pedagogicheskiy institut)

Address: Barnaul, ulitsa Krupskoy, 108

Director: V. V. Klyuyev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Member: K. I. Salomatov, Dean

Description:

Electrical properties, electromagnetics, and functions of complex variables number among research topics treated at this institute. The courses offered at this institute include the Russian language, literature, and history, mathematics and drafting, physics and engineering, and English and German.

The Institute publishes a Sbornik Nauchnykh Statey.

Name: Bashkir Agricultural Institute
(Bashkirskiy sel'skokhozyaystvennyy institut)

Address: Ufa, ulitsa Karla Marksa, 12

Director: A. P. Sokolov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

Sh. M. Farshatov, Docent, Head of Chair
G. I. Isanin, Docent, Head of Chair

Description:

The Institute's curriculum includes courses in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

Name: Bashkir Scientific-Research Institute for Petroleum Refining
(Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefi)

Address: Ufa

Director: --

Deputy Director: A. Savel'yev (1960)

Administrative Affiliation: All-Union Scientific-Research Institute of
Petroleum and Gas (1960)

Selected Staff Members:

M. I. Isayeva
B. L. Kozik
I. Molochnikov
M. B. Vol'f

Description:

The Institute has conducted research on cracking of petroleum. Spectrographic methods have been developed for detecting trace elements in petroleum products. Thermal-stability studies have been carried out on hydrocarbons, including aircraft kerosenes and hydrocarbon fuels.

The Institute publishes a Trudy.

Name: Bashkir Scientific-Research Institute of the Petroleum Industry
(Bashkirskiy nauchno-issledovatel'skiy institut neftyanoy
promyshlennosti-BashNII NP)

Address: Ufa

Director: A. S. Eygenson (1958)

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research Institute of Petroleum and Gas (1960)

Selected Staff Members:

I. N. Danilov
I. I. Kantor

Description:

The Institute was created in 1956 to study the determination of calcium, magnesium, and sulfur compounds in crude oil and the refining of sulphurous crude oils.

Name: Bashkir State University imeni the 40th Anniversary of October
(Bashkirskiy gosudarstvennyy universitet imeni 40-letiya Oktyabrya)

Address: Ufa, ulitsa Frunze, 32

Director: Sh. Kh. Chanbarisov, Docent (1961)

Deputy Director: K. A. Mel'nikov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Z. A. Aminev, Docent, Head of Chair
D. G. Kiyekbayev, Doctor, Head of Chair
M. Nurgaleyeva, Docent
L. I. Rubinshteyn
D. T. Yemasov, Dean

Description:

This university was established in 1957 as an outgrowth of the Bashkir Pedagogical Institute. In 1959, enrollment was nearly 4,000. Faculty specialties include computing techniques and astrophysics. Investigations on the problems of thermal convection and research on thermo-insulation properties of polymers have been noted. The laboratory of neutron geophysics is seeking new methods for oil prospecting by using radioactive isotopes.

The University offers courses in Russian language and literature, Tartar language and literature, Romance and Germanic language and literature, history, mathematics, physics, chemistry, biology, and physical geography.

Name: Batumi State Pedagogical Institute imeni Shota Rustaveli
(Batumskiy pedagogicheskiy institut imeni Shota Rustaveli)

Address: Batumi, ulitsa Ninoshvili, 35

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Georgian S.S.R. (1960)

Selected Staff Members:

V. D. Chanturiya, Docent, Head of Chair
G. Kh. Chkhaidze, Head of Chair
Sh. S. Kemkhadze, Docent, Head of Chair
Kh. T. Khalvashi, Docent, Head of Chair
A. Ye. Kiknadze
A. N. Pagav, Professor, Head of Chair
M. I. Stambolishvili, Docent, Head of Chair

Description:

This institute offers courses in Georgian language, literature, and history, Russian language and literature, mathematics and physics, geography and biology, and methods of elementary-school education. A Trudy reporting mathematical and physical research of the staff is published. Work in theoretical mathematics receives some emphasis.

Name: Baykal Limnological Station
(Baykalskaya limnologicheskaya stantsiya)

Address: --

Director: G. I. Galaziy (1961)

Deputy Director: --

Administrative Affiliation: East Siberian Branch, Siberian Department,
Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

Description:

The Baykal Limnological Station was organized in 1928 and expanded in 1945. Its major research effort appears to be a manifold study of the lakes of the U.S.S.R. for the purpose of determining the natural types of lake basin and studying the regularities of their spatial distribution, the interdependence of lakes and geographical surroundings, the history of formation of lakes, and the trends and stages of their evolution in the post-glacial period.

Basic problems of the accumulation of deposits of previous geological eras, such as the processes of accumulation of carbonates (genesis of dolomite and magnesite), iron and manganese ores, organic matter, colloidal minerals, and slags, also are studied.

The Station publishes a Trudy.

Name: Belaya Tserkov' Agricultural Institute
(Belotserkovskiy sel'skokhozyaystvennyy institut)

Address: Belaya Tserkov', Kiyev oblast', ploshchad' Svobody, 7/1

Director: N. S. Palamar', Docent (1961)

Deputy Director: ---

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

G. I. Fishchenko, Docent, Head of Chair
N. F. Gudkov, Docent, Dean
P. A. Koval'skiy, Professor, Head of Chair
M. F. Kovbasenko, Professor, Dean
G. A. Kudryavtsev, Professor, Head of Chair
V. I. Pal'chevskiy, Professor, Head of Chair

Description:

The limited information available is hardly likely to be representative of this institute's real interests, for published work from the Institute indicates only analytical chemical investigations (i.e., a color reaction for analyzing mixed vanadium oxides, and reactions of indicators

such as potassium permanganate and methylene blue) and work on the synthesis of higher alcohols (a condensation reaction of benzene with diacetone alcohol).

Courses of study include agronomy, animal husbandry, and veterinary medicine.

Name: Belorussian Forestry Institute imeni S. M. Kirov
(Belorusskiy lesotekhnicheskii institut imeni S. M. Kirova)

Address: Minsk, ulitsa Sverdlova, 85

Director: I. D. Yurkevich, Professor (1956)

Deputy Director: --

Administrative Affiliation: Ministry of Higher, Secondary Special, and Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members: I. I. Bardyshev, Corresponding Academician
(Belorussian S.S.R.)

Description:

Courses in forestry, logging, logging equipment, woodpulp, structural mechanics, chemistry, and meteorology and climatology are taught here.

Name: Belorussian Institute for Mechanization of Agriculture
(Belorusskiy institut mekhanizatsii sel'skogokhozyaystva)

Address: Minsk, prospekt Stalina, 141

Director: D. I. Gorin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Belorussian S.S.R.
(1961)

Selected Staff Members:

D. A. Chudakov, Professor, Head of Chair
S. I. Dobrovol'skiy
I. R. Razmyslovich, Docent, Head of Chair
A. B. Treyvas, Professor

Description:

The Institute is studying optically sensitive materials, pressure stages in axial compressors, and the electrical conductivity of metals during turning. The Institute publishes a Sbornik Trudov. It offers courses in mechanization of agricultural production processes and electrification of agricultural production processes.

Name: Belorussian Institute of Railroad-Transportation Engineers
(Belorusskiy institut inzhenerov zheleznodorozhnogo transporta)

Address: Gomel', ulitsa Kirova, 68

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

Ye. D. Direnok, Docent, Head of Chair
S. M. Lebedev, Professor
N. A. Sokhachevskiy, Professor, Head of Chair
I. G. Tikhomirov, Professor, Head of Chair
Ye. N. Toropov, Docent, Head of Chair

Description:

The Institute was established in 1954 to provide technical training in railway-transportation engineering. A Trudy of the Institute is published. Research in areas such as structural mechanics, electrochemistry, pneumatic transportation of materials, aerial photography, applied mathematics, and electronic communications has been reported. Specific courses of instruction include steam locomotives, utilization of railroads, railroad construction, and civil engineering.

Name: Belorussian Order of Labor Red Banner Agricultural Academy
(Belorusskaya ordena Trudovogo Krasnogo Znameni sel'skokhozyaystvennaya akademiya)

Address: Gor'kiy, Mogilevskoy oblast', Pervomayskaya ulitsa

Director: I. F. Garkusha, Professor (1961)

Deputy Director: F. K. Kuropatenko, Professor (1961)

Administrative Affiliation: Ministry of Agriculture, Belorussian S.S.R.
(1961)

Selected Staff Members:

A. I. Bagreyev
 F. V. Bel'chev
 M. A. Direktorenko, Docent, Head of Chair
 I. Sh. Gorfinkel', Docent, Head of Chair
 I. M. Kurbatov, Professor, Head of Chair
 L. B. Naymark, Docent
 R. T. Vil'dflush, Professor, Head of Chair
 Ye. N. Vspinskiy
 S. S. Zakharov, Professor, Head of Chair
 N. M. Zamyatin, Corresponding Academician (Belorussian S.S.R.)
 I. V. Zubritskiy, Professor, Head of Chair

Description:

This academy has published a Trudy since at least 1954. Representative reports in this publication concern geodetic survey methods, a computation method for determining the radiation and thermal balance in the Gor'kiy region, and the high-pressure vapor-phase catalytic synthesis of aliphatic amines from aliphatic alcohols.

Academic work is offered in agronomy, soil science and agro-chemistry, animal husbandry, mechanization of agriculture, economics and organization of agriculture, bookkeeping, and hydromelioration. Candidate's Degrees are granted.

Name: Belorussian Polytechnic Institute imeni I. V. Stalin
(Belorusskiy politekhnicheskiy institut imeni I. V. Stalina--BPI)

Address: Minsk, prospekt Stalina, 93

Director: G. M. Kokin, Professor (1961)

Deputy Director: N. A. Yurkshtovich, Docent (1961)

Administrative Affiliation: Ministry of Higher, Secondary Special, and Professional Education, Belorussian S.S.R.
(1961)

Selected Staff Members:

- A. F. Anishchenko, Docent, Head of Chair
- M. A. Bezborodov, Academician (Belorussian S.S.R.), Head of Chair of Glass and Silicates, Head of Scientific-Research Laboratory for Special Problems of Glass and Silicates
- Z. Z. Dudich, Docent, Head of Chair
- E. I. Fel'dshteyn, Professor
- L. B. Geyler, Professor
- G. M. Kokin, Professor, Co-Head of Laboratory of Automation
- L. D. Mazelev
- V. D. Mazurenko
- E. Kh. Odel'skiy, Academician (Belorussian S.S.R.), Head of Chair
- F. A. Opeyko, Professor, Head of Chair
- A. A. Pavlovskiy, Docent, Head of Chair
- O. V. Roman, Docent
- A. I. Rutskiy, Docent, Dean
- N. I. Shinkevich, Docent, Dean
- S. L. Solomakho, Docent, Head of Chair
- V. N. Treyyer, Corresponding Academician (Belorussian S.S.R.)
- I. S. Tsitovich, Docent, Head of Chair, Head of Laboratory of Automation
- L. A. Zhunina, Docent

Description:

Also known as the Minsk Polytechnic Institute and the Stalin Polytechnic Institute, this facility has developed into an important technical-education center, since its organization in 1933. Over 5,000 students attend its day and evening courses, studying 18 specialties in eight departments. The faculty exceeds 300, and the chairs of this institute are numerous. In 1961, it graduated more than 1,400 engineers.

The Institute helps industrial enterprises. For example, to cope with the expansion of the peat industry, a course was opened in 1952 to train engineers in the development of peat deposits.

Originally its specialities included electric power stations, systems, and networks; hydraulic engineering; mechanics; and power engineering. However, in 1954 a department of textile industry was opened, and two specialities, automobile construction and smelting technology, were added.

Some of their most notable research has been done on glasses--their properties, production, and applications. In March, 1957, a problem laboratory was organized at the Department of Glass and Silicates. It is equipped with an electronic microscope, X-ray installations, a high-frequency electric smelting furnace, and an experimental plant for the synthesis of glass. Research concerning glass-production methods and investigations aimed at the detection of the connection between the quality of glass materials and their chemical composition and structure is the main task of the Department.

Special attention has been given to the improvement of the heat resistance of borate and silicate glasses by the addition of cesium. Applications for such glasses include coatings for the corrosion protection of metals, lubricants and coolants for light-metal extrusion, cement for light-metal joining, and high-voltage insulators. Chemically resistant and highly refractive glasses have also been developed. The Institute is currently working on neutron-absorbing glasses and also glasses resistant to cosmic rays. The present interest in production processes is the development of ultrasonic devices for polishing.

Research conducted by other departments and chairs of the Institute includes soil research, investigations of the fundamental theories of elastic and plastic deformation of machine parts (e.g. bearings), improvement of methods and devices for gas-flow measurements, and development and improvement of welding, painting, metal-coating, heat-treatment, stamping, forging, machining, extrusion, powder metallurgy, and other production processes.

The Institute publishes technical pamphlets, brochures, and a Sbornik Nauchnykh Trudov.

The Candidate's Degree is granted by the Institute, which offers courses of study in automation of production processes, isotope application and separation, brewing industry, automobile roads, architecture, industrial and civil construction, river installations and hydroelectric power stations, gas and heat supply and ventilation, water-supply and sewerage systems, automotive transport, exploitation of peat deposits, machine building, metal-cutting tools, and instruments, casting machinery and processes, processing metals under pressure, peat-mining machinery, construction and road-building equipment, automobiles and tractors, radio engineering, and silicates (binders and cementitious materials, ceramics, refractories, and glass).

Name: Belorussian State Institute of the National Economy imeni V. V. Kuybyshev
(Belorusskiy gosudarstvennyy institut narodnogo khozyaystva imeni V. V. Kuybysheva)

Address: Minsk, ulitsa Sverdlova, 3

Director: G. L. Sugrobov, Docent (1961)

Deputy Directors: F. V. Borovik, Docent (1961)
D. F. Yeremeyev, Docent (1961)

Administrative Affiliation: Ministry of Higher, Secondary Special and Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members:

N. V. Dembinskiy, Professor, Dean
 V. M. Sobolevskiy
 M. M. Svirshchevskaya, Docent

Description:

The Institute publishes a Uchenyye Zapiski. In addition to the staff's main interest in economics, research is also conducted in metallurgy (magnetic-property determinations and alloy development). Interest has also been shown in methods of improving on-the-job training techniques. Courses are offered in industrial economics, accounting, finances and credit, trade economics, grocery trade, and industrial trade.

Name: Belorussian State University imeni V. I. Lenin
 (Belorusskiy gosudarstvennyy universitet imeni V. I. Lenina)

Address: Minsk, Universitetskiy gorodok

Director: A. N. Sevchenko, Professor (1961)

Deputy Directors: G. A. Povet'yev, Docent (1961)
 A. Ya. Malyshev, Docent (1961)

Administrative Affiliation: Ministry of Higher, Secondary Special, and
 Professional Education, B.S.S.R. (1961)

Selected Staff Members:

L. S. Abetsedarskiy, Docent, Head of Chair
 A. S. Barkan
 V. F. Belyayev
 G. V. Bulatskiy, Docent, Head of Chair
 F. I. Fedorov, Corresponding Academician (Belorussian S.S.R.)
 I. V. Gutorov, Corresponding Academician (Belorussian S.S.R.)
 V. G. Ivashin, Docent, Dean
 D. M. Korulin
 V. I. Krylov, Academician (Belorussian S.S.R.)
 N. V. Lambin
 M. G. Larchenko, Professor, Dean
 I. S. Lupinovich, Academician (Belorussian S.S.R.)
 I. N. Lushitskiy, Professor, Head of Chair
 A. D. Myshkis
 I. G. Nekrashevich, Professor, Head of Chair
 Yu. A. Ol'dekop
 F. G. Osipenko, Professor
 G. V. Ovechkin
 M. M. Pavlyuchenko, Professor, Head of Chair

P. Z. Savochkina, Docent, Dean
 N. N. Sirota, Academician (Belorussian S.S.R.)
 F. P. Shmygov, Docent, Head of Chair
 G. L. Starobinets
 B. I. Stepanov, Professor, Head of Chair
 V. I. Stepanov, Professor, Head of Chair
 D. A. Suprunenko, Dean Corresponding Academician (Belorussian S.S.R.)
 I. G. Tishchenko, Docent, Dean
 V. A. Tomashevich, Docent, Head of Chair
 I. I. Trukhan, Docent, Dean
 A. Kh. Turetskiy
 M. A. Yel'yashevich, Academician (Belorussian S.S.R.)
 B. V. Yerofeyev, Professor
 N. F. Yermolenko, Professor, Head of Chair
 N. P. Yerugin, Academician (Belorussian S.S.R.)
 M. I. Zhirkevich, Docent, Head of Chair

Description:

This university opened in 1921. In 1960-1961, there were about 6,800 students enrolled. Candidate's and Doctor's Degrees are granted.

Chemical research at the University focuses on areas such as rubber and rubberlike high polymers, sorption and ion exchange, oxidation and auto-oxidation reactions, and detergents, emulsifiers, and wetting agents. Metallurgical research interests include problems of forging and stamping, including forging lubricants; sulfidizing and nitriding of steel, gray iron, and other metals; and ternary systems containing zirconium. Along with other studies in semiconductor physics, considerable attention has been given to electrical properties of selenium and selenium compounds, particularly the effect of thallium on the electrical properties of selenium. Varied problems in mechanics include theory of hinged mechanisms, gyroscopic motion, heat conductivity, and motion in air of a projectile.

In geology, work has been performed on the application of statistics to exploration and prospecting. Studies in mathematics at the University are aided by a computing center with a URAL computer. Studies include boundary-value problems, Fourier series, differential equations, and telegraphic equations.

The Physics Department of the University has conducted extensive investigations in the field of spectroscopy and luminescence. Experiments include infrared spectra of cellulose fibers, luminescence spectra of uranyl compounds, thermal-radiation background in infrared spectroscopy, and luminescence of various crystal phosphors. Related studies have been made in optics and electric-spark discharge.

The University publishes a Uchenyye Zapiski.

Radiophysics and electronics, electronics, jurisprudence, Russian language and literature, native language and literature of peoples of the U.S.S.R., history, mathematics, physics, chemistry, botany, zoology, physical geography, and journalism are among the courses of study offered by the University.

Name: Bel'tsy State Pedagogical Institute imeni Aleku Russo
(Bel'tskiy gosudarstvennyy pedagogicheskiy institut imeni Aleku Russo)

Address: Bel'tsy, ulitsa Pushkina, 32

Director: --

Deputy Director: P. K. Petrushin (1961)

Administrative Affiliation: Ministry of Education, Moldavian S.S.R. (1960)

Selected Staff Members:

V. D. Belousov, Docent, Head of Chair
I. Ts. Gokhberg

Description:

The Bel'tsy Pedagogical Institute, founded in 1945, is an institution preparing teachers. The Institute conducts research mainly in pure mathematics, chemistry, and theoretical mechanics.

The Institute publishes a Uchenyye Zapiski, reporting its staff's research.

Among the courses offered by the Institute are mathematics and physics, drafting, Russian language, literature, and singing, the Moldavian language and literature, and French, English, and German.

Name: Berdyansk Pedagogical Institute imeni P. D. Osipenko
(Berdyanskiy pedagogicheskiy institut imeni P. D. Osipenko)

Address: Berdyansk, ulitsa Shmidta, 8

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

I. I. Bilyk, Docent
V. L. Rvachov, Doctor

Description:

This institute conducts research on the problem of elasticity of metals. It offers courses in mathematics and drawing, physics and general science, and methods of elementary-school education.

Name: Birska State Pedagogical Institute
(Birskiy gosudarstvennyy pedagogicheskiy institut)

Address: Birska, ulitsa Stalina, 10

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members: Z. N. Murzakova, Docent, Head of Chair

Description:

The Institute, in addition to preparing secondary-school teachers, is engaged in research in the field of theoretical mathematics. It offers courses in Russian language and literature, foreign language, and mathematics and physics.

Name: Biyska State Pedagogical Institute
(Biyskiy gosudarstvennyy pedagogicheskiy institut)

Address: Biyska, Sovetskaya ulitsa, 11

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. A. Paradoksova
G. I. Zhotikov

Description:

The published research of this institute deals with integral calculus and differential equations and their manipulations. The Institute offers courses in Russian language, literature, and history, mathematics and physics, and methods of elementary-school education. It publishes an Uchenyye Zapiski.

Name: Blagoveshchensk Agricultural Institute
(Blagoveshchenskiy sel'skokhozyaystvennyy institut)

Address: Blagoveshchensk, Amur oblast', Politekhnicheskaya ulitsa, 50

Director: Ya. M. Odnokon', Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. A. Kozmodem'yanov, Docent, Dean
N. G. Lopatin, Docent, Head of Chair
A. T. Volkov, Head of Chair

Description:

Courses in agronomy, animal husbandry, and mechanization of agriculture are taught in this institute.

Name: Blagoveshchensk State Pedagogical Institute imeni M. I. Kalinin
(Blagoveshchenskiy gosudarstvennyy pedagogicheskiy institut imeni M. I. Kalinina)

Address: Blagoveshchensk, ulitsa Lenina, 104

Director: F. A. Tsvid, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. Ya. D'yakov, Docent, Head of Chair
 N. K. Shul'man, Docent, Head of Chair
 A. I. Yel'yashuk, Docent, Head of Chair

Description:

The Institute publishes Uchenyye Zapiski Blagoveshchenskogo Pedagogicheskogo Instituta imeni M. I. Kalinina. The staff has conducted research on piezoelectric properties of seignette and Rochelle salts. Crystal properties of the rare-earth elements have also been studied. Mathematics are also of interest to the staff. Courses are offered in Russian language, literature, and history, mathematics and physics, geography and biology, English and German, and physical education.

Name: Brest Pedagogical Institute imeni A. S. Pushkin
 (Brestskiy pedagogicheskiy institut imeni A. S. Pushkina)

Address: Brest, Sovetskaya ulitsa, 8

Director: N. M. Ivashchenko, Candidate (1961)

Deputy Director: A. R. Gorbachev, Candidate (1961)

Administrative Affiliation: Ministry of Higher, Secondary Special, and Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members:

V. A. Kolesnik, Docent, Head of Chair
 S. M. Zhemchuznyy, Docent, Head of Chair

Description:

The research of this teacher-training institute is concentrated on molecular physics, especially on spin-lattice relaxation of local electron centers in nonmetallic crystals. It publishes a Uchenyye Zapiski.

Name: Bryansk Institute of Transportation Machine Building
 (Bryanskiy institut transportnogo mashinostroyeniya)

Address: Bryansk, ulitsa Voroshulova, 14

Director: I. V. Shamin, Docent (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

P. G. Alekseyev, Docent
S. S. Berman, Professor
B. V. Kalinskiy, Docent, Head of Chair
I. I. Kirillov, Professor
N. I. Kozyrev, Docent, Dean
G. V. Nedzevtskiy, Candidate
L. N. Nikol'skiy, Professor, Head of Chair
Ye. N. Nikol'skiy, Professor, Head of Chair
R. M. Yablonik, Docent
P. S. Yelistratov, Candidate

Description:

The staff of the Institute's Chair of Turbine Construction has made design and construction recommendations for stationary and transport gas and steam turbines. In their thermodynamic and aerodynamic investigations under various conditions, they have analyzed the effect of various design measures on the efficiency of turbine stages. Among the recommendations given were improvements for heat exchangers, condensing systems, regenerators, and control systems.

The Institute has conducted theoretical research on stresses, compression, impact friction, and metal fatigue. The Department of Installation and Technology of Welding Industry has been active in improving electric, gas, and automatic welding methods. The welding of cast iron and structural changes resulting from it have also been investigated. Some material research has also been conducted, including the effects of heat treatment on wear resistance and deoxidation of steel, and the optimum design of drills to avoid deformation in railway-axle steel.

The Institute periodically publishes a Trudy.

The courses available at the Institute include machine building, metal-cutting tools, and instruments, casting machinery and processes, welding, railway-car building, turbine construction, and locomotive building.

Name: Bukhara Pedagogical Institute imeni Sergo Ordzhonikidze
(Bukharskiy pedagogicheskiy institut imeni Sergo Ordzhonikidze)

Address: Bukhara, ulitsa Stalina, 2 (1960)

Director: --

Deputy Director: Ya. K. Kizbayev (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special
Education of the Council of Ministers, Uzbek
S.S.R. (1960)

Selected Staff Members:

M. Akhadova, Dean
K. Khayrallayev, Candidate, Head of Chair
K. P. Khramtsova, Docent, Head of Chair
M. Mirzayev, Docent, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski.

Name: Buryat Complex Scientific-Research Institute
(Buryatskiy kompleksnyy nauchno-issledovatel'skiy institut)

Address: Ulan-Ude

Director: --

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

Ch. Ts. Tsydygov
D. D. Lubsanov
O. V. Makeyev

Description:

This institute was created in 1958 to conduct research in the area of wave propagation. A considerable amount of work has been conducted on the propagation of radio waves in the atmosphere, and also on the properties of mediums that will affect the passage of radio waves.

The Institute also conducts archeological research on the Trans-baykal, from the paleolithic to more recent periods.

The Institute publishes Arkheologicheskiiy Sbornik (Archeological Collection) which appears irregularly and Trudy.

Name: Buryat Pedagogical Institute imeni D. Banzarov
(Buryatskiy pedagogicheskiy institut imeni D. Banzarova)

Address: Ulan-Ude, ulitsa Ranzhurova, 11

Director: N. D. Shulunov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

D. D. Amogolonov, Docent, Head of Chair
A. A. Durinov, Docent, Head of Chair

Description:

The Institute prepares teachers and publishes research in the fields of molecular ultrasonics, hydrodynamics, electrical engineering, and mathematics. Courses are offered in Russian language, literature, and history, the Buryat language and literature, mathematics and drafting, physics and chemistry, biology and fundamentals of agriculture, and physical education.

The Institute publishes a Uchenyye Zapiski.

Name: Byurakan Astrophysical Observatory
(Byurakanskaya astrofizicheskaya observatoriya--BAO)

Address: 30 km from Yerevan, on the south slope of Mt. Aragats

Director: V. A. Ambartsumyan, Academician (U.S.S.R.) (1962)

Deputy Director: L. V. Mirozoyan (1960)

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members:

K. A. Grigoryan
 G. A. Gurzadyan
 B. Ye. Markaryan
 E. G. Mirzabekyan
 K. A. Saakyan
 V. A. Sananyan

Description:

The Byurakan Astrophysical Observatory was first organized in 1933 as an affiliate of Yerevan State University; it was later brought under the direct jurisdiction of the Academy of Sciences of the Armenian S.S.R. Its official dedication took place on September 19, 1956.

The Observatory's principal fields of activity are the study of galaxies, the origin and life of stars, the nebulae, radio astrophysics, and extragalactic astronomy.

Among its various instruments are a 13-cm wide-angle double astrograph, a 30-cm Schmidt reflector, a 25-cm mirror-telescope spectrograph, a 15-cm astrograph with an ultraviolet objective, and a 53-cm Schmidt telescope. Radio-astronomical observations were started in 1951 using a parabolic radio telescope 3 meters in diameter, and in 1960, the largest radio-interference telescope in the Soviet Union, and the second largest in the world, was commissioned for this observatory.

The Observatory has four laboratories dealing with stellar astronomy, astrophysics, radio astronomy, and celestial mechanics. It publishes a Soobshcheniya.

Name: Caucasian Institute of Mineral Raw Materials
 (Kavkazskiy institut mineral'nogo syr'ya--KIMS)

Address: Georgian S.S.R.

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Geology and Conservation of Mineral Resources of the U.S.S.R. (1958)

Selected Staff Members:

B. V. Deryagin, Corresponding Academician (U.S.S.R.)
 S. S. Dukhin
 N. D. Shukakidze

G. A. Tvalchrelidze, Candidate
K. T. Vartanyan

Description:

KIMS, formerly the Georgian Division of the All-Union Scientific-Research Institute of Mineral Raw Materials, specializes in metallogeny. In addition to investigating the kinetics of the flotation process, they have developed improved selective concentration methods for molybdenum, arsenic, and antimony ores. The Chemical-Analytical Laboratory has refined the older colorimetric and fluorescent methods for determining the distribution of rare elements in ores and ore-bearing rocks. The staff has also cooperated in perfecting and compiling metallogenetic and ore-occurrence maps.

A Yezhegodnik (Yearbook) is periodically published by the Institute.

Name: Central Aero-Hydrodynamics Institute imeni N. Ye. Zhukovskiy
(Tsentral'nyy aero-gidrodinamicheskiy institut imeni
N. Ye. Zhukovskogo--TsAGI)

Address: Moscow, ulitsa Radio

Director: A. I. Makarevskiy, Corresponding Academician (U.S.S.R.) (1957)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

R. A. Adadurov
I. V. Anan'yev
M. F. Barshteyn
B. A. Barskiy
A. G. Bychkov
A. A. Dzidziguri, Corresponding Academician (Georgian S.S.R.)
R. D. Filippova
A. S. Ginevskiy, Candidate
G. L. Grodzovskiy
V. I. Khanzhonkov
A. M. Khazen
N. N. Kirsanov
V. F. Kiselev
A. V. Kolesnikov
I. Lyubomirov, Candidate
V. M. Marchenko
A. N. Petunin

N. N. Pisarevskiy
 O. A. Sergeev
 V. N. Shigulyev
 V. V. Struminskiy, Corresponding Academician (U.S.S.R.)
 K. A. Ushakov, Professor
 V. G. Vasil'yev
 V. Ya. Volodin
 S. L. Zak, Candidate
 Yu. G. Zakharov
 V. N. Zhigulev

Description:

The Institute was founded in 1918. Construction of its original laboratories was completed in 1927. TsAGI possesses extensive wind-tunnel facilities that are used for testing aircraft, aircraft-propulsion systems, motor vehicles, hovercraft, structural girders, and wind-power units. The Institute has laboratories for the study of hydraulic machinery, a wind-power laboratory, and many devices for testing aircraft and aircraft materials. Extensive research is done in the fields of hydrodynamics, gas dynamics, flight dynamics, industrial aerodynamics, and combustion. TsAGI's work also includes the design and development of aircraft, gliders, helicopters, and propulsion systems. Recently, considerable attention has been devoted to the study of passenger aircraft with turboprop engines. TsAGI publishes Promyshlennaya Aerodinamika.

Name: Central-Asian Polytechnic Institute
 (Sredneaziatskiy politekhnicheskiy institut)

Address: Tashkent, Assakinskaya ulitsa, 16

Director: M. I. Niyazov, Docent (1961)

Deputy Directors: G. R. Rakhimov, Professor (1961)
 G. G. Martirosyanets, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1961)

Selected Staff Members:

S. Kh. Agzamkhodzhayev, Docent, Head of Chair
 A. A. Artykov, Docent, Head of Chair
 Kh. N. Baymukhamedov, Doctor, Head of Chair
 V. L. Dmitriyev, Docent, Head of Chair
 B. S. Dzhelepov, Corresponding Academician (U.S.S.R.)
 V. A. Fuklev, Docent

S. I. Ibadullayev, Docent, Dean
 I. Ya. Kaminskiy, Professor, Head of Chair
 N. I. Lebedinskiy, Professor, Head of Chair
 A. L. Markman, Professor, Head of Chair
 I. M. Mavlani, Docent, Head of Chair
 I. M. Mirkhodzhayev, Docent, Head of Chair
 N. V. Mishchenko, Docent, Head of Chair
 Kh. R. Rustamov, Professor, Head of Chair
 A. U. Salimov, Docent, Dean
 O. I. Sergun'kova, Docent, Head of Chair
 F. Kh. Tadzhiyev, Docent, Head of Chair
 D. S. Topornin, Professor, Head of Chair
 A. S. Uklonskiy, Professor, Head of Chair
 T. S. Vinnik, Professor
 A. M. Zinkin, Docent, Head of Chair

Description:

The Institute was founded in 1931. Among its departments are the Department of Power Engineering, Department of Silicate Technology, Department of Power-Plant Equipment, and Process and Apparatus Department of Chemical Technology.

The conversion-electron spectra of the radioactive isotopes of Er, Th, and Yb have been studied. The processing of iron and steel to produce good wear characteristics is an important area of study. Powder metallurgy, refractory materials, the solubility and stability of organic systems, and the reactivity of olefins and azobenzene constitute other areas of research.

A Trudy is published and the Candidate's Degree is granted by the Institute.

Name: Central-Asian Scientific-Research Hydrometeorological Institute
 (Sredneaziatsky nauchno-issledovatel'skiy gidrometeorologicheskiy
 institut--SA NIGMI)

Address: Tashkent

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. D. Dzhurayev
 G. V. Gruza

Ye. A. Lopukhin
M. A. Petrosyants
N. N. Romanov

Description:

The Institute has conducted numerous wind-research projects, including studies of macroturbulent interchange in the atmosphere, wind conditions in the lower troposphere, and wind determinations at a medium level. They have also investigated the atmospheric thermal balance, the origin of electric fields in the atmosphere, and solar-radiation fluxes. The Institute periodically publishes a Trudy.

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Name: Central-Asian State University imeni V. I. Lenin
(Sredneaziatskiy gosudarstvennyy universitet imeni V. I. Lenina--
SAGU)

Address: Tashkent, ulitsa Karla Marksa, 32

Director: A. Sadykov, Professor (1961)

Deputy Directors: S. N. Ryzhov, Professor (1961)
P. B. Azizov, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special
Education of the Council of Ministers, Uzbek
S.S.R. (1960)

Selected Staff Members:

A. Agzamkhodzhayev, Docent, Head of Chair
K. S. Akhmedov, Professor, Head of Chair
I. S. Arzhanykh
L. N. Babushkin, Professor, Head of Chair
N. D. Dalimov, Docent, Dean
L. V. Gentshke, Docent, Dean
I. I. Gofman
V. F. Gurvich
L. P. Kayumov, Docent, Dean
I. A. Kissen, Docent, Head of Chair
N. L. Korzhenevskiy, Professor
B. L. Manelis, Docent, Head of Chair
M. Ye. Masson, Academician (Turkmen S.S.R.), Head of Chair
S. Kh. Mirkamalova, Professor, Dean
L. V. Oshanin, Professor, Head of Chair
A. S. Sadykov, Corresponding Academician (Uzbek S.S.R.)
T. A. Sarymsakov, Professor
M. F. Shul'gin

G. N. Shuppe
 N. G. Sidorova
 S. Kh. Sirazhdinov, Corresponding Academician (Uzbek S.S.R.),
 Head of Chair
 M. M. Sultanova, Docent, Dean
 I. P. Tsukervanik, Corresponding Academician (Uzbek S.S.R.),
 Head of Chair
 Kh. U. Usmanov, Professor, Head of Chair
 D. N. Vasil'kovskiy
 V. P. Vasil'yev
 V. I. Veksler
 G. P. Vladimirov, Professor, Head of Chair
 T. Z. Zakhidov, Professor, Head of Chair

Description:

Since its founding in 1920, the Central-Asian State University has been the focal point of higher education in Uzbekistan. In 1960-1961, the student enrollment reached about 6,200. In 1960, the Uzbek government decided to expand facilities at the University to include laboratories for the study of polymer chemistry, filtration, semiconductors, sedimentary formations, electroluminescence, and computing techniques. Several new buildings will be constructed, and the University will have an astronomical observatory and a botanical garden.

Electronics is a field of current research interest at the University. Faculty and students have investigated problems such as electron emission of metal crystals, cathode sputtering, and secondary-ion emission from bombardment of metal surfaces. Radioisotopes have been applied to the study of oxide cathode processes, such as evaporation, migration, and diffusion. Properties of various cathode materials, such as tungsten and rhenium, have been investigated.

Mathematicians at the University have studied problems such as mathematical theory of elasticity, topological spaces, gas dynamics, differential equations, application of Chaplygin's method to integral and differential equations, and Markov chains.

In chemistry, the University emphasizes polymer research, with current emphasis on graft polymers. Other areas of interest are organic sulfur compounds, cycloalkylation of aromatic compounds, acid strengths, and the effect of nitriding on the electrochemical behavior of steels.

The University publishes a Trudy. Candidate's and Doctor's Degrees are granted.

The University's curricula include courses in geological surveying and prospecting for mineral deposits, hydrogeology and engineering geology, hydrology of land, soil science and agrochemistry, jurisprudence, history, Russian language and literature, native language and literature of peoples

of the U.S.S.R., eastern language and literature, mathematics, mechanics, physics, geophysics, chemistry, botany, zoology, physical geography, and journalism.

Name: Central Forecasting Institute
(Tsentral'nyy institut prognozov--TsIP GUGMS)

Address: Moscow, Bol'shevistskaya ulitsa, 13

Director: V. A. Bugayev, Professor (1960)

Deputy Director: --

Administrative Affiliation: Main Administration of the Hydrometeorological Service, U.S.S.R. (1960)

Selected Staff Members:

N. A. Belinskiy, Doctor
Ye. N. Blinova, Corresponding Academician (U.S.S.R.)
A. L. Kats
Ya. M. Kheyfets
Yu. B. Khrabrov
I. A. Kibel', Corresponding Academician (U.S.S.R.)
S. A. Mashkovich
Kh. P. Pogosyan, Professor

Description:

The specialities of this institute include synoptic meteorology, dynamic meteorology, agrometeorology, fluvial hydrological prognoses, and marine hydrometeorological forecasts.

The Institute in 1961 was supplied information by 116 oblast meteorological offices, 35 weather bureaus, over 100 agrometeorological stations, and over 2,500 hydrometeorological stations in the agricultural sector alone. These data form the basis of the forecasts of the Hydrometeorological Service. The Institute publishes a Trudy.

Name: Central Laboratory of Automation
(Tsentral'naya laboratoriya avtomatiki--TsLA)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Construction, R.S.F.S.R. (1961)

Selected Staff Members: N. V. Okorokov, Professor

Description:

This laboratory is engaged in the research and development of industrial automatic control devices. Various automatic pneumatic instruments and equipments have been developed for the automation of the coke and chemical industries, but they are now widely used in the iron-foundry industry as well. An automatic control system for rolling mills, which insures a high accuracy of strip thickness, was developed by this laboratory. Remote devices for temperature measurement and control have been designed for industrial applications.

Name: Central Laboratory of Automation
(Tsentral'naya laboratoriya avtomatiki--TsIA)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Ferrous Metallurgy, U.S.S.R. (1958)

Selected Staff Members:

A. M. Bogachev, Head of Laboratory
Yu. Ye. Yefroyimovich, Candidate

Description:

This laboratory is engaged in the research and development of automatic control devices for industrial applications. Regulating machines and thermocouples are typical of the devices developed by this laboratory.

Name: Central Order of Labor Red Banner Scientific-Research Automobile and Automobile-Engine Institute
(Tsentral'nyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut--NAMI)

Address: Moscow, Avtomotornaya ulitsa, 2

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. N. Filippov
A. A. Lipgart, Chief Engineer
K. S. Ramaya
P. I. Stepin

Description:

The Institute, in its numerous research programs, has studied rubber couplings, polymeric leaf springs, engine oils, and adhesives. Studies in metallurgy have involved the development of aluminum alloys for bearings, fabrication techniques for Mg-Fe alloys, martensitic transformation in powder-metal samples, heat treatment, X-ray studies, and development of antifriction materials. Development work has been pursued in aluminum radiators, fuel pumps, brakes, brake linings, and lubricants, and theoretical studies have been conducted in cam-shaft design, transmission-load reduction, and piston rings. Techniques for using radioactive isotopes have been investigated.

The Institute publishes a Trudy and Razvitiye Konstruktsii Avtomobiliya.

The NAMI Branch for Fuel Apparatus has studied hydraulic systems as related to pumps. The Branch has developed a cleaning filter for engine oil.

Name: Central Scientific-Research Boiler-Turbine Institute imeni I. I. Polzunov
(Tsentral'nyy nauchno-issledovatel'skiy kotloturbinnyy institut imeni I. I. Polzunova--TsKTI)

Address: Leningrad, Doroga v Sosnovku, 16

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers U.S.S.R. on Automation and Machine Building (1962)

Selected Staff Members:

Kh. L. Babenko, Candidate
 A. M. Gurvich, Professor
 A. A. Kanayev, Candidate
 N. N. Kovalev, Corresponding Academician (U.S.S.R.)
 R. Ye. Krzhizhanovskiy, Candidate
 Ye. Ye. Levin, Candidate
 L. Ya. Liberman, Candidate
 N. M. Markov, Candidate
 V. I. Nikitin
 I. I. Paleyev, Doctor
 R. S. Prasolov
 A. V. Stanyukovich, Candidate
 M. G. Taubina, Candidate
 A. M. Zavadovskiy, Candidate
 V. N. Zemzin, Candidate
 L. M. Zysina-Molozhen, Doctor

Description:

Turbine-design studies conducted at the Institute have concerned ventilation losses of a turbine body with a pressure gradient on its blade rims; the installation of the blade diffuser of a centrifugal-compressor stage; design of steam jet compressors; excitation of vibrations in turbomachine blades; heat emission in turbine airfoil cascades; thermal stresses in cooled gas-turbine vanes; behavior of the oil wedge in journal bearings used in turbine shafts; effect of Reynolds number on the characteristics of turbine stages; temperature distribution in the rotor and stator of a gas turbine; design of flanged joints for high-pressure steam piping; and operation of a centrifugal-compressor stage under uneven flow conditions at the inlet.

Heat-exchange studies have considered the generalization of the heat-conductivity equation for gases; heat exchange during condensation of steam inside vertical pipes; heat exchange of plates and commutator parts; effect of roughness of a horizontal cylinder on its heat-exchange characteristics; boiling heat exchange; heat conductivity of materials with submicroscopic pores; and calculation of heat transfer in a profile grid.

Studies also have been conducted on the estimation of fatigue strength of metals; relaxation and creep, under tensile load; production of heat-resistant steels with a required amount of ferrite; thermal and electrical conductivities of titanium-base alloys; development of new alloys; failure of welded seams in austenitic steel at high temperatures; strength of joints of austenite steel welded with pearlitic and chromium steels; effect of aging on the thermal conductivity of a nickel-base alloy; refractory steel for fastening parts of power-generation equipment at 580 C; effect of alloying elements on cast austenitic steels; design of a machine for fatigue-strength testing under cyclically changing load; effect of work hardening on the deformability of steel; heat resistance of austenitic

alloys; heat conduction of nickel and nickel-base alloys; ductility of refractory steels; heat resistance of austenitic-ferritic weld metals; welding of heat-resistant steels; and plasticity properties of fireproof steels.

Other studies concerned the use of Constantan wires as strain gages; use of ultrasound in preparing suspensions; analysis and calculation of the combustion of coal dust; equation for stress relaxation of fastening materials; aerodynamics of furnace cyclone chambers; and the bending of curved thin-walled tubes.

The Institute has a gas-turbine laboratory, a laboratory of radiation heat exchange, a welding laboratory, and a laboratory of long-time strength. A branch of the Institute is located in Moscow.

A Trudy is published by the Institute, and the Degree of Candidate of Technical Sciences is awarded.

Name: Central Scientific-Research Diesel Institute
(Tsentral'nyy nauchno-issledovatel'skiy dizel'nyy institut--TsNIDI)

Address: Leningrad, Paradnaya ulitsa, 8

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. I. Ivachenko, Chief Designer
G. A. Morozov
L. Ya. Volchok

Description:

The Institute, which was organized in 1924, has done research in many fields connected with gas and diesel engines. Included are metallurgy, plastics, fuels and fuel additives, fuel mixtures, fuel feed, welding, and automation. Several members have done considerable work on automatic systems for the control and regulation of diesel engines.

The Candidate's Degree is granted.

Name: Central Scientific-Research Electrical Engineering Laboratory
(Tsentral'naya nauchno-issledovatel'skaya elektrotekhnicheskaya
laboratoriya--TsNIEL)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. V. Burgsdorf, Professor
R. L. Raynes

Description:

Research and development at the Laboratory have included control and protective devices for electric power plants and lines, such as self-synchronizers for synchronous machines; remote control; humidity control of insulation; effect of conductor heating on mechanical strength; telemetering systems with pulse-code modulation; and a magnetic frequency divider.

Name: Central Scientific-Research Institute
(Tsentral'nyy nauchno-issledovatel'skiy institut--TsNII MPS)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Means of Communication, U.S.S.R.
(1962)

Selected Staff Members:

Sh. M. Bilik, Head of Laboratory
M. M. Kraychik
O. G. Tkachenko
I. S. Zelenetskaya

Description:

The Institute has been active in developing new materials and techniques for use in the railroad industry. Zinc alloys have been developed

to replace bronzes and babbitts in certain phases of locomotive construction. Rubber and polymeric materials have been investigated for use in railroad applications. Additive oils for engines and the use of high-sulfur diesel fuel have been studied.

Welding techniques have been of particular interest. Welding properties of new rail steels, temperature effects on weld joints, automatic flux welding, arc welding, and field devices for resistance welding have been investigated. Techniques for removing crack damage by one-sided welding have been developed.

Computers have been used to investigate the efficiency of railroads and for remote-control operation of various phases of actual operation.

The Ural Branch of TsNII MPS has conducted research on strength of welded joints under repeated impact loading.

Name: Central Scientific-Research Institute for Auxiliary Components and Spare Parts for Textile Machinery
(Tsentral'nyy nauchno-issledovatel'skiy institut vspomogatel'nykh izdeliy i zapasnykh detaley k tekstil'nomu oborudovaniyu--TsNIIMashdetal')

Address: Moscow, Marksistskaya ulitsa, 33

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute has developed a bright nickel plating from an electrolyte containing leveling additives, and a method for polishing and anodizing small parts. An electromagnetic instrument for nondestructive thickness measurement of an anticorrosion coating on steels and magnetic materials was designed at the Institute. It publishes a Nauchno-Issledovatel'skiye Trudy.

Name: Central Scientific-Research Institute for Fire Prevention
(Tsentral'nyy nauchno-issledovatel'skiy institut protivopozharnoy oborony--TsNIIPO)

Address: --

Director: --

Deputy Director: I. V. Rabov (1960)

Administrative Affiliation: --

Selected Staff Members:

N. I. Manturov
I. I. Petrov, Head of Thermophysical Laboratory
S. I. Taubkin
S. M. Zhdanov

Description:

This institute is concerned exclusively with the development of fire-fighting technology and equipment and appears to be unique in the U.S.S.R. Chemical methods for combatting various types of fires, protective equipment and clothing, combustion processes for jet fuels and other liquids, burning characteristics of plastics, and smoke- and fire-warning systems have been studied. A branch laboratory is maintained at Baku.

Name: Central Scientific-Research Institute for the Leather and Footwear Industry
(Tsentral'nyy nauchno-issledovatel'skiy institut kozhevennoobuvnoy promyshlennosti--TsNIIKP)

Address: Moscow, ulitsa Pyatnitskaya, 74

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. M. Fridman
L. P. Morozova

Description:

This institute has existed since at least 1937. Its work has included the study of rubber and other high polymers in footwear, as well as leather preparation.

Name: Central Scientific-Research Institute for Tin
(Tsentral'nyy nauchno-issledovatel'skiy institut olova--TsNIIOlovo)

Address: Novosibirsk

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute maintains a Laboratory for Control-Measuring Devices and Automatics, which has developed a self-recording instrument for studying the electrical properties of alloys. Members of the Institute have also investigated the chloridizing of tin at low temperatures as a possible ore-extraction method, and the recovery of antimony by the fluidized-bed process.

Name: Central Scientific-Research Institute for Wood-Pulp Chemistry
(Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut--TsNILKHi)

Address: Khimki, Leningradskoye shosse, 28

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

G. D. Atamanchukov, Head of Laboratory
A. M. Chashchim, Head of Laboratory
L. V. Gordon, Candidate
F. I. Korchemkin
V. I. Koryakin, Head of Laboratory

G. A. Rudakov
M. M. Shestayeva
V. P. Sumarokov
I. P. Uvarov, Head of Laboratory
Z. M. Volodutskaya
Yu. V. Vozdinskiy, Head of Laboratory

Description:

Research done at this institute involves wood chemistry and the chemicals and products from wood, including cellulose, furfurool, and terpenes. The Institute publishes a Sbornik Trudov.

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Name: Central Scientific-Research Institute imeni A. I. Krylov
(Tsentral'nyy nauchno-issledovatel'skiy institut imeni A. I. Krylova--
TsNISS)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., for Shipbuilding (1961)

Selected Staff Members:

B. I. Bruk, Candidate
Yu. G. Derevyanko, Candidate
K. G. Nikolayev, Candidate
V. V. Novozhilov, Corresponding Academician (U.S.S.R.), Professor,
Head of Section
R. Ye. Reshetnikova
Yu. A. Shamanskiy, Academician (U.S.S.R.)
Ye. M. Shevandin

Description:

This institute studies materials and processing for use in the shipbuilding industry. Research has been done on stress analysis, metal physics, the continuous-casting process, welding technology and weld-flaw detectors, radio engineering, and electro-erosion machining of metals. The Institute grants the Candidate's Degree.

Name: Central Scientific-Research Institute of Aviation-Engine Construction
 imeni P. I. Baranov
 (Tsentral'nyy nauchno-issledovatel'skiy institut aviatsionnogo
 motorostroyeniya imeni P. I. Baranova--TsIAM)

Address: Moscow, Aviatmotornaya ulitsa

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

G. N. Abramovich, Doctor
 I. A. Birger, Candidate
 Yu. F. Dityakin, Candidate
 R. S. Kinasoshvili, Doctor, Head of Laboratory
 S. V. Serensen, Academician (Ukrainian S.S.R.)
 B. F. Shor

Description:

TsIAM is the most outstanding Soviet organization engaged in aircraft-engine research. Founded in 1930, the Institute conducts investigations in almost every branch of propulsion technology, including the design and testing of aircraft engines, combustion and fuels, structures, and the development of new materials.

Name: Central Scientific-Research Institute of Building Structures
 (Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh
 konstruktstsiy--TsNIISK)

Address: Plyushchevo, M-Ryazanskoy zheleznoy dorogi, poselok Vyazovka

Director: V. Nasonov (1961)

Deputy Director: --

Administrative Affiliation: Academy of Construction and Architecture,
 U.S.S.R. (1961)

Selected Staff Members:

A. M. Anisimov
 V. Baldin, Head of the Metal Design Laboratory

A. Ya. Brodskiy, Candidate
 L. M. Koval'chuk
 O. V. Kuznechikov
 F. Taranovskiy, Head of the Aluminum Alloy Construction Division

Description:

Among the many activities of the Institute has been research on aluminum and steel, wood, timber, and masonry. Studies in the welding technology of these materials include investigations of semiautomatic argon-arc welding of aluminum alloys, electric rivet fusing, and weldability of reinforcement steel. Other interests include bonding in aluminum-plastic honeycomb structures and earthquake stability of buildings and structures.

Name: Central Scientific-Research Institute of Communications
 (Tsentral'nyy nauchno-issledovatel'skiy institut svyazi--TSNIIS)

Address: Moscow, 1-ya Parkovaya ulitsa, 7-a

Director: B. F. Anosovich

Deputy Director: M. I. Gladkiy

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

V. I. Chernyayev, Department Manager
 G. V. Dem'yanchenko, Engineer, Laboratory Supervisor
 M. A. Sapozhkov, Professor

Description:

This institute is engaged in research in nearly all fields of communications. In addition to the main institute, there is a branch at Kiev which is also engaged in communications research.

Not all of the Institute's research activities are confined to pure communications, such as telegraph, wireless, electronics, and theoretical systems. Studies concerning the corrosion protection of underground cables, photographic devices, and other seemingly noncommunication-type projects have also been undertaken. It publishes a Sbornik Nauchnykh Trudov.

Name: Central Scientific-Research Institute of Ferrous Metallurgy imeni
I. P. Bardin
(Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii
imeni I. P. Bardina--TsNIICHM)

Address: Moscow, Tekhnicheskiy pereulok, 12

Director: I. N. Golikov, Professor (1962)

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1958)

Selected Staff Members:

A. A. Babakov, Candidate
B. P. Bakhtinov, Candidate, Head of Rolling-Mill Laboratory
V. T. Basov
A. M. Borzdyka, Doctor
M. S. Boychenko, Candidate
Ye. M. Chistyakova
L. N. Davydova
R. I. Entin, Professor
L. N. Fedotov
E. G. Fel'dgander
D. I. Gabrielyan
A. P. Gulyayev, Professor
A. G. Ivanov, Candidate
G. I. Ivantsov, Candidate, Head of Thermal Engineering Laboratory
A. S. Kaplan
Yu. A. Klyachko
V. F. Knyazev, Head of Laboratory for Direct Iron Production
L. L. Kunin, Candidate
G. V. Kurdyumov, Academician (U.S.S.R.)
K. A. Lanskaya
N. M. Lapotyshkin, Candidate
D. A. Litvinenko, Candidate
G. L. Livshits, Candidate
A. V. Merlina
B. V. Molotilov
B. M. Ovsyannikov, Candidate
Ye. V. Petunina, Candidate
Yu. S. Pliskin
I. M. Puzey
V. S. Rutes, Candidate
Ya. P. Selisskiy
M. M. Shapiro
L. A. Shvartsman, Doctor
D. A. Smolyarenko, Candidate
N. A. Solov'yeva
V. A. Sol'ts
I. I. Teumin, Candidate

D. A. Teymer
G. A. Torpanova, Candidate
D. G. Tufanov
Ye. F. Yakovleva
L. M. Yefimov, Head of Laboratory of Ingots
O. P. Yelyutin
Ye. V. Zotova, Candidate

Description:

TsNIICHM, which has a staff of approximately 2,000, has five departments--Steel, Ferroalloys, Precision Alloys, Metallurgical Problems, and Physical Metallurgy. There is also an experimental plant for pilot-plant work.

The purpose of all of the research conducted by the Institute is to aid the development of the ferrous metallurgy industry. They have concentrated on the introduction and development of comprehensive automation and mechanization of technological processes at various metal combines. In this connection, they are developing methods of photoelectric spectral analysis during melting, and instruments for the automatic measurement of the thickness of hot sheet and of the temperature of liquid steel.

In addition, the Institute has conducted research investigations not directly connected with automation and mechanization. For instance, they pioneered the use of the oxygen converter process in blast furnaces. Other notable studies included the development of continuous-casting, melting, and rolling procedures, ultrasonic treatment of alloys and steels, and vacuum metallurgy. They have also developed new technologies for converter and transformer steel production and introduced electric-slag welding for the production of high-precision ball-bearing steel and steels for thin-walled pipe.

Studies on the desiliconization and desulfurization of cast iron and the refining of converter and open-hearth steel in a ladle with synthetic slags were performed at the Institute. They have introduced new stainless and heat-resistant steels, helping the industry to save nickel and other alloying elements. High-precision alloys with special properties have been developed for applications in magnetic amplifiers, high-temperature sensors (transducers), microwires, rotors of hysteresis motors, and radio engineering.

The staff has also conducted theoretical and experimental work on the direct reduction of iron, austenitic and martensitic phase transformations in metals (including the effect of nuclear radiation), quench hardening and tempering of steel, and the use of artificial radioactive isotopes for the investigation and checking of metallurgical processes.

The Institute is also active in the development, introduction, and revision of specifications and standards for new and improved metal products.

The Powder-Metallurgy Laboratory has produced titanium strip by cold rolling of pressed-powder compacts; however, no attempts have been made to study the powder metallurgy of titanium.

Most of the Institute's work on magnetic soft alloys with high magnetic properties has been conducted by the Institute of Precision Alloys. The Institute has numerous other laboratories, including ones for metal forming and central automation, which assist the various Departments.

A Trudy is frequently published by the Institute.

Name: Central Scientific-Research Institute of Industrial Structures
(Tsentral'nyy nauchno-issledovatel'skiy institut promyshlennykh sooruzhenii--TsNIIPS)

Address: Moscow, Perovo, Moskovskaya o

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

Students are trained through the graduate level for careers in the building industry. Research at the Institute includes investigations in structural mechanics and analysis, welding technology, concrete materials, and deformation and vibration studies of steel. Prior to World War II, Laboratories for Acoustics in Construction, Lighting Engineering, and Thermophysics were under its administration. The Candidate's and Doctor's degrees are granted. Periodically collections of scientific reports are published by the Institute.

Name: Central Scientific-Research Institute of Machining of Wood
(Tsentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki dereva--TsNIIMOD)

Address: Khimki, Leningradskoye shosse

Director: --

Deputy Director: --

Administrative Affiliation: --Selected Staff Members: --Description:

The Institute was established in 1959. Research has been conducted on atmospheric drying of wood and the possibility of improving the technological processes of the production of plastic wood, as well as their technical properties.

Name: Central Scientific-Research Institute of Shipbuilding Technology
(Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii sudostroyeniya)

Address: --Director: --Deputy Director: --Administrative Affiliation: --Selected Staff Members: --Description:

Activities of the Institute concern research and development problems connected with the shipbuilding industry. Much work has been done with both ferrous and nonferrous metals, including cutting and welding studies. Some work has involved corrosion prevention and the use of plastic pipe on ships. Academic programs leading to the Candidate's Degree are offered to students following careers in shipbuilding technology. A Trudy is published by the Institute.

Name: Central Scientific-Research Institute of Technology and Machine Building
(Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya--TsNIITMASH)

Address: Moscow, Sharikopodshipnikovskaya ulitsa, 4Director: Ye. P. Unksov, Professor (1960)Deputy Director: I. R. Kryanin (1960)

Administrative Affiliation: Gosplan, U.S.S.R. (1959)

Selected Staff Members:

I. Ya. Al'shits, Candidate
A. V. Amel'yanchik, Candidate
A. A. Astaf'yev, Candidate
Ye. Belousov, Head of the Hard-Facing Laboratory
S. I. Berezin
P. P. Berg, Professor
Yu. M. Bogatyrev, Candidate
I. L. Brinberg, Candidate
P. N. Buduli, Doctor
Ye. A. Davidovskaya, Candidate
A. S. Gel'man, Professor
A. Gorozhankin, Head of Department of Metallurgy of Steel
V. G. Gruzin, Candidate
A. I. Isayev, Professor
L. K. Kuchma, Candidate
I. V. Kudryavtsev, Professor, Head of a Department
Yu. P. Kuz'ko
B. N. Ladyzhenskiy, Candidate
K. V. Lyubavskiy, Professor
B. S. Mil'man, Head of Foundry Department
I. L. Mirkin, Professor
Ye. P. Mogilevskiy, Candidate
V. V. Nosalya, Doctor
P. G. Novikov, Candidate
I. A. Odina, Corresponding Academician (U.S.S.R.)
Z. N. Petropavlovskaya, Candidate
L. V. Prozorov, Doctor
Ye. S. Rokotyan, Doctor
B. V. Rozanov, Head of a Department
A. V. Ryabchenkov, Professor
B. A. Ryss, Head of the Design Group
V. F. Shcheglov, Candidate
M. F. Sheshenev, Candidate
L. A. Shofman
E. R. Shor, Candidate
A. F. Silayev, Candidate
E. S. Slepak, Candidate
M. M. Timofeyev, Candidate
V. A. Toporov, Candidate
A. I. Tselikov, Corresponding Academician (U.S.S.R.), Head of the
Design Office for Metallurgical Engineering
V. Z. Tseytlin, Candidate
I. O. Tsypsin, Head of Foundry Department
Ye. I. Uryupina, Candidate
S. G. Vedenkin, Professor
T. I. Volkova, Candidate
I. N. Yermolov
I. F. Zudin, Candidate

Description:

TsNIITMASH, organized in 1931, has become one of the largest research institutes of the Soviet Union. The Institute consists of 14 departments, which are divided into 50 specialized laboratories. The departments are: Heat-Resistant Alloys, Metal Physics and Heat Treatment, Corrosion and Coatings, Physical-Chemical Analysis of Metals, Strength of Materials, Gas-Turbine Testing, Instrument Building, Metallurgy of Steel, Foundry Technology, Pressure Working of Metals, Welding, Electric Heating of Metals, Cold Working of Metals, and Gears.

TsNIITMASH does research, design, development, and testing of heavy metallurgical equipment, including large rolling mills and forging presses. The Institute has also participated in the development of heavy equipment for use in the production of steam and gas turbines, hydraulic turbines, high-pressure boilers, locomotives, diesels, automobiles, tractors, etc. Development work is done in close cooperation with a number of plants.

The Institute offers Doctor's and Candidate's Degrees and publishes a Trudy frequently.

Name: Central Scientific-Research Institute of the Cellulose and Paper Industry
(Tsentral'nyy nauchno-issledovatel'skiy institut tsellyuloznoy i bumazhnoy promyshlennosti--TsNIITB)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. F. Grigor'yeva
A. A. Khlebnikov, Candidate
O. A. Kokushkin
V. S. Sominskiy, Candidate

Description:

The Institute trains technologists, mechanics, electrical engineers, and economists for the paper industry. A fibrous-asbestos heat-resistant insulation and a new method to prepare cellulose viscose have been developed. Paraffin-emulsion additives have been found to impart water

impermeability to paper. The ion-exchange capacity of carboxy cellulose and the specific surface of cellulose have been determined. The theory of heat transfer is studied.

The Institute has a Laboratory of Commercial-Type Paper and a Moscow Branch at ulitsa Razina, 5. A Trudy is published.

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Name: Central Scientific-Research Institute of the Cotton-Paper Industry
(Tsentral'nyy nauchno-issledovatel'skiy institut khlapchatobumazhnoy promyshlennosti--TsNIKhBI)

Address: Moscow, 5-y Donskoy proyezd, 14

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute is engaged in research associated with the cotton industry. Radioactive isotopes have been used to detect jamming in cotton-processing machines. Automatic processing equipment has been designed here, and research has been done on materials for the cotton and paper industries.

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Name: Central Scientific-Research Institute of the Maritime Fleet
(Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota--TsNIIMF)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

R. N. Chernyayev
V. S. Ignatov
A. I. Maksimadzhi

V. M. Mitnik
 M. V. Vershkov
 A. A. Yakushenkov
 I. A. Yelin

Description:

This institute performs research on improving ships and ship equipment. It is particularly interested in corrosion prevention, radio-communications equipment, radar systems and equipment, and radio-navigation systems. Studies related to its corrosion interests include investigations of electrochemical behavior of shipbuilding steel in sea water, corrosion-fatigue testing, and effect of lubricating oil on scale formation in diesel engines. It has performed research on the use of epoxy resins as corrosion-prevention coatings and as metal-bonding materials. Related to the Institute's radar and radio interests is its research on reliability of marine radar stations, automatic radio beacons, various types of shipboard radar systems, and magnetic receiving antennas. In the field of navigation and navigation equipment, considerable research has been performed on gyroscopes and gyrocompasses. The use of satellites for navigation has been investigated. Studies in other fields include evaluation of machined surfaces by radioisotope techniques and measurement of low-velocity liquid flow by semiconductor probes. The Institute publishes a Trudy and an Informatsionyye Soobshcheniya.

Name: Central Scientific-Research Institute of the River Fleet
 (Tsentral'nyy nauchno-issledovatel'skiy institut rechnogo flota--
 TsNIIRF)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

Research at this facility has included studies on antifriction alloys, ferrous metallurgy, welding, metal coatings, hydraulic pressure on ship skins, deformation of thin metal sheets under torch cutting, and isotope investigations of wear problems. A Trudy of the Institute is published.

Name: Central Scientific-Research Institute of the Silk Industry
(Tsentral'nyy nauchno-issledovatel'skiy institut shelkovoy
promyshlennosti--TsNIIShelka)

Address: Moscow, Teplyy pereulok, 11

Director: N. N. Arsen'yev (1957)

Deputy Director: --

Administrative Affiliation: Gosplan, R.S.F.S.R. (1957)

Selected Staff Members:

N. A. Gapova, Head of Laboratory of Fabrics
R. A. Glazova
M. I. Petrov
A. V. Yerofeyev

Description:

The Institute, which has a Laboratory of Fabrics, works on both silk and synthetic fibers, including electrical properties of these fibers. They study looms and the use of silk in paper. They have studied wind-tunnel tests of fabrics. A Nauchno-Issledovatel'skiye Trudy is published.

Name: Central Scientific-Research Institute of the Wool Industry
(Tsentral'nyy nauchno-issledovatel'skiy institut sherstyamoy
promyshlennosti--TsNIIShersti)

Address: Moscow, Malen'kaya Semenovskaya ulitsa, 3

Director: V. I. Gubin, Candidate (1956)

Deputy Director: G. V. Churbanov, Candidate (1957)

Administrative Affiliation: Gosplan, R.S.F.S.R. (1957)

Selected Staff Members:

T. A. Alekseyeva
R. A. Gakel', Candidate
M. I. Kulagina
L. Leytes, Candidate
I. M. Orlov
V. M. Sherishev, Head of Raw-Material and Initial Wool
Processing

Description:

This facility deals in standards of quality, dyes, felts, use of wastes, and the mechanical drawing of carding machines.

Name: Central Scientific-Research Laboratory for Electrical Treatment of Materials
(Tsentral'naya nauchno-issledovatel'skaya laboratoriya elektricheskoy obrabotki materialov--TsNILELEKTROM)

Address: Moscow, Shosseynaya ulitsa, 92

Director: B. R. Lazarenko, Doctor (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1961)

Selected Staff Members:

B. M. Garbunov
K. K. Gularyan
G. M. Kasprzhak, Candidate
Ye. V. Kholodnov
I. P. Korobova
V. L. Kravchenko
A. I. Kruglov
N. I. Lazarenko
B. I. Stavitskiy
B. N. Zolatykh

Description:

The TsNILELEKTROM was organized to study and develop electric-spark methods of metalworking.

Two of its present staff members discovered the electrospark method of metal machining in 1943. In order to develop this field of technology, investigations have continued on the calculation and design of impulse generators, methods of analyzing metal surfaces after machining, design of electrospark machines, electrospark strengthening, and measuring of power in the discharge gap. The working, for example, cutting, of very hard alloys has received special attention. As a result of these investigations, the Laboratory has designed apparatus and machinery for use in electrospark treatment, and in 1954, they started the production of apparatus for hardening metal surfaces. The Section of Power Sources and

Automation has developed digital program-control devices for the electro-spark equipment. Electrospark methods have been introduced in various industries. They have been used to harden forging dies, locomotive wheels, and rock drills, recondition bearings, grind flour-mill rolls, polish electronic vacuum instruments, and machine precision tools and complicated parts.

The Laboratory has investigated power-source problems in welding and has designed and built a series of welding rectifiers.

Some limited research in chemistry is also being conducted at the Laboratory, including the construction of an experimental installation for the production of acetylene by the action of an electric discharge on liquid petroleum products.

The laboratory periodically publishes a Trudy.

Name: Chechen-Ingush Pedagogical Institute
(Checheno-Ingushskiy pedagogicheskiy institut)

Address: Groznyy, ulitsa Mendeleyeva, 32

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

R. P. Dulerayn, Docent, Head of Chair
Z. A. Gavrishevskaya, Head of Chair
A. I. Serbina, Docent, Head of Chair
N. M. Vladimirov, Dean

Description:

The Institute publishes a Uchenyye Zapiski. The curriculum includes courses in Russian language, literature, and history, Chechen language and literature, Ingush language and literature, mathematics and physics, physical education, geography and biology, and methods of elementary-school education.

Name: Chelyabinsk Institute for Mechanization and Electrification of Agriculture
(Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo-khozyaystva--ChIMESKh)

Address: Chelyabinsk, Krasnaya ulitsa, 38

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

A. M. Basov, Docent, Head of Chair
V. I. Davidyuk
N. M. Dolgovskiy, Docent
N. F. Kunin
V. N. Kunin, Corresponding Academician (Turkmen S.S.R.)
S. P. Lebedev, Professor, Head of Chair
V. I. Melamed, Docent
G. G. Molchanov, Docent, Head of Chair
V. V. Puchkovskiy, Docent
N. A. Senchishchev, Docent, Head Of Chair
M. P. Sergeyev, Professor, Head of Chair
B. F. Sokolov, Docent, Head of Chair
L. Ye. Vinnichenko

Description:

Metallurgical studies at the Institute have included the aging of beryllium bronze, deformation of copper during machining, cutting and shrinkage of shavings in machined metal, and metal deformation and compression. The drying of moist dielectrics in an electric field has been studied. A torsional-lever dynamometer is used by the Institute.

The Institute has a Department of Thermal Engineering and a Metal-Cutting Laboratory. A Trudy is published by the Institute.

The Candidate's Degree is conferred, and the Institute offers courses in mechanization of agricultural production processes and, electrification of agricultural production processes.

Name: Chelyabinsk Polytechnic Institute
(Chelyabinskiy politekhnicheskiy institut)

Address: Chelyabinsk, ulitsa Spartaka, 90

Director: A. Ya. Sychev, Professor (1961)

Deputy Director: A. G. Burgvits, Doctor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Yu. G. Gurevich
L. D. Kalachev
V. A. Lifanov, Head of Chair of Electrical Machines and Instruments
L. S. Lyakhovich
P. I. Nikitin, Docent, Head of Chair
I. F. Patskevich
B. Ya. Peysakhov, Head of Chair
D. Ya. Povolotskiy
L. L. Pyatakova
V. B. Raytses
F. G. Shumilin, Docent, Dean
V. N. Vydrin

Description:

This polytechnic institute publishes a Sbornik Statey and a Uchenyye Zapiski and offers courses in the following departments:

I. Metallurgy

1. Foundry
2. Ferrous metallurgy
3. Physical-chemical investigation of metallurgical problems
4. Design of metallurgical equipment
5. Machine-building technology
6. Welding and welding equipment
7. Machine tools
8. Working of metals with pressure

II. Electrical Engineering

1. Electric power stations
2. Industrial electrification

III. Instrument Building

1. Automation and telemechanics
2. Electromasuring technology

3. Design and production of radio equipment
4. Gyroscopic devices

IV. Industrial and Civil Engineering.

Most research here is done jointly with industry. Among the achievements of the Institute are:

- (1) Experimental work on the use of electronic computers to assign work loads for machinery
- (2) Development of a mechanical, continuously variable transmission
- (3) Development, under the direction of I. F. Patskevich, of vibro-arc buildup of metal on worn surfaces.

The Institute has evening branches in Miass, Zlatoust, and Novyy Zlatoust.

Name: Chelyabinsk Scientific-Research Institute of Metallurgy
(Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii)

Address: Chelyabinsk

Director: --

Deputy Director: A. Morozov, Professor (1962)

Administrative Affiliation: Chelyabinsk Sovnarkhoz (1960)

Selected Staff Members:

- V. F. Bogatenkov, Candidate
- M. I. Kolosov, Candidate
- M. F. Longinov
- A. N. Morozov, Doctor
- A. I. Stroganov, Candidate

Description:

The Institute was established early in 1958, and at that time, comprised two divisions--nonferrous and ferrous metallurgy--and 24 laboratories. Members of the Institute have developed a new method for measuring stresses in machine parts based on linear compressibility, and a new method for producing very thin (thickness 100-200 Å) metal foil. Investigations have also concerned complete automation of a sintering plant, use of oxygen and steam-oxygen mixtures in the open-hearth process, a

rhodium-platinum-rhodium thermocouple for studying slag viscosity, quality improvement of Cr-Mn-Ti low-alloy steel, heat treatment methods to prevent flake formation in martensitic steels, development of a high-strength, Cr-Mn-Ni-B low-alloy steel for large-scale industrial use, and refining methods for refining cobalt and zinc. A Trudy appears each month.

Name: Chelyabinsk State Pedagogical Institute
(Chelyabinskiy gosudarstvennyy pedagogicheskiy institut)

Address: Chelyabinsk, ulitsa Spartaka, 69

Director: A. G. Karmanov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

L. G. Akhumova, Docent, Head of Chair
I. Ya. Barkov, Docent, Head of Chair
Ya. I. Garyayev, Docent, Head of Chair
Ye. S. Kochetkova, Docent, Head of Chair
G. D. Sheremet'yev, Docent, Head of Chair
M. S. Svirskiy, Candidate

Description:

Primarily a teacher-training facility, this institute has done research in the field of electronics, e.g., thermoelectric properties in metal powders and thermal electromotive force and filiform corrosion. Theories of orthogonal series and nonlinear differential equations also have been studied by the staff. A Uchenyye Zapiski is published frequently.

Courses of study at the Institute include physics, chemistry, Russian language and literature, history, mathematics, drafting, fundamentals of production, geography, and biology.

Name: Chemical Institute imeni A. Ye. Arbuzov
(Khimicheskiy institut imeni A. Ye. Arbuzova)

Address: Kazan'

Director: A. Ye. Arbuzov, Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers
R.S.F.S.R. for Coordination of Scientific
Research (1962)

Selected Staff Members:

P. I. Alimov
B. A. Arbuzov, Academician (U.S.S.R.)
L. G. Berg
Gil'm Kamay
I. D. Neklesova, Head of the Physiological Laboratory
B. Ya. Teytel'baum
R. A. Virobyants, Head of the Petroleum Laboratory
M. A. Zvereva

Description:

This institute was formerly under the Kazan' branch of The Academy of Sciences, U.S.S.R. Its research follows many lines--investigations of various organic compounds, electrochemistry, especially of metals, the thermomechanical curves of polymers, and petroleum studies. The greatest effort seems to be on organometallic compounds, especially of phosphorus and arsenic. These compounds are studied as insecticides and for their physiological effects.

Name: Chemical-Metallurgical Institute
(Khimiko-metallurgicheskíy institut)

Address: Karaganda

Director: Ye. A. Buketov, Academician (Kazakh S.S.R.) (1960)

Deputy Director: V. V. Mikhaylov, Academician (Kazakh S.S.R.)

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members: I. N. Azerbayev, Doctor, Head of Chemistry Division
and the Laboratory of Organic Synthesis

Description:

This institute, founded in 1958, is based on the Scientific-Research Coal Institute. Its main responsibility is the exploration of mineral resources in its region. Other fields of research are polymer chemistry, synthetic rubber, coking chemistry, coal coking and gasification, electrochemistry, iron casting, direct reduction of iron ores, ferrous and nonferrous metallurgy, and rare metals. The Institute has 17 laboratories.

Name: Chemical-Metallurgical Institute
(Khimiko-Metallurgicheskiy institut)

Address: Novosibirsk

Director: A. T. Logvinenko

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

Yu. E. Bondarev
K. A. Bessonov
I. A. Chaplinskiy
E. N. Loskutova
N. S. Ostashevskaya
A. P. Pentegov
V. A. Pentegova
R. P. Radchenko
P. V. Romanov
A. B. Travin
G. D. Uryvayeva
T. V. Zabolotskiy
G. P. Zaytsev

Description:

Some of the foundry technology research this institute is engaged in is reflected in the following studies: technique of spherical-graphite formation, solidification and cooling of castings in nonmetallic molds, crack resistance of steel and gray-iron castings, determination of the state of stress during shrinkage, crystallization, effect of steel-melting practice on large steel cast objects, and ingot contamination of Cr-Ni-Mo steels.

Mechanical-property research has included studies of plastic deformation, plasticity and ductility equations, uniform elongation of metals and strain hardening, elastic properties of metals, properties of cold-rolled aluminum, and damping and internal friction of materials. Special heat-treatment studies are made, and austenitic-transformation investigations are conducted.

The Institute has engaged in some powder-metallurgy studies, one being an investigation of some Cu-W alloys.

Research in extractive metallurgy and ore beneficiation has included the separation of indium from tin and the production of aluminum

oxide and alkalis by sintering bauxites. A special chemical engineering problem solved pertained to the formation of natural salts in lakes.

The Institute publishes a Trudy of metallurgical research.

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Name: Cherepovets State Pedagogical Institute
(Cherepovetskiy gosudarstvennyy pedagogicheskiy institut)

Address: Cherepovets, prospekt Lunacharskogo, 5

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. A. Feofilat'yev, Docent, Head of Chair
V. A. Svetlov, Candidate, Head of Chair

Description:

This institute publishes a Uchenyye Zapiski. Courses in elementary-school instruction methods, Russian language and literature, foreign language, and mathematics and physics are offered.

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Name: Cherkassy Pedagogical Institute imeni the 300th Anniversary of the
Unification of Ukraine With Russia
(Cherkasskiy pedagogicheskiy institut imeni 300-letiya vossoyedineniya
Ukrainy s Rossiyey)

Address: Cherkassy, ulitsa Karla Marksa, 24

Director: A. T. Tkanko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. T. Chuyko
I. L. Krupatkin
S. M. Kuznetsov, Docent, Head of Chair

Description:

This institute prepares teachers and performs chemical research. A Nauchnyye Zapiski is published.

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Name: Chernigov State Pedagogical Institute imeni T. G. Shevchenko
(Chernigovskiy gosudarstvennyy pedagogicheskiy institut imeni T. G. Shevchenko)

Address: Chernigov, ulitsa Sverdlova, 53 (1960)

Director: V. N. Kostarchuk, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: V. S. Krolevets, Candidate, Dean (1961)

Description:

The curriculum of the Institute includes courses in elementary school-instruction methods and mathematics and physics.

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Name: Chernovtsy State University
(Chernovitskiy gosudarstvennyy universitet)

Address: Chernovtsy, Universitetskaya ulitsa, 28

Director: K. M. Leutskiy, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

M. S. Andrianov, Docent, Head of Chair
A. S. Babenko
S. D. Eydel'man, Doctor
M. K. Fage, Doctor
K. M. Fishman
A. V. Kalyush
P. A. Kotsyumakhu, Docent, Dean

G. P. Kushta
 V. M. Lesin, Docent, Dean
 A. V. Pamfilov, Professor, Head of Chair
 I. M. Pilat
 V. I. Psarev, Candidate
 V. P. Rubanik, Docent
 A. G. Samoylovich, Professor
 M. S. Shulga
 K. D. Tovstyuk, Docent, Head of Chair
 K. G. Tsytko, Docent, Head of Chair
 I. K. Vereshchagin
 A. Yakovlev

Description:

Enrollment at this university in 1959 was approximately 5,000 day and evening students. Chemical research studies at this university include development of analytical techniques, polymer chemistry, and electrochemistry. Investigations have been made of synthetic dyes, quinoline derivatives, and heptanetriol.

Research has been performed on semiconducting materials such as germanium, silicon, and antimonides of cadmium, zinc, indium, and magnesium. Exciton decay in semiconductors has been studied. Other studies at the university include magnetic susceptibility of intermetallic compounds, carbide particles in carbon steel, crystal phosphors and electroluminescence, parabolic systems, sorption mechanics, vacuum metallurgy, and differential equations.

The laboratory of physical chemistry performs extensive research in electrochemistry. Electrodeposition of chromium, cadmium, and nickel, problems of polarization, and properties of cadmium electrodes have been studied.

The University publishes a Uchenyye Zapiski, Seriya Khimii; a Nauchnyye Zapiski, Seriya Fiziki Matematiki; and a Nauchnyye Yezhegodnik. Candidate's Degrees are granted.

The courses offered by the University include history, Russian language and literature, native language and literature of peoples of the U.S.S.R., Romance and Germanic language and literature, mathematics, physics, chemistry, biology, and physical geography.

Name: Chimkent State Pedagogical Institute imeni N. K. Krupskaya
 (Chimkentskiy gosudarstvennyy pedagogicheskiy institut imeni
 N. K. Krupskoy)

Address: Chimkent, Sovetskaya ulitsa, 40

Director: B. Ye. Yermekbayev (1961)

Deputy Director: M. S. Sarsembayev, Candidate (1961)

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members:

K. B. Bektayev, Docent, Head of Chair
G. Ya. Dement'yeva, Docent, Head of Chair
A. I. Ismailov, Docent, Head of Chair

Description:

Courses in Russian and native language and literature, history, mathematics and physics, and physics and fundamentals of production are taught at this institute.

Name: Chita State Pedagogical Institute
(Chitinskiy gosudarstvennyy pedagogicheskiy institut)

Address: Chita, ulitsa Chkalova, 140

Director: --

Deputy Director: A. I. Mamonova (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. I. Gorshkov, Docent, Head of Chair
N. A. Kaslov, Dean
B. M. Shereshevskiy, Docent, Head of Chair

Description:

The Institute, which publishes a Uchenyye Zapiski, offers courses in foreign languages (English, French, and German), Russian language, literature, and history, mathematics and physics, and geography and biology. The staff is conducting geographical studies of the Arctic. Theoretical chemistry and mathematics are included in the areas of interest of this institute. An astronomical station is maintained for observation of artificial earth satellites.

Name: Chuvash Agricultural Institute
(Chuvashskiy sel'skokhozyaystvennyy institut)

Address: Cheboksary, ulitsa K. Marksa, 29

Director: V. T. Lobanov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members: A. K. Yefeykin, Professor, Dean

Description:

The Institute offers courses in agronomy and animal husbandry. It publishes a Trudy.

Name: Chuvash Pedagogical Institute imeni I. Ya. Yakovlev
(Chuvashskiy pedagogicheskiy institut imeni I. Ya. Yakovleva)

Address: Cheboksary, ulitsa Karla Marksa, 42

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

S. P. Gorskiy, Professor

B. G. Rusanov, Docent, Head of Chair

G. O. Yefremov, Docent, Head of Chair

Description:

One of the research interests of this institute has been the improvement of classroom science demonstrations. Other research interests are diphenyl alkanes and ultrasonics. Courses of study are offered in Russian and native language and literature, foreign language, history, physics and fundamentals of production, biology, chemistry, and agriculture.

Name: Computer Center
(Vychislitel'nyy tsestr)

Address: Yerevan

Director: S. N. Mergelyan, Academician (Armenian S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1962)

Selected Staff Members:

R. A. Aleksandryan
Y. A. Arutyunyan, Scientific Secretary
A. V. Pipinov
T. M. Ter-Mikayelyan, Candidate

Description:

This center, created in 1958, is doing work in computer-controlled automation. The Center has completed some work leading to the automation of programming for a certain group of practical problems. Work has begun on technical problems related to the design of special automatic devices that can be "trained" to memorize and analyze the results of previous problems. Some work is also done in the field of machine translation. This work, however, is conducted with a rather limited vocabulary.

Name: Computer Center
(Vychislitel'nyy tsentr)

Address: Baku, ulitsa Ketskhoveli, kvartal 553

Director: S. A. Aleskerov, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaydzhan S.S.R. (1961)

Selected Staff Members:

G. B. Kreptyshev, Scientific Secretary
F. Nagiyeva, Senior Engineer

Description:

This facility was founded in 1956 as a section of the Institute of Physics and Mathematics. It became an independent facility in 1960. The Center conducts research on industrial and economic problems of the Azerbaydzhan S.S.R. The Center consists of eight laboratories and has URAL-I, MPT-9, and EM-8 computers. A high-speed BESM-III is being installed.

Name: Computer Center
(Vychislitel'nyy tsentr--VTs)

Address: Moscow, Akademicheskii Proyezd, 28

Director: A. A. Dorodnitsyn, Doctor (1961)

Deputy Director: V. A. Ditkin, Doctor (1959)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

E. A. Chistova
P. I. Chushkin
B. M. Drozdov, Head of Computing Laboratory
L. N. Gerlakh
V. M. Kurochkin
V. V. Rusanov
Yu. D. Shmyglevskiy
V. P. Smiryagin, Head of Computer Operations Laboratory
A. P. Yershov, Head of Theoretical Programming Laboratory

Description:

The Computer Center of the Academy of Sciences, U.S.S.R., was founded in 1955 to engage in research and development in computers and to provide computer service for research institutes and industry. About 95 per cent of the machine hours at the Center are devoted to scientific and technical work; in the course of a year, about 100 different institutes put problems on the machines. The staff in 1960 numbered approximately 300. The computers at the Center include STRELA, URAL-I, BESM-I, and BESM-II.

The Center does a large amount of computation in support to research in aerodynamics, particularly boundary-layer, aerodynamic-flow, and shock-wave studies. During the IGY, much of the computing required by the Soviet astronomical and geodetic programs was done at the Center.

Trudy and Sborniki, published by the Center on an irregular basis, report research by the staff.

Name: Computer Center
(Vychislitel'nyy tsentr)

Address: Tashkent

Director: V. K. Kabylov, Corresponding Academician (Uzbek S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek, S.S.R. (1961)

Selected Staff Members: Kh. Khodzhiyarov, Senior Engineer

Description:

This computer center uses modified URAL computers to solve a variety of complex mathematical problems in support of institutes of the Uzbek S.S.R. For example, the Center prepared resonance-frequency tables for simple structural elements, i.e., a cantilever of constant cross section, in cooperation with the Institute of Mathematics imeni V. I. Romanovskiy.

Name: Coronal Station
(Koronal'naya stantsiya)

Address: In the Tien Shan Mountains above the Kamensk Plateau

Director: M. G. Karimov, Candidate (1959)

Deputy Director: --

Administrative Affiliation: Astrophysical Institute, Academy of Sciences, Kazakh S.S.R. (1962)

Selected Staff Members: --

Description:

This station, located at an altitude of 2,600 meters, is one of the leaders among the world's nine coronal stations as far as number of observations of the solar corona is concerned. Its equipment includes a large coronagraph telescope, used for the observation of the activity of the solar corona, and a chromosphere-photosphere telescope, used for the study of the chromosphere. Every half minute during a three-hour period each day solar flares are automatically photographed.

The station will participate in the 1964-1965 International Geophysical Year. It is scheduled to conduct magnetic observations of various phenomena of the sun. During the 1957-1958 IGY, some 20,000 values of equivalent widths of coronal lines and more than 40,000 photographs of the chromosphere within the red line of hydrogen were taken by this station.

Name: Correspondence Institute of Soviet Trade
(Zaochnyy institut sovetskoy trgovli)

Address: Moscow, Kuznetskiy Most, 14

Director: --

Deputy Directors: A. N. Rukosuyev, Docent (1961)
M. P. Agapitov, Docent (1961)

Administrative Affiliation: Ministry of Trade, R.S.F.S.R. (1960)

Selected Staff Members:

M. I. Bakanov, Professor, Dean
G. I. Kutyanin, Professor, Head of Chair
A. P. Pisarenko, Professor, Head of Chair

Description:

This institute has branches at Alma-Ata, Internatsional'naya ulitsa 71; Voronezh, ulitsa Pushkina, 11; Kazan', ulitsa Butlerova, 4; Irkutsk, ulitsa Krasnoy Zvezdy 18; Kishenev, ulitsa Pavlovskaya, 18; Kuybyshev, ulitsa Sadovaya, 26; Moscow, Stremyanny, 28; Novosibirsk, Kamenskaya ulitsa, 66; Rostov-on-Don, Budenovskiy prospekt, 49; Saratov, ulitsa Gor'kogo, 45; and Sverdlovsk, ulitsa Dekabristov, 20. The courses offered include trade economics, accounting, grocery trade, and industrial trade.

Name: Crimean Agricultural Institute imeni M. I. Kalinin
(Krymskiy sel'skokhozyaystvennyy institut imeni M. I. Kalinina)

Address: Simferopol', ulitsa Michurina, 2

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R.
(1960)

Selected Staff Members:

V. Ya. Borisov, Head of Chair
A. K. Chernova, Docent
A. I. Pavlov, Head of Chair

Description:

This institute, opened in 1931, has been investigating fractionation products from Crimean crude oils. Of interest is the work on halide derivatives of cyclanes (cyclopentane and cyclohexane) and alkanes (n-hexane and n-heptane), which find extensive application as agricultural insecticides. Courses are offered in agronomy and viniculture.

Name: Crimean Astrophysical Observatory
(Krymskaya astrofizicheskaya observatoriya--KAO)

Address: Krymskaya Oblast, near Partizanskoye, 12 km south of Bakhchisaray

Director: A. B. Severnyy, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

A. A. Boyarchuk, Candidate
 P. P. Dobronravin
 E. Ye. Dubov
 A. S. Dvoryashin
 I. M. Kopylov
 E. R. Mustel', Corresponding Academician (U.S.S.R.)
 V. B. Nikonov, Professor
 S. B. Pikel'ner, Doctor
 V. K. Prokof'yev, Professor
 N. A. Savich, Candidate
 N. V. Steshenko
 N. N. Yeryushev

Description:

KAO was established in 1955. Its equipment makes it the largest astrophysical observatory in the U.S.S.R. There are five departments in the Observatory: (1) Stellar Physics, (2) Physics of Nebulae and Interstellar Space, (3) Solar Physics, (4) Radio Astronomy and the Ionosphere, and (5) Design of Astrophysical Instruments.

The Soviet Union's largest reflecting telescope, with a 2,600-mm-diameter mirror, is located here. A vacuum spectroscopy which makes possible the study of the weakest magnetic fields and the speed of gases in the solar atmosphere with approximately 10 times greater accuracy than formerly was installed at the Observatory in 1961. Some very fine solar equipment, including a Babcock-type solar magnetograph, also is installed here.

Within the complex of the Crimean Astrophysical Observatory is a second astrophysical observatory near Simeiz. Although the Observatory near Simeiz is older than the one near Partizanskoye, it is now a branch of the latter.

It publishes an Izvestiya.

Name: Crimean Scientific Station
(Krymskaya nauchnaya stantsiya)

Address: Crimea

Director: --

Deputy Director: --

Administrative Affiliation: Physics Institute imeni P. N. Lebedev (1961)

Selected Staff Members: --

Description:

This station has a 31-meter stationary radio telescope. The general areas of ionospheric studies, solar research, and galactic-sources research comprise its fields of interest.

Name: Crimean State Pedagogical Institute imeni M. V. Frunze
(Krymskiy gosudarstvennyy pedagogicheskiy institut imeni M. V. Frunze)

Address: Simferopol', ulitsa Lenina, 11

Director: A. F. Perekhod, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

S. L. Delyamure, Professor, Head of Chair
Ye. I. Gnedzevich, Dean
V. N. Migirin, Professor, Head of Chair
D. A. Zazimko, Candidate

Description:

This institute trains teachers. The staff has done studies in mathematics, chemistry, physics, and mechanics. An Izvestiya and a Nauchnyye Zapiski are published.

Name: Dagestan Agricultural Institute
(Dagestanskiy sel'skokhozyaystvennyy institut)

Address: Makhachkala, ulitsa M. Gadzhiyeva

Director: M. M. Dzhambulatov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

Sh. G. Dandamayev, Docent, Dean
V. P. Ogoleva, Docent
F. S. Shpilev, Docent, Dean
G. P. Zagorodnyy, Professor, Head of Chair

Description:

This institute has published a Trudy since 1939. The available courses cover agronomy, animal husbandry, and veterinary medicine.

Name: Dagestan Pedagogical Institute for Women imeni Gamzat Tsadasa
(Dagestanskiy zhenskiy pedagogicheskiy institut imeni Gamzata Tsadasy)

Address: Makhachkala, ulitsa imeni 26 Bakinskikh komissarov, 43

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

Founded in 1931, the Institute conducts some research in radio engineering and electrical engineering. Courses are offered in Russian language and literature, Dagestan language and literature, and mathematics and physics. The Institute publishes a Uchenyye Zapiski.

Name: Dagestan State University imeni V. I. Lenin
(Dagestanskiy gosudarstvennyy universitet imeni V. I. Lenina)

Address: Makhachkala, ulitsa Dzerzhinskogo, 12

Director: A. A. Abilov, Docent (1961)

Deputy Director: G. S. Takhtarov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

S. I. Akayev, Docent, Head of Chair
 D. I. Aliyeva, Head of Chair
 M. S. Bezhayev, Docent
 A. Z. Efendiyev, Docent
 S. M. Gadzhiyev, Docent, Head of Chair
 V. A. Glazov, Professor, Head of Chair
 P. L. L'vov, Docent, Head of Chair
 S. M. Omarov, Docent, Head of Chair
 B. P. Pashayev
 S. M. Tavkesheva, Candidate

Description:

Dagestan State University opened in 1957. The Pedagogical Institute at Makhachkala was the basis of the new university. Enrollment for the 1960-1961 school year was about 3,400 students.

Examples of research work at the University thus far are in the fields of semiconductors and dielectrics, theory of molecular forces, and electrical and thermal conductivity of metal during phase transformations. Metals under study are lead, tin, bismuth, gallium, cadmium-tin alloys, and bismuth-tin alloys. The chemistry group has studied the sodium thio-sulfate-water system by physical-chemical analysis methods.

The University publishes a Uchenyye Zapiski and offers courses in technology of preserved and canned goods (including refrigerator technology), industrial and civil construction, Russian language and literature, native language and literature of peoples of the U.S.S.R., Romance and Germanic languages and literature, history, mathematics, physics, and biology.

Name: Daugavpils Pedagogical Institute
 (Daugavpilsskiy pedagogicheskiy institut)

Address: Daugavpils, ulitsa 5 Avgusta, 25

Director: --

Deputy Director: L. A. Dambran, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Latvian S.S.R. (1960)

Selected Staff Members:

K. S. Grashman, Docent
V. A. Shkele, Docent, Head of Chair
I. A. Shteyman, Docent, Head of Chair

Description:

This institute studies sulfo-cations and ion-exchange resins. It offers courses in Latvian language and literature, physical education, Russian language, literature, history, and singing, mathematics and physics, biology, chemistry, and fundamentals of agriculture, and production processes.

Name: Dneprodzerzhinsk Evening Metallurgical Institute imeni M. I. Arsenichev
(Dneprodzerzhinskiy vecherniy metallurgicheskiy institut imeni M. I. Arsenicheva)

Address: Dneprodzerzhinsk

Director: P. Ye. Kosenko, Docent (1959)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. G. Chen
F. K. Ivanchenko
V. I. Loginov, Docent
L. P. Molotkov

Description:

In collaboration with the Computer Center of the Ukrainian Academy of Sciences, this institute has been investigating control and mechanization of blast-furnace processes, especially interruption of the blast when the desired carbon percentage has been achieved. Investigations of the mathematics of sheet-rolling mills, martensite and austenite transformation mechanics, metal-fatigue measurements, and corrosion-inhibition methods have also been published. A Trudy appears on a monthly basis. Candidate's Degrees are granted.

Name: Dneprodzerzhinsk Metallurgical Institute imeni M. I. Arsenichev
(Dneprodzerzhinskiy metallurgicheskiy institut imeni M. I.
Arsenicheva)

Address: Dneprodzerzhinsk

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

Ye. M. Chernevich, Engineer
V. I. Loginov
L. Molotkov, Candidate

Description:

This institute has carried out investigations on the desulfurization of cast iron by acid slag process, tube rolling in a continuous mill with long mandrel (in collaboration with the Ukrainian Scientific-Research Pipe Institute), and heat-treatment methods for cast iron and low-alloy refractory steels. Members of the Institute participated in a Seminar on the Use of Isotopes and Nuclear Radiation in Blast-Furnace Processes, held in Dneprodzerzhinsk in March, 1961. The Dneprodzerzhinsk Evening Metallurgical Institute imeni M. I. Arsenichev is probably the evening branch of this institute.

Name: Dnepropetrovsk Agricultural Institute
(Dnepropetrovskiy sel'skokhozyaystvennyy institut)

Address: Dnepropetrovsk, ulitsa Voroshilova, 25

Director: A. T. Lysenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

N. Ye. Bekarevich, Professor, Head of Chair
N. A. Gudzenko, Docent, Head of Chair
L. A. Khristeva, Professor, Head of Chair

Description:

This institute publishes a Trudy which has included papers on pure mathematics, on the use of alpha-naphthylthiourea for rodent control, on the load stress of materials, and on the measurement of the photoelectric effect in lubricants. Courses are offered in agronomy, mechanization of agriculture, and chemistry.

Name: Dnepropetrovsk Chemical-Engineering Institute imeni
F. Ye. Dzerzhinskiy
(Dnepropetrovskiy khimiko-tehnologicheskii institut imeni
F. Ye. Dzerzhinskogo--DKhTI)

Address: Dnepropetrovsk, Vuzovskaya ulitsa 2-g

Director: M. A. Loshkarev, Professor (1961)

Deputy Directors: Yu. I. Usatenko, Professor (1961)
M. M. Kremlev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Specialized
Education, Ukrainian S.S.R. (1961)

Selected Staff Members:

- G. I. Belyayev, Docent, Head of Chair
- G. A. Blokh, Docent
- A. I. Brodskiy, Corresponding Academician (U.S.S.R.), Head of Chair
of Physical Chemistry
- S. I. Burmistrov, Professor, Head of Chair of Technology of Organic
Synthesis and Synthetic Rubber
- K. A. Chervinskiy, Docent, Head of Chair of Analytical Chemistry
- V. I. Dal', Professor, Head of Chair
- O. S. Ksenzhek, Doctor
- N. K. Moshchinskaya, Professor
- V. V. Stender, Corresponding Academician (Kazakh S.S.R.)

Description:

This institute was established in 1930, primarily as an educational institution. This is still the case, as evidenced by the many degrees granted, and also by the existence of departments of fundamental chemistry and physics. In addition, the Institute has at least eight departments in various areas of technology. Its published research papers cover an exceedingly wide range of subjects, predominantly of a technological nature, but including some more fundamental studies.

The Institute publishes a Trudy and grants Candidate's Degrees. The courses of study available at the Institute include physical chemistry,

organic chemistry, inorganic chemistry, physics, analytical chemistry, plastics technology, technology of organic synthesis and synthetic rubber, technology of the electrochemical industry, technology of inorganic substances, machinery for chemical industry, rubber technology, silicate technology, control instruments for chemical processes, resistance of materials and theoretical mechanics, and fuel technology.

Name: Dnepropetrovsk Construction-Engineering Institute
(Dnepropetrovskiy inzhenerno-stroitel'nyy institut)

Address: Dnepropetrovsk, ulitsa Chernyshevskogo, 24-a

Director: --

Deputy Director: N. I. Voronkov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

- I. P. Grigorov, Docent, Head of Chair
- P. K. Mitskevich, Professor, Head of Chair
- A. V. Novoselov, Head of Chair
- O. Ye. Rynskov, Docent, Head of Chair

Description:

Training is provided for students of civil engineering, with courses offered in construction, reinforced-concrete structures, prefabricated construction, and construction equipment. Research has been conducted on sandwich structures, structural mechanics, and organic liquid semiconductors. The Candidate's Degree is granted.

Name: Dnepropetrovsk Institute of Railroad-Transportation Engineers
(Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta--
DIIIT)

Address: Dnepropetrovsk, Sevastopol'skaya ulitsa, 15

Director: --

Deputy Director: B. V. Yakovlev, Docent (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

A. M. Dzyuru, Docent, Head of Chair
 V. A. Kablukov, Assistant Head of Chair
 V. A. Lazaryan, Professor, Head of Chair
 V. V. Timoshenko, Docent, Dean
 M. I. Zaycheva, Docent

Description:

Technical training is provided for students following careers in the railroad industry. Railroad-car construction, railroad electrification, utilization of railroads, railroad construction, and civil engineering are covered in specific courses.

The technical staff has conducted many investigations in areas such as applied mathematics, inorganic and organic chemistry, metallurgy, thermodynamics, and structural analysis. Work has also been done in electronics, and studies of fluorine chemistry have been prominent. A Trudy is published, and the Institute grants the Candidate's Degree.

Name: Dnepropetrovsk Order of Labor Red Banner Metallurgical Institute
 imeni I. V. Stalin
 (Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni metallurgicheskii institut imeni I. V. Stalina--DMIS)

Address: Dnepropetrovsk, Vuzovskaya ulitsa, 2-a

Director: N. F. Isayenko, Professor (1961)

Deputy Director: S. I. Khitrik, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. S. Afanas'yev
 K. P. Bunin, Corresponding Academician (Ukrainian S.S.R.)
 A. P. Chekmarev, Academician (U.S.S.R.)
 N. M. Chuyko, Professor
 A. A. Dinnik
 A. D. Gotlib, Professor, Head of Chair
 I. S. Kagan, Head of Chair of Economics of Production
 S. N. Kozhevnikov, Corresponding Academician (Ukrainian S.S.R.)
 A. F. Kravtsov, Docent, Head of Chair
 A. Ye. Krivosheyev
 I. Ye. Lev
 S. L. Levin

A. S. Marinov, Head of Marxism-Leninism Office
 V. P. Pevtsov
 E. N. Pogrebnoy
 K. I. Poznyakov, Docent, Head of Chair
 I. V. Radchenko, Professor, Head of Chair
 S. T. Rostovtsev
 A. I. Sapko
 I. P. Semilkin
 N. S. Shchirenko
 N. P. Spiridonov
 K. F. Starodubov, Corresponding Academician (Ukrainian S.S.R.)
 N. Yu. Tayts, Professor
 Ya. L. Vatkin
 G. A. Volovik

Description:

The Institute has an extensive research program. Specific studies have been made in the automation of metalworking processes, the rolling of grooves, thin sheet, and tube, the melting of ball-bearing steel, the vacuum melting of steel, open-hearth operation, and stainless steel technology. Other work has concerned continuous casting, hot cracking of ingots, the closing of microcracks, the corrosive effects of gases in metals, heat treatment, cast iron, and oxide reduction in metals. In other areas, studies have been made in fuels technology, physical, colloidal, and analytical chemistry, electrochemistry, mathematics, and electromechanical technology. Some work also has been done on the yield strengths of metals at high deformation rates and the cold brittleness of steel. The economics of metallurgical-plant operations and the power requirements of arc-melting furnaces for steel have been studied.

In its work, the Institute cooperates with many production facilities, including the Zaporozhstal' Plant, the Plant imeni Dzhherzhinskiy, the Tube-Rolling Mill imeni Lenin, the Nova Tula Metallurgical Plant, and the Dneprospetstal' Plant. It publishes a Nauchnyye Trudy.

The Institute offers courses in ferrous and nonferrous metallurgy, the physics of metals, heat treatment, the pressure working of metals, foundry practices, metallurgical equipment, economics, and the chemistry of fuels.

Name: Dnepropetrovsk Order of Labor Red Banner Mining Institute imeni Artem
 (Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema)

Address: Dnepropetrovsk, prospekt Karla Marksa 21

Director: P. G. Nesterenko, Professor (1961)

Deputy Director: N. S. Polyakov, Corresponding Academician (Ukrainian S.S.R.) (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

F. A. Abramov, Professor, Head of Chair
 F. A. Beliyenko
 D. P. Poydu, Docent, Head of Chair
 M. I. Rozovs'kiy, Professor
 P. M. Shilov, Professor, Head of Chair
 M. V. Stovas, Docent, Head of Chair
 K. F. Tyapkin

Description:

Creep studies and analysis of creep curves are of interest to the Institute. Formation of deep faults in the Earth's crust, graphic determination of higher derivatives of gravitational and magnetic potentials of plane fields, potential fields in magnetic and gravitational prospecting, interpretation of gravitational anomalies, and potential theory in applied geophysics also are of interest. Also studied were the use of high-speed photography to study phenomena in solid-state physics, loss of plasticity, role of critical parallels in circulation of the atmosphere, film-type Hall-effect probes, breaking rocks by explosions, vibro-arc welding of worn-out parts of coal-mining machinery, crystals of quartz in coal, and cutting of ore in deep horizontal apertures.

The Institute publishes an Izvestiya and grants the Candidate's Degree. It offers courses in mining electromechanics, mining machinery, economics and organization of mining industry, geology and exploration of mineral deposits, geophysical prospecting, hydrogeology and engineering geology, techniques of exploring mineral deposits, mine surveying, mining, minerals beneficiation and ore treatment, and mining construction.

Name: Dnepropetrovsk State University imeni 300th Anniversary of the Unification of the Ukraine and Russia
 (Dnepropetrovskiy gosudarstvennyy universitet imeni 300-letiya vossoyedineniya Ukrainy s Rossiyei)

Address: Dnepropetrovsk, Shevchenkovskaya ulitsa, 59

Director: --

Deputy Director: N. I. Varich, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. L. Bel'gard, Professor, Head of Chair
 A. A. Borgardt
 V. P. Galushko
 G. N. Gay, Professor
 V. L. Ginzburg, Corresponding Academician (U.S.S.R.)
 F. I. Kolomoitsev, Professor
 V. N. L'nyanoy
 G. D. Makarov, Candidate, Head of Chair
 V. I. Mal'chenko
 M. S. Malinovskiy
 I. S. Miroshnichenko
 G. M. Pateyuk, Docent, Head of Chair
 F. S. Pavlov, Docent, Head of Chair
 M. Ye. Pisareva, Docent, Dean
 A. F. Polesya
 B. Ye. Reznik
 V. S. Rossikhina, Docent, Head of Chair
 I. V. Salli
 L. S. Serdyuk
 Yu. A. Shevlyakov
 Ye. V. Sinyakov
 D. I. Sokolov, Docent, Head of Chair
 G. M. Vorob'yev

Description:

Dnepropetrovsk State University, established in 1918, had an enrollment of about 5,000 students during the 1960-1961 school year. The University grants Candidate's and Doctor's Degrees.

Among the research studies in metals and metal physics at the University have been investigations of martensitic transformation in steel, crystallization of eutectic alloys, recrystallization kinetics of aluminum and copper, structure of deformed alloys, plastic deformation of Fe-Cr alloys, and surface graphitization of alloys. Stresses in plates and shells have been an area of considerable interest at the University, along with studies of strength of thin-wall constructions. Ferrites, ferroelectric ceramic materials, and dielectric materials have received considerable study. Mathematical studies include trigonometric polynomials and approximation of functions. Chemical researchers at the university have covered areas such as insecticides, rare-earth elements, silver chloride, and corrosion of steel. Other areas of study at the University are X-ray irradiation of polymers, potential scattering, ionized gas between electrodes, theories of gravitation, and acetylene-air flames.

The University has a computer center. Affiliated with the University is the Scientific-Research Institute of Geology (Nauchno-issledovatel'skiy institut geologii), which has studied methods of analysis of manganese ores and the make-up of various ore deposits. The University publishes a Uchenyye Zapiski.

The curriculum of the University includes Russian language and literature, native language and literature of peoples of the U.S.S.R., mathematics, mechanics, physics, chemistry, and biology.

Name: Donetsk Order of Labor Red Banner Polytechnic Institute
(Donetskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiiy institut)

Address: Stalino, ulitsa Artema, 58

Director: M. A. Bogomolov, Docent (1961)

Deputy Directors: V. G. Geyer, Professor (1961)
A. L. Simonov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. R. Grin'ko, Dean
P. M. Kandrakhin, Docent, Dean
M. I. Karpilenko, Dean
M. D. Kuznetsov, Professor, Head of Chair
R. M. Leybov, Professor, Head of Chair
V. K. Medunov, Docent, Dean
A. S. Noskov, Docent, Dean
D. N. Ogloblin, Professor, Head of Chair
D. I. Ozherel'yev, Docent, Head of Chair
V. S. Pak, Head of Chair, Academician (Ukrainian S.S.R.)
G. Ya. Ponomarenko, Docent, Head of Chair
V. S. Rekshinskiy, Docent, Head of Chair
K. B. Shul'gin, Docent, Head of Chair
P. A. Sidorenko, Docent
P. Ya. Taranov, Docent, Head of Chair
I. I. Ukho, Head of Chair
S. A. Zhedanov, Docent, Dean

Description:

Metallurgical research is the forte of the Donetsk Polytechnic Institute. Its investigations have included experiments on the mechanical

properties of rope wire, stress distribution in billets deformed by bending and flake formation, the use of tapered electrodes in welding, and improved methods of rolling special, double-channel bars to be cut longitudinally. The Institute publishes a Trudy.

The available courses of study include geology and exploration of mineral deposits, mine surveying, mining, mining construction, electrification of industrial enterprises and installations, mining electromechanics, ferrous metallurgy, thermal processing of metals (metallography, equipment, and technology), metalworking (forging, stamping, rolling, and sheathing), mechanical equipment of metallurgical plants, mining machinery, fuel technology, and industrial and civil construction.

Name: Donetsk Scientific-Research Coal Institute
(Donetskiiy nauchno-issledovatel'skiy ugol'nyy institut--DonUGI)

Address: Donetsk, ulitsa Artema, 114

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: G. G. Gimoyan, Candidate

Description:

This institute was established in 1929 to train workers in the coal and coal-mining industries. Its efforts have been concentrated on mining technology, mining equipment, and automation. A Sbornik is published.

Name: Drogobych Pedagogical Institute imeni I. Ya. Franko
(Drogobychskiy pedagogicheskiy institut imeni I. Ya. Franko)

Address: Drogobych, ulitsa Gogolya, 32

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

I. T. Ishchenko, Docent, Dean
 B. N. Mityurov, Docent, Head of Chair
 V. A. Sheremet'yev, Docent, Dean
 O. N. Tarasyuk, Docent, Head of Chair

Description:

The Institute offers courses in Ukrainian language, literature, and singing, Russian language, literature, and singing, mathematics, physics and general science, elementary-school teaching methods, and manual training. A Naukovi Zapysky is published.

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Name: Dusheti Geophysical Observatory
 (Dushetskaya geofizicheskaya observatoriya)

Address: Dusheti (near Tbilisi)

Director: --

Deputy Director: --

Administrative Affiliation: Geophysics Institute, Academy of Sciences,
 Georgian S.S.R. (1961)

Selected Staff Members: --

Description:

The Dusheti Geophysical Observatory is engaged in measuring changes in the earth's magnetic field. A pavilion for absolute observations, built from nonmagnetic materials, houses the instrumentation utilized in this work. A station for the study of earth currents is also included at the Observatory. A special pavilion was built for the study of complex processes of short-period variations of geomagnetic and geoelectric fields. A Trudy is published.

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Name: Eastern Coal-Chemical Institute
 (Vostochnyy uglekhimicheskiy institut--VUKhIN)

Address: Sverdlovsk, ulitsa 8-go Marta, 14

Director: --

Deputy Director: --

Administrative Affiliation: Sverdlovsk Sovmarkhoz (1957)

Selected Staff Members:

L. Ye. Karlinskiy, Candidate
V. N. Novikov
S. I. Panchenko, Doctor
A. G. Pozdeyeva
V. Ye. Privalov

Description:

This institute is conducting research on the coking process and coal- and coke-gas derivatives. Work has been done on the extraction of naphthalene, phenols, pure quinaldine, benzene, and other hydrocarbons. The Institute has a branch in Kiyeznetsk.

Name: Eastern Scientific-Research Institute of Refractory Materials
(Vostochnyy nauchno-issledovatel'skiy institut ogneporov)

Address: Sverdlovsk

Director: K. K. Strelov (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. P. Bas'iyas
A. A. Bichurina
V. A. Bron
P. N. D'yachkov
T. S. Ignatova
P. S. Manykin
I. A. Ol'khovskiy
T. F. Raychenko
Zh. A. Vydrina

Description:

Formerly the Urals Branch of the All-Union Scientific-Research Institute of Refractory Materials, this institute became an independent research facility and underwent a name change in 1959. The Institute conducts research on refractory materials and their physical and chemical

properties, local raw materials, and manufacturing processes. Research has been conducted on a number of materials, including highly refractory oxides, kaolin, chamotte, and periclase. Sintering techniques, effects of various additions, and the interaction of refractory materials with metals have been studied. The Institute publishes a Trudy.

Name: East Siberian Geological Institute
(Vostochno-Sibirskiy geologicheskii institut)

Address: Irkutsk, ulitsa Krasnoy Zvezdy, 18

Director: M. M. Odintsov, Doctor (1961)

Deputy Director: --

Administrative Affiliation: East Siberian Branch, Siberian Department,
Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

N. A. Florensov, Corresponding Academician (U.S.S.R.); Head
of the Department of Regional Geology
S. I. Golenetskiy
M. I. Grudinin
P. M. Khrenov
A. K. Kuklin
A. I. Kuznetsova
K. V. Pshennikov

Description:

This institute supervises over 35 seismic stations in Siberia and the Far East. It is a member of the Seismic Commission of the Siberian Branch of the U.S.S.R. Academy of Sciences. In 1959, six of the Institute's seismic stations were established along the north and east shores of Lake Baykal to study distant earthquakes and obtain data on the internal structure of the earth. In 1962, the Institute developed a wavemeter to make approximate measurements of the energy of the aftershock of earthquakes.

Name: Estonian Agricultural Academy
(Estonskaya sel'skokhozyaystvennaya akademiya)

Address: Tartu, ulitsa Riya, 60

Director: --

Deputy Directors: A. Kh. Eelayd, Docent (1961)
V. G. Matin, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Estonian S.S.R.

Selected Staff Members:

E. L. Ya. Kul'd, Party Secretary
A. Ya. Muug, Docent, Head of Chair
E. N. A. Pebsen, Docent, Head of Chair

Description:

The staff, in addition to its interest in agriculture and related topics, has published papers on metal coatings to reduce friction. Candidate's Degrees are granted and a Sbornik Nauchnykh Trudov is published. Specific courses are devoted to agronomy, animal husbandry, veterinary medicine, mechanization of agriculture, hydromelioration, and forestry.

Name: Experimental and Scientific-Research Institute of the Bearing Industry
(Eksperimental'nyy i nauchno-issledovatel'skiy institut podshipnikovoy promyshlennosti--ENIPP)

Address: Moscow, 2-ya ulitsa Mashinostroyeniya, 17/9

Director: A. I. Sprishevskiy (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1960)

Selected Staff Members:

S. F. Bel'kov
D. S. Larionova
V. I. Rakhovskiy
N. A. Spitsyn, Professor

Description:

This institute does research on properties, machining, and alloys for bearing rings. In connection with this work, lubricants, testing machines, vacuum smelting, machine tools, and automatic control systems for

the varied processes involved are studied. The Institute also has been developing a method of computing and designing bearings, especially for high-speed applications. A Trudy is published by the Institute.

Name: Experimental Laboratory of Machine Translation
(Eksperimental'naya laboratoriya mashinnogo perevoda)

Address: Leningrad, Universitetskaya naberezhnaya, 7/9

Director: N. D. Andreyev (1958)

Deputy Director: --

Administrative Affiliation: Leningrad Order of Lenin State University imeni A. A. Zhdanov (1960)

Selected Staff Members: --

Description:

Established in 1957, this laboratory is working on a machine language to serve as an intermediary link in translations.

Name: Experimental Scientific-Research Institute of Forging-Pressing-Machine Construction
(Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya--ENIKMASH)

Address: Voronezh

Director: G. Nizovoy (1957)

Deputy Director: G. A. Navrotskiy (1957)

Administrative Affiliation: --

Selected Staff Members:

B. S. Perevozchikov
T. I. Protopopova

Description:

ENIKMASH, organized in 1954, is the U.S.S.R.'s only institute for forging and pressing equipment. It is active in the solution of theoretical questions concerning pressing and forging machines and pressure

processing of metals, developing the theoretical bases for the planning of highly productive automatic presses and automatic lines, and creating new technological processes.

The Automatic Lines Laboratory has developed a multiproduct rotary line for use in the machine-tool-building, motor-vehicle, tractor, and aviation industries. The Institute has also designed, developed, and built automatic dies for pressing circular forgings, an automatic machine for single-impression stamping, and pneumatic and hydraulic drives.

A Sbornik is published periodically by the Institute.

Name: Experimental Scientific-Research Institute of Metal-Cutting Machine Tools
(Eksperimental'nyy nauchno-issledovatel'skiy institut metallorazhushchikh stankov--ENIMS)

Address: Moscow, 5-y Donskoy proyezd, 21-b

Director: A. P. Vladziyevskiy, Doctor (1961)

Deputy Director: A. Ye. Prokopovich (1960)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1960)

Selected Staff Members:

V. Abankin, Head of Automation Laboratory
A. A. Barsukov
V. P. Bobrov
V. I. Dikushin, Academician (U.S.S.R.)
V. N. Kedrinskiy
A. L. Livshits, Head of Laboratory for Electrical Methods
A. A. Padogin
I. I. Petrov
A. A. Ust'yantsev
M. O. Yakobson, Doctor
D. A. Zakhar'yev
A. S. Zingerman, Head of Chair of Electrical Engineering
V. G. Zusman, Head of Department of Electrical Engineering

Description:

The Institute was organized in 1933 to design and develop specialized multi-unit machine tools for automobile, tractor, and other enterprises engaged in mass production. By 1954, it was maintaining its own Design Bureau, comprising 13 or more laboratories, and various departments and

sections, in addition to an experimental machine-tool-building plant where the first Soviet automatic line of machine tools was constructed. Personnel had increased by 30 per cent. In 1960, principal research activities included development of standards for machine-tool types; design of new hydraulic, electric, and mechanical systems for automated and mechanized lines; design of ultrasonic machining tools and vibrator test methods; use of plastics, especially caprones, in bearings; and development of Mo-Fe and Ti-Fe alloys with improved mechanical properties. In 1959, engineers of the Institute designed and built three models of programmed machine tools, which were awarded a Grand Prix at the Brussels Trade Fair. Two branches were announced in 1961: (1) at Yerevan, to develop ultrasonic, electrospark, and small precision machine tools; (2) at the Vil'nyus Grinding Machine Plant, to develop precision machine tools for the instrument-making industry. The Institute publishes a monthly Trudy. Degrees of Doctor and Candidate are awarded.

Name: Far Eastern Geological Institute
(Dal'nevostochnyy geologicheskii institut)

Address: Vladivostok

Director: Ye. A. Radkevich, Doctor (1961)

Deputy Director: A. A. Marakushev (1961)

Administrative Affiliation: Far Eastern Branch of the Siberian Department, Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

Yu. K. Polin
Yu. B. Ustinovskiy

Description:

This institute, founded in 1959, conducts geological research in the Far East. Its major areas of research are the metallogeny of southern Primor'ya, the mineralogy and geochemistry of the rare and trace elements for the Far East, and the lead-polymetallic deposits of Primor'ya and contiguous regions. Other research has been in petrography and stratigraphy of the Far East. The Institute has Laboratories of Spectral Analysis, X-Ray Analysis, Minerography, Geochemistry, Absolute Growth of Mountain Ranges, Determining the Temperature of Formation of Minerals, and Analytical Chemistry.

Name: Far-Eastern Polytechnic Institute imeni V. V. Kuybyshev
(Dal'nevostochnyy politekhnicheskiy institut imeni V. V. Kuybysheva)

Address: Vladivostok, Pushkinskaya ulitsa, 10

Director: V. A. Samokhvalov, Docent (1961)

Deputy Director: V. I. Komissarov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

K. A. Adamchik, Docent
Ye. S. Dunayev, Docent
D. R. Fedenev, Docent, Head of Chair
N. D. Kozlov
M. S. Kulikov, Candidate
P. A. Lykhin
N. S. Marinenko, Docent, Head of Chair
A. P. Novikov, Docent, Dean
V. Ya. Shaydenko, Head of Chair
P. I. Tomskiye, Docent, Head of Chair
R. F. Trofimov, Docent, Head of Chair
A. S. Val'kov

Description:

The Institute trains engineers for the metallurgical, shipbuilding, machine-construction, power-engineering, building, mining, and forest industries. It also conducts research for enterprises located in the far-eastern U.S.S.R.

Research on producing new building materials has been an important undertaking. This has resulted in new light materials from locally obtainable raw materials, such as agloporite, keramzit (a porous clay filter), stekloporite, and cellular concrete.

The Institute has developed an autoclave for producing a modified cast iron containing magnesium. Research on the electrohydraulic effect is conducted and new techniques for ship repair have been developed by Institute personnel. Student in-plant training is provided. The Institute publishes a Trudy.

The Institute offers courses in geology and exploration of mineral deposits, mining, electric power stations, networks, and systems (thermal and hydroelectric power stations), mining electromechanics, electrification of industrial enterprises and installations, thermal power installations (boiler and turbine), machine building, metal-cutting tools, and instruments, shipbuilding and ship repair, ship power installations,

electric installations on ships, industrial and civil construction, and hydrotechnical construction of maritime waterways and harbors. Also, some medical training may be offered.

Name: Far Eastern Scientific-Research Hydrometeorological Institute
(Dal'nevostochnyy nauchno-issledovatel'skiy gidrometeorologicheskiy institut--DV NIGMI)

Address: Vladivostok

Director: P. A. Uryvayev (1960)

Deputy Director: V. L. Arkhangel'skiy, Candidate (1958)

Administrative Affiliation: Main Administration of the Hydrometeorological Service (1961)

Selected Staff Members:

A. P. Barabashkina
Ye. A. Leskova
Ye. K. Verle

Description:

The Institute has cooperated in several expeditions doing hydrological, meteorological, and aerological work, such as measurements of atmospheric temperature and humidity, ocean temperatures and currents, and heat exchange between the ocean and the atmosphere. They have also investigated the relation between ice formation and atmospheric processes, evolution of typhoons, tidal waves, solar-radiation balance, and cyclonic and anticyclonic circulation. Studies relating to geophysical phenomena in the atmosphere and the lower stratosphere were conducted during the IGY.

The Institute is especially interested in long-term forecasting, having a division devoted solely to this work. They have developed methods for forecasting and calculating currents, tides (including flood tides), and iciness.

The Institute periodically publishes a Trudy.

Name: Far-Eastern State University
(Dal'nevostochnyy gosudarstvennyy universitet)

Address: Vladivostok, Primorskiy kray, ulitsa Sukhanova, 8

Director: O. N. Andryushchenko, Docent (1961)

Deputy Director: A. D. Yershov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. I. Shlygin, Professor, Dean
A. A. Sobolev, Professor, Dean

Description:

Far-Eastern State University was first established in 1923. It was disbanded in 1939 but re-established in 1956. During the 1960-1961 school year, its enrollment reached about 3,300 students.

The University is training specialists and presumably accomplishing some research in the fields of physics of the sea, solid-state physics, and physics of solid fuels. Some specific courses of study here include hydrology of land, meteorology, soil science and agrochemistry, jurisprudence, Russian language and literature, Romance and Germanic languages and literature, history, mathematics, physics, chemistry, biology, and medicine.

In 1959, photographic apparatus was attached to the satellite-tracking telescope operated by the University.

Name: Far-Eastern Technical Institute of the Fish Industry and Economy
(Dal'nevostochnyy tekhnicheskii institut rybnoy promyshlennosti i khozyaystva)

Address: Vladivostok, Leninskaya ulitsa, 25

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

M. V. Lukashevich, Docent, Head of Chair
V. Yu. Pashevich, Docent, Head of Chair
Z. I. Turchaninova, Head of Chair

Description:

The courses of instruction available at this institute include machinery and installations of food industry, refrigeration and compressor machinery and installations, plastics, bakery goods, macaroni, and related products, technology of preserved and canned goods, technology of meat and dairy products, technology of fish products, and industrial fisheries.

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Name: Fergana Pedagogical Institute imeni Ulugbek
(Ferganskiy pedagogicheskiy institut imeni Ulugbeka)

Address: Fergana, ulitsa Stalina, 17

Director: S. S. Sagatov, Docent (1961)

Deputy Director: G. T. Sokolov, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special
Education of the Council of Ministers, Uzbek
S.S.R. (1960)

Selected Staff Members:

- A. S. Gurtovenko, Candidate, Head of Chair
- A. I. Ibragimov, Docent, Head of Chair
- D. Kh. Karimov, Docent, Head of Chair
- A. M. Mukhamediyev, Professor, Head of Chair
- S. S. Sakhobiddinov, Professor, Head of Chair

Description:

The work of the Institute includes the training of teachers. It offers courses in Russian and Uzbek language and literature, mathematics, drafting, physics, fundamentals of production, biology, chemistry, agriculture, geography, and physical education.

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Name: Frunze Polytechnic Institute
(Frunzenskiy politekhnikheskiy institut)

Address: Frunze, ulitsa Voroshilova, 70 (1960)

Director: G. A. Sukhomlinov, Docent (1961)

Deputy Director: V. A. Andreyev, Docent (1961)

Administrative Affiliation: Sovmarkhoz of the Kirgiz Economic-Administrative Region (1960)

Selected Staff Members:

O. I. Belova, Docent, Head of Chair
 I. Dzhunushev, Assistant Dean
 N. P. Flimenkov
 Kh. D. Friyev, Docent, Head of Chair
 A. P. Golubkov, Docent
 V. V. Lipovich, Docent, Head of Chair
 L. V. Pak
 V. I. Popov, Corresponding Academician (Uzbek S.S.R.)
 P. N. Provorov, Docent, Head of Chair

Description:

Opened in 1954, the Frunze Polytechnic Institute trains students in the fields of mining geology, electric-power engineering, civil engineering, and mechanical engineering. Enrollment is over 1,000, and courses are offered in geology and exploration of mineral deposits, mining, electric power stations, networks, and systems (thermal and hydroelectric power stations), electrification of industrial enterprises and installations, machine building, metal-cutting tools, and instruments, technology of preserved and canned goods (including refrigeration), technology of meat and dairy products, industrial and civil construction, river installations and hydroelectric power stations, automobile roads, and automotive transport.

The Institute publishes a Trudy.

Name: Geological Institute
 (Geologicheskii institut)

Address: Tbilisi, Leningrad, 5

Director: P. D. Gamkrelidze, Academician (Georgian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

G. V. Gvakheria
 M. N. Rubinshteyn

Description:

Mineralogical and geological seismic studies in the territory of the Georgian S.S.R. are the predominant research interests of the Institute. One of its laboratories has measured the age of various minerals and mountain rock of Georgia.

The Institute publishes a Trudy.

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Name: Geological Institute
(Geologicheskii institut)

Address: --

Director: Ye. K. Kozlov (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1962)

Selected Staff Members: G. D. Panasenko

Description:

This institute has made limited studies of the geological deposits of the Kola Peninsula. A method of spectral analysis of strontium in apatite, involving the solution of samples, was devised at this institute.

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Name: Geological Institute
(Geologicheskii institut)

Address: Kazan'

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1962)

Selected Staff Members: Yu. V. Sementovskiy

Description:

This institute, formerly under the Kazan' branch of the Academy of Sciences, U.S.S.R., studies petroleum formations and oil prospecting. It emphasizes the geological interpretation of anomalies in such formations, particularly in the Devonian formation of the southeastern Tataria region. It publishes a Trudy.

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Name: Geological Institute
(Geologicheskiiy institut)

Address: Syktyvkar

Director: Yu. P. Ivensen (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1962)

Selected Staff Members: --

Description:

This institute, formerly under the Komi branch of the Academy of Sciences, U.S.S.R., studies the geology of the Komi region. A new laboratory has been organized within the Institute to estimate the age of rocks and minerals.

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Name: Geophysics Institute
(Geofizicheskiiy institut)

Address: --

Director: S. Litvinov, Docent (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute is concerned with geophysical problems of the Azerbaydzhan oblast'. It has reported the development of an original telemechanical instrument for electrical and radioactive investigation of rocks.

Name: Georgian Institute of Subtropical Agriculture
(Gruzinskiy institut subtropicheskogo khozyaystva)

Address: Sukhumi, Kelasuri

Director: --

Deputy Director: Sh. Ya. Kereselidze, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, Georgian S.S.R. (1960)

Selected Staff Members:

V. A. Bregvadze, Docent
Sh. K. Gotsiridze, Docent, Head of Chair
A. S. Kereselidze, Docent, Head of Chair
M. V. Tabliashvili, Docent, Head of Chair

Description:

Training is provided for students following careers in subtropical agriculture. A Trudy is published. Some research has been done in structural mechanics. Specific courses concern agronomy, horticulture, and subtropical crops.

Name: Georgian Order of Labor Red Banner Agricultural Institute
(Gruzinskiy ordena Trudovogo Krasnogo Znameni sel'skokhozyaystvennyy institut)

Address: Tbilisi, prospekt Chavchavadze, 33

Director: I. F. Sarishvili, Professor (1961)

Deputy Director: G. I. Kanchaveli, Professor (1961)

Administrative Affiliation: Ministry of Agriculture, Georgian S.S.R. (1960)

Selected Staff Members:

Ya. L. Abashidze, Professor, Head of Chair
 N. K. Lachkepiani, Professor, Head of Chair
 Sh. P. Lominadze, Docent, Head of Chair
 A. D. Menagarishvili, Professor
 N. N. Ramishvili, Party Secretary
 V. O. Vardosanidze, Docent, Head of Chair

Description:

This institute grants advanced academic degrees. It offers courses in agronomy, vineyards, mechanization of agriculture, forestry, agricultural economics and organization, bookkeeping, soil science and agrochemistry, vegetation conservation, and silk culture.

Name: Georgian Order of Labor Red Banner Polytechnic Institute imeni
 V. I. Lenin
 (Gruzinskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiiy
 institut imeni V. I. Lenina)

Address: Tbilisi, ulitsa Lenina, 98 (1960)

Director: I. M. Buachidze, Professor (1961)

Deputy Directors: N. M. Tkemaladze, Docent (1961)
 D. I. Eristvali, Professor (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special
 Education of the Council of Ministers, Georgian
 S.S.R. (1960)

Selected Staff Members:

L. G. Abelishvili, Professor, Head of Chair
 D. Z. Avazashvili, Professor, Head of Chair
 N. V. Gabashvili, Professor, Head of Chair
 V. M. Gargenidze, Professor, Head of Chair
 A. A. Gulisashvili, Professor, Head of Chair
 V. M. Kakabadze, Doctor
 G. N. Kartsiavadze, Docent, Head of Chair
 V. N. Kuroshvili, Party Secretary
 N. A. Landiya, Corresponding Academician (Georgian S.S.R.)
 B. N. Lezhav, Docent, Head of Chair
 R. R. Meladze, Docent, Head of Chair
 D. M. Mshveniyeradze, Professor, Head of Chair
 L. G. Mukhadze
 A. K. Rukhadze
 S. A. Simongulov, Docent, Head of Chair

I. G. Sunadze
 N. A. Tevzadze, Docent, Head of Chair
 N. G. Tskhakaya, Docent, Head of Chair
 A. S. Zedginidze, Docent, Head of Chair

Description:

The Institute was organized in 1922. In early 1959, the name of the Institute was changed from "imeni S. M. Kirov" to "imeni V. I. Lenin".

It devotes considerable attention to research for the metallurgical, coal, chemical, petroleum, and heavy-machine industries. It has investigated methods of improving production processes and reducing production losses, and of increasing the supply of coal and manganese. Much work is performed in the area of deformation studies. The Institute publishes a Trudy.

Courses of Study: Geology and exploration of mineral deposits
 Mining
 Electric power stations, networks, and systems (thermal and hydroelectric power stations)
 Electrification of industrial enterprises and installations
 Mining electromechanics
 Industrial thermal power engineering (oven and gas heat thermal engineering; heat-transfer installations)
 Ferrous metallurgy
 Casting of ferrous and nonferrous metals
 Metalworking (forging, stamping, rolling, and sheathing)
 Machine building; metal-cutting tools and instruments
 Automobiles and tractors
 Machinery and installations of the food industry
 Automatic, telemechanical, and electric measuring systems
 Computers and guidance devices
 Inorganic chemistry
 Electrochemical processes
 Silicates (binders and cementitious materials, ceramics and refractories, and glass)
 Automotive transport
 Bakery goods, macaroni, and related products
 Mechanical technology of fiber material (cotton, wool, and bast products spinning, technology of silk, weaving, and knitting)
 Technology of garment industry
 Technology of manufactured leather goods
 Technology of printing and publishing
 Architecture
 Industrial and civil construction
 River installation and hydroelectric power station construction
 Gas and heat supply and ventilation
 Water supply and sewerage systems
 Automobile roads

Name: Georgian Scientific-Research Institute of Hydraulic Engineering and Amelioration
(Gruzinskiy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii--GruzNIIGIM)

Address: Tbilisi, proyezd I. Chavchavadze, 60

Director: M. S. Gagoshidze, Professor (1959)

Deputy Director: --

Administrative Affiliation: Ministry of Water Economy, Georgian S.S.R. (1958)

Selected Staff Members:

N. A. Chulkov
Ts. Ye. Mirtskhulava, Candidate
B. B. Timofeyev, Candidate

Description:

The Alazansk Experimental Land-Reclamation Station is attached to this facility. The Institute does much work on the methods, equipment, and economic effectiveness of irrigation. Silt deposition, water retention by soils, and chemical weed killers for irrigation canals are some of its interests. They have measured magnetic anisotropy. A Trudy is published.

Name: Glazov Pedagogical Institute imeni V. G. Korolenko
(Glazovskiy pedagogicheskiy institut imeni V. G. Korolenko)

Address: Glazov, ulitsa Revolyutsii, 17

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: S. Ye. Golubev, Head of Chair

Description:

Institute staff members are interested in theoretical chemistry. Courses are offered in mathematics and physics and methods of elementary-school education. An Uchenyye Zapiski is published.

Name: Gomel' State Pedagogical Institute imeni V. P. Chkalov
(Gomel'skiy gosudarstvennyy pedagogicheskiy institut imeni V. P. Chkalova)

Address: Gomel', ulitsa Kirova, 167

Director: S. F. Azhgirey, Docent (1961)

Deputy Director: A. A. Filimonov, Docent (1961)

Administrative Affiliation: Ministry of Higher, Secondary Special, and Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members:

V. D. Glatenok, Candidate, Dean
I. F. Kharlamov, Docent, Head of Chair
D. A. Leonchenko, Candidate, Head of Chair
V. I. Parmenov, Docent, Head of Chair
V. S. Sidorov, Docent, Head of Chair

Description:

Theory of functions and nuclear structure and decay are subjects of research at this institute, which publishes a Uchenyye Zapiski.

Name: Gori State Pedagogical Institute imeni N. Baratashvili
(Goriyskiy gosudarstvennyy pedagogicheskiy institut imeni N. Baratashvili)

Address: Gori, prospekt Chavchavadze, 35

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Georgian S.S.R. (1960)

Selected Staff Members:

Z. S. Kiknadze, Docent
S. I. Makalatiya, Professor

Description:

Theoretical and applied research in the fields of physics and mathematics is performed by the Institute. A Trudy is published by the

Institute. Courses are offered in Georgian language, literature, and history, mathematics and physics, biology, chemistry, and fundamentals of agriculture, and methods of elementary-school education.

Name: Gor'kiy Agricultural Institute
(Gor'kovskiy sel'skokhozyaystvennyy institut)

Address: Gor'kiy, ploshchad' Minina i Pozharskogo, 7/1

Director: N. D. Ladygin, Professor (1960)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

A. A. Kapatsinskaya, Professor, Dean
Ye. P. Khrushcheva, Professor
M. M. Maksimovich, Professor, Head of Chair
V. P. Nartsissov, Professor, Dean
L. V. Tikhov, Professor, Head of Chair

Description:

Topics of published work include "a device for testing extensometers" and a method for computing the gasification process in solid fuels. The Institute publishes a Trudy. The Candidate's Degree is granted, and courses are offered in agronomy, animal husbandry, and mechanization of agriculture.

Name: Gor'kiy Construction-Engineering Institute imeni V. P. Chkalov
(Gor'kovskiy inzhenerno-stroitel'nyy institut imeni V. P. Chkalova)

Address: Gor'kiy, Krasnoflotskaya ulitsa, 65

Director: V. G. Lennov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. N. Bulgakova, Head of Chair
D. I. Demidenko, Docent, Dean

S. A. Gel'fer, Professor, Head of Chair
S. Kop'yev, Docent, Head of Chair of Construction Technology
A. G. Panyutin, Professor, Head of Chair
P. I. Piskunov, Professor, Head of Chair

Description:

The Institute provides training in civil engineering. The courses offered include construction, plumbing, and heating and ventilation. Research has been done on concrete, fluid flow, and structural mechanics and analysis. A Trudy of the Institute is published. The Candidate's Degree is awarded.

Name: Gor'kiy Institute of Water Transportation Engineers
(Gor'kovskiy institut inzhenerov vodnogo transporta--GIIVT)

Address: Gor'kiy, ulitsa K. Minina, 7

Director: D. V. Zemskov (1961)

Deputy Director: --

Administrative Affiliation: Ministry of the River Fleet, R.S.F.S.R. (1961)

Selected Staff Members:

M. I. Bakhtin, Docent, Head of Chair
Ya. S. Davydov, Docent
I. I. Krakovskiy, Professor, Head of Chair
N. K. Ponomarev, Professor, Head of Chair
A. A. Sayuzov, Professor, Head of Chair
P. Ya. Yakovlev

Description:

Founded in 1930, this institute conducts research in marine engineering, studying ship structures (riveting and welding), marine engines, gas-turbine installations, and ship machinery. A Trudy is published.

The Institute confers the Candidate's Degree. It offers courses in shipbuilding and ship repair, ship engines and mechanisms, internal-waterway navigation, and maritime and waterway shipping.

A Museum of the History of Water Transportation is maintained at the Institute.

Name: Gor'kiy Polytechnic Institute imeni A. A. Zhdanov
(Gor'kovskiy politekhnicheskii institut imeni A. A. Zhdanova)

Address: Gor'kiy, K. Minina, 24

Director: M. P. Tuzov (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. V. Abramov, Candidate
D. V. Agayev, Professor
A. D. Akimenko, Candidate, Docent
G. I. Aksenov, Professor
A. M. Bamdas, Professor, Head of Chair of Electric Machines and
Apparatus
N. K. Dertev, Professor
T. A. Khudyakova, Docent, Head of Chair
Z. A. Khudykina, Head of Chair
N. Ye. Kulikov, Docent, Head of Chair
Yu. S. Lezin, Docent
A. A. Ryzhikov, Head of Founding Chair
A. A. Skvortsov, Professor, Head of Chair
V. K. Sorokin, Candidate
I. N. Uspenskiy, Docent, Head of Chair
N. P. Vlasov, Candidate, Docent

Description:

Before 1952, Gor'kiy Politechnic Institute imeni A. A. Zhdanov was called the Gor'kiy Industrial Institute imeni A. A. Zhdanov. It is an important center for research and the training of scientific personnel, offering Candidate's and Doctor's Degrees. In addition to their basic research work, the Institute's scientists frequently work with local plants in the development of production processes.

The scope of the Institute's activities is reflected in the organization of the Institute:

(1) Machine Manufacturing Department: Chairs of the Technology of Pressure Metalworking, Machine Building, Chemical Production Equipment, Automation, and Automobiles and Tractors

(2) Mechanical Engineering Department: Chairs of the Technology of Machine Manufacture, and Machine Tools and Instruments

(3) Electrical Engineering Department: Chairs of the Electrification of Industrial Enterprises and Installations, and Computing Devices

(4) Radio Engineering Department: Chair of Radiophysics, and the Construction of Radio Receivers and Other Radio Apparatus

(5) Metallurgy Department: Chairs of Founding of Ferrous and Nonferrous Metals, Metal Science, Equipment and Technology of Heat Working of Metals, and Welding

(6) Shipbuilding Department: Chairs of Ship Construction and Repair, and Theory of Ships

(7) Chemical Engineering and Silicates Department: Chairs of Inorganic Chemistry, the Technology of Special Organic Synthesis and Synthetic Rubber, the Technology of Silicates, and Electrochemical Processes.

There are also Chairs of Higher Mathematics, Physics, Electric Machines and Apparatus, Drafting, Geometry and Graphic Arts, and Industrial Economics and Engineering. Prominent among its laboratories are the Electric Machines Laboratory and the Research Laboratory for Machine Tools and Instruments.

The Institute also offers extensive evening and correspondence courses in these subjects and operates factory schools with more specialized curricula. It publishes a Trudy.

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Name: Gor'kiy Scientific-Research Physical-Technical Institute
(Gor'kovskiy nauchno-issledovatel'skiy fiziko-tekhnicheskiy institut--
GIFTI)

Address: Gor'kiy, Arzamasskoye shosse, 17

Director: Ya. N. Nikolayev, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Gor'kiy State University imeni N. I.
Lobachevskiy (1961)

Selected Staff Members:

B. A. Apayev, Candidate
A. M. Gil'man
S. D. Kinyapin
G. M. Malkin
Yu. I. Neymark
Yu. A. Sysuyev
B. M. Yakovlev

Description:

As a research facility and laboratory for Gor'kiy State University, GIFTI is concerned with the design and construction of scientific apparatus, such as a laboratory electroviscosimeter, a laboratory vacuum gas furnace, an instrument for recording roll and trim of ships, and a camera for high- and low-temperature X-ray photography. A primary activity at this institute is computer design, programming, and coding mathematics. The GIFTI computer was especially designed at the Institute to handle problems in the machine-building industry. The computer group is also working on computer applications in industrial management, for example, production scheduling and work control, costing, and accounting.

Metallurgists associated with GIFTI have performed notable research on carbide phases in steel. Examples of specific investigations are graphitization processes in silicon steel, carbide phases during tempering of nickel steel, isothermal decomposition of residual austenite in alloy steels, and effect of plastic deformation on carbide phases.

Other fields of investigations are relay control systems, switching systems, photodielectric effect in phosphors, noise in radio tubes, vibrations during drilling, and theory of oscillations.

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Name: Gor'kiy State Pedagogical Institute imeni A. M. Gor'kiy
(Gor'kovskiy gosudarstvennyy pedagogicheskiy institute imeni
A. M. Gor'kogo)

Address: Gor'kiy, ulitsa Ul'yanova, 1

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

S. V. Bellyustin, Professor, Head of Chair
N. M. Dobrotvor, Professor, Head of Chair
F. F. Kal'sen, Doctor, Head of Chair
A. M. Krylov, Docent, Dean
F. N. Morozov, Professor, Head of Chair
V. V. Radziyevskiy

Description:

This educational institute grants advanced (Candidate) degrees, and publishes a Trudy. Research is conducted in the fields of electrochemistry and astronomy, and work is in progress on satellite-tracking systems.

Courses of instruction include pedagogy and psychology, elementary-school instruction methods, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, geography and biology, and physical education.

Name: Gor'kiy State University imeni N. I. Lobachevskiy)
(Gor'kovskiy gosudarstvennyy universitet imeni N. I. Lobachevskogo--
GGU)

Address: Gor'kiy, Arzamasskoye shosse, 17

Director: I. A. Korshunov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. N. Barkhatov, Docent, Head of Chair
V. P. Fadeyev, Professor, Head of Chair
B. N. Genshman, Docent
V. L. Ginzburg
I. M. Korenman
M. S. Kovner
A. N. Markov, Docent, Head of Chair
A. N. Mel'nichenko, Professor, Head of Chair
A. V. Mirtov, Professor, Head of Chair
S. I. Prokhorov, Professor, Head of Chair
I. B. Rabinovich
G. A. Razuvayev, Corresponding Academician (U.S.S.R.)
M. Ya. Shirobokov, Doctor, Head of Chair
K. A. Vodop'yanov, Professor
N. P. Zernov, Head of Botanical Garden

Description:

Gor'kiy State University was founded in 1918. During the 1960-1961 school year, about 3,100 students were enrolled. The University confers Candidate's Degrees and publishes an Uchenyye Zapiski.

The main body of research at the University is identified with three of its auxiliary research centers: the Scientific-Research Institute of Chemistry, the Physical-Technical Research Institute, and the Scientific-Research Institute of Radio.

Research activities which appear to be identified with the University proper include studies of charged-particle acceleration; sound

waves; electromagnetic waves; dielectrics; phosphors; self-propagating chemical reactions; chemistry of metal-organic compounds of tin, lithium, chromium, and other metals; free radicals; azo dyes; thallium and thallium compounds; deuterium compounds; radiochemical separation and analysis; and effect of temperature on structural members. Aside from the physical sciences, the University is also interested in mathematical methods of linguistic analysis and mechanization and automation in industry.

The curriculum of the University includes courses in radiophysics and electronics, Russian language and literature, history, mathematics, mechanics, physics, chemistry, botany, and zoology.

Name: Gorno-Altaysk Pedagogical Institute
(Gorno-Altayskiy pedagogicheskiy institut)

Address: Gorno-Altaysk, Sotsialisticheskaya ulitsa, 28

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

R. G. Beiles

M. M. Borodanov

N. N. Surazakova, Candidate, Head of Chair

Description:

In addition to preparing secondary-school teachers, this institute has done studies on solving transcendental equations and on solving logarithmic and exponential equations. Qualitative reactions of titanium (IV) salts with pyrazolone derivatives have been studied.

A Uchenyye Zapiski is published by the Institute, which offers courses in Russian language and literature, foreign language, mathematics and physics, and geography and biology.

Name: Grodno Agricultural Institute
(Grodnenskiy sel'skokhozyaystvennyy institut)

Address: Grodno, Akademicheskaya ulitsa, 10

Director: V. D. Timoshinin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Belorussian S.S.R.
(1960)

Selected Staff Members:

V. N. Chetverikov, Docent, Head of Chair
A. Yu. Krechko, Docent, Head of Chair
N. M. Zamyatin, Professor, Head of Chair

Description:

Agronomy and animal husbandry are taught at this institute. A Trudy is published.

Name: Grodno State Pedagogical Institute imeni Yanki Kupali
(Grodnenskiy gosudarstvennyy pedagogicheskiy institut imeni Yanki Kupali)

Address: Grodno, ulitsa Ozhenko, 22

Director: D. S. Markovskiy, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher, Secondary Special, and Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members:

Z. G. Grigor'yeva, Docent, Head of Chair
Ya. I. Rivkind, Docent, Head of Chair
T. F. Steshkovich, Candidate, Head of Chair

Description:

This institute conducts theoretical research in the fields of series and of linear methods of solution of equations and boundary values. A Uchenyye Zapiski is published frequently.

Name: Groznyy Order of Labor Red Banner Petroleum Institute
(Groznenkiy ordena Trudovogo Krasnogo Znameni neftyanoy institut--GrozNII)

Address: Groznyy, ploshchad' Ordzhonikidze, 100

Director: G. M. Sukharev, Professor (1961)

Deputy Directors: A. G. Orkin, Docent (1958)
A. A. Kuznetsov, Docent (1961)
A. Z. Dorogochinskiy, Professor (1960)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

B. K. Amerik, Candidate
A. A. Bashilov
A. M. Bagayev, Docent
V. F. Dudin, Docent, Head of Chair
Z. I. Geller, Docent, Head of Department of Thermal Engineering
and Hydraulics
A. P. Grishin, Docent
P. G. Igonin
V. I. Isagulyants
Yu. I. Kozorezov
I. S. Maksimova, Docent, Dean
M. G. Mitrofanov
V. I. Oborin
A. N. Parfenov, Docent, Head of Chair
Yu. L. Rastorguyev
A. K. Seleznev, Docent
V. I. Shlykov
L. Ye. Simonyants, Docent
S. I. Stepuro
L. M. Umanskiy, Docent
Ye. G. Vol'pova
B. Z. Votlokhin

Description:

This institute synthesizes organic monomers and polymers from petroleum products, develops new processing techniques for lubricating oils and turbine fluids, studies new organic reactions, and synthesizes lubricants and oil additives. Properties of organic fluids and effects of additives on oils are studied. An ultrasonic apparatus for extracting resinous substances, shell and tube heat exchangers, a portable indicator for radioactivity, an automatic electronic rotary viscosimeter, and a transmitter to record under and over pressures have been designed at the Institute. New geophysical methods for oil prospecting and the economics of the oil industry are studied.

Among the departments of the Institute are the Department of Oil-Field Geology, Department of Thermal Engineering and Hydraulics, and Department of Petroleum and Gas Technology. There is a Laboratory of Organic Chemistry. A Trudy is published by the Institute.

The Institute offers courses in geology and exploration of oil and gas deposits, geophysical prospecting, exploitation of oil and gas deposits, machinery and equipment of oil and gas fields (including transportation and storage equipment), chemical-industry machinery (inorganic and organic chemical processes, silicates, cellulose and wood pulp processes, liquid and gaseous fuels), petroleum and natural-gas technology, and industrial and civil construction.

The Institute has a branch in Pyatigorsk at prospekt 40 let Oktyabrya, 48.

Name: Gur'yev State Pedagogical Institute
(Gur'yevskiy gosudarstvennyy pedagogicheskiy institut)

Address: Gur'yev, prospekt Lenina, 46

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R.

Selected Staff Members:

S. T. Kozhabayev
V. P. Zhukov, Docent, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski and offers courses in Russian and native language and literature and mathematics and physics.

Name: Higher Aviation Academy of the Civil Air Fleet
(Vysshneye aviatsionnoye uchilishche grazhdanskogo vozdushnogo flota)

Address: Leningrad

Director: A. A. Novikov, Professor (1961)

Deputy Director: P. S. Labazin, Docent (1961)

Administrative Affiliation: Chief Administration of the Civil Air Fleet (1961)

Selected Staff Members:

B. Broude, Instructor, Head of Department of Aeromechanics and Aircraft Design
 V. L. Goffman, Chief of Aircraft Department
 N. Krylov, Head of Department of Electrical and Radio Equipment
 S. Podkaminer, Professor, Head of Department of Air Transportation Management
 M. Sheynin, Chief Engineer
 F. Ya. Spasskiy, Professor, Head of Chair

Description:

Graduates of this school have the title Engineer-Pilot. They serve on the crews of Soviet civil airliners. The first specialists graduated in 1959.

The Academy has Departments of Flight Operations (under the Director), Aeromechanics and Aircraft Design, Aircraft, Air Transportation Management, and Electrical and Radio Equipment. It has aerodynamics and engine laboratories in which studies of transonic flow and wire fatigue are conducted. Navigational and radar systems are studied for airport-control and flight-safety applications. It publishes a Trudy.

Name: High-Mountain Geophysics Institute
 (Vysokogornyy geofizicheskiy institut)

Address: Nal'chik, North Caucasus

Director: G. K. Sulakvelidze, Doctor (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

L. N. Gutman, Doctor
 L. N. Mal'ko

Description:

In 1961, the High-Mountain (usually referred to as High Altitude) Geophysics Institute was organized on the basis of the Kabardino-Balkar Department (Kabardino-Balkarskoye otdeleniye) of the Institute of Applied Geophysics, Academy of Sciences, U.S.S.R. Four modernly equipped laboratories, the Geophysical Station "El'brus", Terskol Peak, Chiget Peak, and

Ledovaya bases have been developed on the slopes of Mount El'brus at heights of from 500 to 4,000 meters above sea level by the Department and its predecessors during the preceding 26 years.

The main tasks of this newly formed institute are studies of the physics of cloud and rain formation, the physical properties of layers of snow and avalanches, optical properties of the atmosphere, and local meteorological processes which are linked with high-mountain conditions.

A Trudy is published.

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Name: Hydrochemical Institute
(Gidrokhimicheskiy institut)

Address: Novocherkassk, Moskovskaya, 61

Director: V. G. Datsko (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1958)

Selected Staff Members:

O. A. Alekin, Corresponding Academician (U.S.S.R.)
N. G. Fesenko
V. E. Goremykin
G. S. Konovalov
P. A. Kryukov
A. T. Matveyev
N. P. Moricheva
V. B. Stradomskiy

Description:

The Hydrochemical Institute was established in 1921 and came under the administrative jurisdiction of the Academy of Sciences, U.S.S.R., in 1938. The primary task of the Institute is the study of the chemical composition of domestic bodies of water and their deposits. The staff has also studied methods of hydrochemical analysis and phenomena associated with the boiling of water, e.g., corrosion.

The Institute confers advanced degrees.

Name: Institute of Africa
(Institut afriki)

Address: Moscow

Director: I. I. Potekhin, Doctor (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members: --

Description:

Studies at this institute emphasize problems of the colonial system, emerging nationalism, and the general economic and political situation in Africa. Publications of the staff of this institute, together with the staff of the Institute of the Peoples of Asia, appear in "Narody Azii i Afriki. Istoriya ekonomik i kul'tura" (Peoples of Asia and Africa. History, Economics, and Culture).

Name: Institute of Applied Chemistry and Electrochemistry
(Institut prikladnoy khimii i elektrokhemii)

Address: Tbilisi

Director: N. A. Landiya, Corresponding Academician (Georgian S.S.R.)
(1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

R. I. Agladze, Academician (Georgian S.S.R.)
T. A. Berezovskaya
V. N. Gaprindashvili
T. V. Ionatamishvili
V. M. Mokhov
L. I. Topchiashvili

Description:

The Institute of Applied Chemistry and Electrochemistry of the Academy of Sciences, Georgian S.S.R., was organized in 1956 to study the use of local raw materials as construction materials, fertilizers, alloys,

and fuels. Research at this institute in electrochemistry and electrometallurgy is directed toward producing a high-purity chromium and investigating the alloys of the Mn-Cu-Co, Cr-Mn-N, and Cr-Fe systems.

Name: Institute of Applied Geophysics
(Institut prikladnoy geofiziki--IPG AN SSSR)

Address: Moscow, Glebovskaya ulitsa, 20-b

Director: Ye. K. Fedorov, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

Ye. N. Blinova, Corresponding Academician (U.S.S.R.)
V. G. Istomin
G. S. Ivanov-Kholodnyy
I. A. Kibel', Corresponding Academician (U.S.S.R.)
S. D. Kogan
N. V. Krasnogorskaya
N. A. Linden
B. A. Mirtov
F. I. Monakhov
V. S. Safronov
Yu. M. Yurovskiy

Description:

In 1956, the Geophysics Institute of the U.S.S.R. Academy of Sciences was reorganized into the Institute of the Physics of the Earth, the Institute of the Physics of the Atmosphere, and the Institute of Applied Geophysics.

Recently published work by members of the Institute of Applied Geophysics has been in the fields of atmospheric electricity, artificial cloud dispersal, components of the upper atmosphere, ionization of the nocturnal ionosphere, forecasting pressure fields in the medium and upper troposphere, measurement of corpuscular radiation, and other investigations of the upper atmosphere by means of rockets and satellites.

In 1961, a Department of the Institute of Applied Geophysics was established in the town of Obninsk, Kaluzhskaya oblast'.

Name: Institute of Archeology
(Institut arkheologii)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

S. V. Kiselev, Corresponding Academician (U.S.S.R.)
P. N. Tret'yakov, Corresponding Academician (U.S.S.R.)
K. V. Trever, Corresponding Academician (U.S.S.R.)

Description:

The Institute studies problems of archeology and related sciences in the U.S.S.R. and abroad, with emphasis on the archeology of the U.S.S.R. It conducts expeditions and excavations, and publishes a quarterly journal, Sovetskaya Arkheologiya (Soviet Archeology). The Institute has a branch in Leningrad.

Name: Institute of Architecture, Construction, and Construction Materials
(Institut arkhitektury, stroitel'stva i stroitel'nykh materialov)

Address: Alma-Ata

Director: S. M. Zubakov (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute has been active in the development of road-construction materials and refractory products.

Name: Institute of Astrophysics
(Institut astrofiziki)

Address: Stalinabad

Director: A. Solov'yev, Candidate (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Tadzhik S.S.R. (1961)

Selected Staff Members:

P. B. Babadzhanov, Director of the "Meteor Patrol" Laboratory
A. Bakharev
O. P. Vasil'yanovskaya

Description:

This institute, which was organized in 1933, was originally called the Stalinabad Astronomical Observatory. In 1958, it was renamed the Institute of Astrophysics. It is one of the main meteor observatories in the U.S.S.R., and during its operation, has investigated meteors, meteor dust, variable stars, and comets. Workers at the Institute have discovered at least three novae and one comet. The Institute participated in the International Geophysical Year by studying and recording meteoric activity photographically. The Institute developed an apparatus called the "Meteor Patrol" for this purpose. Meteor observations were also carried out here by radar and visual methods. The Institute is presently carrying out solar observations. A Trudy, a Byulleten', and a Tsirkuliar are published by the Institute. Advanced degrees are granted.

Name: Institute of Atomic Energy imeni I. V. Kurchatov
(Institut atomnoy energii imeni I. V. Kurchatova)

Address: Moscow, ulitsa Kurchatova, 46

Director: A. P. Aleksandrov, Academician (U.S.S.R.) (1960)

Deputy Directors: V. V. Goncharov, Professor (1961)
M. D. Millionshchikov, Corresponding Academician
(U.S.S.R.) (1962)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

Yu. A. Aleksandrov
L. A. Artsimovich, Academician (U.S.S.R.)
A. I. Baz, Candidate
S. I. Braginskiy, Corresponding Academician (Ladzhik S.S.R.)

G. I. Budker, Corresponding Academician (U.S.S.R.)
 S. M. Feynberg, Doctor, Head of Theoretical Section
 N. V. Filippov, Candidate
 D. A. Frank-Kamenetskiy, Professor
 I. N. Golovin, Doctor, Head of Ogra Installation
 V. V. Goncharov, Professor
 M. S. Ioffe, Doctor
 B. B. Kadomtsev, Doctor
 V. D. Kirillov, Doctor
 V. S. Komelkov, Doctor
 M. A. Leontovich, Academician (U.S.S.R.)
 A. B. Migdal, Corresponding Academician (U.S.S.R.)
 L. M. Nemenov, Professor, Head of Cyclotron Laboratory
 S. M. Osovets
 M. I. Pevzner
 Ye. V. Piskarev
 I. M. Podgornyy, Doctor
 Yu. A. Prokof'yev, Candidate
 V. S. Pustovoyt
 M. K. Romanovski, Doctor, Deputy Head of Department of Plasma
 Studies
 L. I. Rudakov, Doctor
 V. D. Rusanov, Doctor
 R. Z. Sagdeyev, Doctor
 V. D. Shafranov, Doctor
 V. I. Sinitsyn
 S. A. Skvortsov, Candidate
 P. Ye. Spivak, Doctor
 O. A. Vazil'yevskaya
 N. A. Yavlinskiy, Doctor
 Ye. K. Zavoyanskiy, Professor
 A. S. Zaymovskiy, Corresponding Academician (U.S.S.R.)
 V. S. Zolotarev
 T. N. Zubarev

Description:

This institute was originally called the Laboratory of Measuring Instruments. After 1953, it was renamed the Moscow Physical Institute. It next became known as the Institute of Atomic Energy and was headed by Academician I. V. Kurchatov. Upon his death, the Institute was given his name.

Soviet thermonuclear research had its beginning here, and much of the Soviet work in the field is still centered at this institute, which has the Ogra and Orekh plasma installations. The IRT-1000 nuclear reactor is also located here; it has enabled the Institute to undertake projects such as studies of the effects of radiation on materials and the development of radiation shielding for the atomic icebreaker Lenin. The Institute assisted in the design and construction of the nuclear reactor for the Georgian S.S.R. and the atomic power plant for Czechoslovakia. Other

research has concerned isotope separation, radiobiology, nuclear chemistry, neutron decay, the Mossbauer effect, and polarization of nuclei.

Name: Institute of Automation
(Institut avtomatiki)

Address: Frunze

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1961)

Selected Staff Members:

N. I. Babanin
V. I. Kurotchenko

Description:

This recently organized institute has been established to develop scientific bases for the comprehensive automation of industrial processes. Research is conducted on methods of automatic control in the operation of petroleum refineries and irrigation installations.

Name: Institute of Automation
(Institut avtomatiki--IA)

Address: Kiyev, Tverskaya ulitsa, 6

Director: P. M. Mel'nik (1958)

Deputy Director: V. L. Inosov, Doctor (1959)

Administrative Affiliation: Gosplan, Ukrainian S.S.R. (1961)

Selected Staff Members:

Z. S. Gribnikov
G. S. Kryshab
G. A. Spymu, Laboratory Chief
V. S. Yanovich, Chief Engineer

Description:

This institute was organized in 1957 with a force of 400 workers in 40 laboratories; today there are 2,000 workers, with a projected peak of about 6,000 by 1965. It supervises four other institutes with the over-all goal of the development of practical control systems for industry.

The main emphasis of the Institute is on the power, iron and steel, chemical, metalworking, and mining industries. Its facilities are modern, very complete, and of excellent quality; they include extensive machine-shop and electronic test equipment, digital and analog computers, and laboratory facilities. Mock-ups of industrial processes and prototypes of control systems under development can be constructed.

The Institute has branches at Lisichansk, Khar'kov, and Zaporozh'ye.

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Name: Institute of Automation and Electrometry
(Institut avtomatiki i elektrometrii)

Address: Novosibirsk

Director: K. B. Karandeyev, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

B. N. Devyatov
Z. G. Kaganov, Candidate
Yu. N. Kornev
L. Ya. Mizyuk, Candidate
V. A. Sigorskiy, Doctor

Description:

This institute was founded in 1958 to work out theoretical problems of computer construction. One of its first efforts was to develop plans for an automatic line for the production of capacitors. The major efforts of this institute are directed toward automation of mass quality control in industry. Many automatic instruments for various branches of production are designed and built by the Institute. Theoretical problems pertaining to the construction of computer-solution devices and cybernetic systems are among the activities of the Institute.

Name: Institute of Automatics and Mechanics
(Institut avtomatiki i mekhaniki)

Address: Riga

Director: S. B. Aynbinder, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Latvian S.S.R.

Selected Staff Members:

Ye. I. Demidenko
V. S. Fastritskiy
Yu. K. Grigulis, Head of Laboratory of Automation of Production
Processes
A. Kh. Grikke
K. Ya. Mutsenek
Yu. M. Tarnopol'skiy

Description:

Early in 1958, the Laboratory of Mechanical Engineering of the Academy of Sciences, Latvian S.S.R., was reorganized into a scientific-research institute, the Institute of Machine Science. In 1961, the Institute was reorganized into the Institute of Automatics and Mechanics of the Latvian Academy. Research has concerned the development of automatic quality-control devices, the cold welding of metals, hysteresis of structures, the theory of friction, automation of production processes, the physics of metals, and machine-building theory.

Name: Institute of Automation and Remote Control
(Institut avtomatiki i telemekhaniki--IAT)

Address: Moscow, Kalanchevskaya ulitsa, 15-a

Director: V. A. Trapeznikov, Academician (U.S.S.R.) (1960)

Deputy Directors: A. B. Chelyustkin (1960)
B. S. Sotskov, Corresponding Academician (U.S.S.R.)
(1960)

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., for Automation and Machine Building
(1962)

Selected Staff Members:

M. A. Ayzerman, Doctor, Head of Laboratory of Pneumohydraulic Automation
 A. A. Blagonravov, Academician (U.S.S.R.), Head of Department of Technical Sciences
 Ye. G. Dudnikov
 A. A. Fel'dbaum, Doctor
 M. A. Gavrilov, Professor, Head of Laboratory of Telecontrol
 V. A. Il'in
 B. Ya. Kogan
 V. A. Kotel'nikov, Academician (U.S.S.R.), Project Leader
 S. P. Krasivskiy
 V. S. Kulebakin, Academician (U.S.S.R.)
 A. N. Larionov, Corresponding Academician (U.S.S.R.), Head of a group of laboratories
 A. Ya. Lerner
 A. M. Letov, Professor
 G. K. Moskatov
 B. N. Naumov
 B. N. Petrov, Academician (U.S.S.R.)
 A. M. Petrovskiy
 V. S. Pugachev
 M. A. Rozenblat, Doctor
 G. A. Shastova
 A. A. Tal', Candidate
 Ya. Z. Tsyppkin, Professor, Laboratory Research Director

Description:

This institute, formerly of the Academy of Sciences, U.S.S.R., is probably the largest of its type in the U.S.S.R. It maintains a staff of more than 1,000, of which 300 are scientists. The staff does fundamental research on automatic control systems, data processing, and related fields. It builds breadboard models of new devices, which are then passed along for development elsewhere.

Research is under way to build a machine that will automatically analyze the production process while controlling it. Consideration is being given to studies in the field of bionics.

The staff of the Institute serves as the editorial board of the monthly journal Automation and Remote Control (Avtomatika i Telemekhanika).

Name: Institute of Catalysis
 (Institut kataliza)

Address: Novosibirsk

Director: G. K. Boreskov, Corresponding Academician (U.S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Siberian Department of the Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members: M. G. Slin'ko

Description:

The Institute of Catalysis is part of the scientific center that was organized in 1957 near Novosibirsk, on the coast of the Obskoye Sea. The building for this institute was under construction as of 1961. The Institute does theoretical research in polymers, catalysis in polymer synthesis, and computer engineering.

Name: Institute of Chemical Kinetics and Combustion
(Institut khimicheskoy kinetiki i goreniya)

Address: Novosibirsk

Director: A. A. Koval'skiy, Corresponding Academician (U.S.S.R.) (1957)

Deputy Director: --

Administrative Affiliation: Siberian Department of the Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

V. S. Babkin

A. I. Burshteyn

L. S. Kozachenko

V. V. Voyevodskiy, Corresponding Academician (U.S.S.R.)

Description:

This institute was established in 1957 and its building was reported under construction in 1961. One assignment of this institute was to consider problems of very high pressure and temperature arising during construction of combustion chambers. Work has been done on the cooling of cascade thermogenerators, the recombination of radicals in irradiated polymers, and other free-radical reactions. V. V. Voyevodskiy has investigated the use of electron paramagnetic resonance in chemical processes.

Name: Institute of Chemical Physics
(Institut khimicheskoy fiziki--IKhF AN SSSR)

Address: Moscow, Vorob'yevskoye shosse, 2-a

Director: N. N. Semenov, Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

A. A. Berlin
L. A. Blyumenfel'd, Professor, Head of Laboratory
N. Ya. Buben
N. M. Emanuel', Corresponding Academician (U.S.S.R.), Head of a
Laboratory
Ye. L. Frankevich
D. A. Frank-Kamenetskiy, Professor
V. I. Gol'danskiy, Professor
V. B. Kazanskiy
Yu. B. Khariton, Academician (U.S.S.R.)
V. N. Kondrat'yev, Academician (U.S.S.R.)
Z. K. Mayzus, Doctor
A. Ya. Nalbandyan, Doctor
M. B. Neyman, Doctor
S. Z. Roginskiy, Corresponding Academician (U.S.S.R.)
M. A. Sadovskiy, Corresponding Academician (U.S.S.R.)
A. Ye. Shilov, Doctor
V. L. Tal'rose, Doctor
V. V. Voyevodskiy, Corresponding Academician (U.S.S.R.)
Ya. B. Zel'dovich, Academician (U.S.S.R.)

Description:

Organized by N. N. Semenov in 1931 and since directed by him, the Institute of Chemical Physics is one of the important chemical institutes in the Soviet Union and has an impressive staff. Their research extends into many divergent areas of organic, thermal, physical, and biophysical chemistry. The Institute is expanding and in 1958, a new laboratory for the theoretical study of block and graft polymer products was set up. Polyformaldehyde plastic was developed here, and other studies have pertained to magnetic resonance of ferrocene compounds, polymers with conjugated bonds, polymers irradiated at 77 K, and the mechanical degradation of polymers. To meet the need for research in the new field of biophysical chemistry, a special seminar was started at this institute.

Semenov and his co-workers have a great number of publications on the theory of chain reactions, the oxidation of hydrocarbons, theories of burning, flames, and combustion, and the chemistry of free radicals.

Cameras for high-speed photography and instruments such as a magnetic radiospectrometer have been developed here.

As an educational institute, the Institute grants the Degrees of Doctor and Candidate.

Name: Institute of Chemical Sciences
(Institut khimicheskikh nauk)

Address: Alma-Ata, Uygurskaya, 85

Director: A. B. Bekturov, Academician (Kazakh S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members:

- A. V. Dumanskiy, Corresponding Academician (U.S.S.R.)
- M. I. Goryayev, Academician (Kazakh S.S.R.), Head of Laboratory of
of Plant Resources
- S. R. Rafikov, Head of Laboratory for Organic Catalysis
- D. V. Sokolov, Doctor, Head of Laboratory of Organic Synthesis
- D. V. Sokol'skiy, Academician (Kazakh S.S.R.)
- A. V. Solomin
- V. V. Stender, Corresponding Academician (Kazakh S.S.R.), Head of
Laboratory of Electrochemistry
- B. V. Suvorov, Head of the Laboratories
- M. I. Usanovich, Corresponding Academician (Kazakh S.S.R.)

Description:

The Institute of Chemical Sciences has been very active in work on the theory of catalysis and catalytic hydrogenation. Research is being conducted in the fields of complex compounds, polymerization, and decomposition of organic compounds. In addition, the scientists here are studying the electrodeposition of metals, the electrolytic production of zinc, and the extraction of rare metals. A new anti-corrosion material for underground pipelines and a device for uniform dosage of liquids were developed at this institute.

Name: Institute of Chemistry
(Institut khimii)

Address: Baku, prospekt Narimanova, 29

Director: G. Kh. Yefendiyev (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaydzhan S.S.R. (1962)

Selected Staff Members:

M. A. Dalin, Academician (Azerbaydzhan S.S.R.)
 N. A. Danilova
 M. V. Darbinyan
 A. M. Gasparyan
 M. M. Gurvich
 K. S. Mamedov
 S. A. Vartanyan

Description:

The Institute of Chemistry has a major interest in petroleum chemistry and also has done studies of synthetic rubber and high polymers. The use of plastics as anticorrosive coatings for pipelines has been investigated. Other areas of investigation have been magnesium silicates and the crystalline structure of minerals. A Trudy is published.

Name: Institute of Chemistry
 (Institut khimii)

Address: Minsk

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1961)

Selected Staff Members:

I. I. Bardyshev, Corresponding Academician (Belorussian S.S.R.)
 V. S. Komarov
 S. A. Levina
 N. I. Mitskevich
 S. F. Naumova
 V. I. Pansevich-Kolyada
 M. M. Pavlyuchenko, Academician (Belorussian S.S.R.)
 F. F. Vol'kenshteyn
 B. V. Yerofeyev, Academician (Belorussian S.S.R.)

Description:

The Institute of Chemistry, Academy of Sciences, Belorussian S.S.R., conducts research in a variety of areas of organic, inorganic, and physical chemistry. In thermochemistry, the reactions of solid substances and thermal decomposition have been investigated. Researchers here have worked on radical reactions, polymerization, and the inhibition of rubber oxidation. Since 1958, it appears, this institute has formed the basis for the development of the Institute of General and Inorganic Chemistry and the Institute of Physical-Organic Chemistry of the Belorussian Academy of Sciences.

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Name: Institute of Chemistry
(Institut khimii--IKh AN ESSR)

Address: Tallin

Director: O. G. Kirret, Corresponding Academician (Estonian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members:

I. Kh. Arro
O. G. Eyzen, Candidate
S. I. Fayngol'd, Candidate, Head of Shale-Products-Distillation
Laboratory
A. S. Fomina, Candidate, Head of Chemistry Laboratory
A. T. Kyll, Candidate
L. Ya. Tobul'

Description:

The research at the Institute of Chemistry, Estonian S.S.R., centers around shale chemistry. Estonian shale has been processed for kukersite, which is rich in organic matter and yields organic acids used as raw materials for nylon and plastics. This institute has developed methods of processing the oil shale to obtain detergents, wetting agents, and lubricating oils. Studies are conducted to improve the quality of shale gasoline and to identify the sulfur compounds in this oil shale. Kirret, appointed Director of the Institute in 1961, is interested in methods of analyzing cellulose-aluminum fibers, in the utilization of dictionitic shale, and in the synthesis of modified polyamides. The Institute publishes a Trudy.

Name: Institute of Chemistry
(Institut khimii)

Address: Frunze

Director: S. V. Bleshinskiy (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1961)

Selected Staff Members:

I. G. Druzhinin
Ya. D. Fridman
A. K. Mustayev
B. V. Tronov
A. P. Yanko

Description:

The work of this institute has involved research in metallurgy, natural salts, sugar production, and problems of coal deposits in Kirghiz. In addition, research on complex compounds and spheres of coordination was done. In 1959, the Institute of Chemistry was charged with the task of giving scientific direction to the organization of the industrial test production of acetylene, polyvinylchloride, polyethylene, and other compounds produced from coal, rock oil, and combustion gases.

The Institute publishes a Trudy.

Name: Institute of Chemistry
(Institut khimii)

Address: Riga

Director: A. F. Iyevin, Academician (Latvian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

Yu. A. Bankovskiy
V. Kadek, Candidate, Head of Laboratory of Physical-Colloidal
Chemistry
V. I. Kuznetsov
L. K. Lepin, Academician (Latvian S.S.R.)

Ye. M. Shvarts
 A. Tetere, Candidate
 G. Ya. Vanag, Academician (Latvian S.S.R.)
 L. P. Zalvkayev

Description:

The Latvian Academy of Sciences has two chemical institutes: the Institute of Chemistry and the Institute of Organic Synthesis. The Institute of Chemistry carries out tests in the fields of inorganic, organic, and physical chemistry. Chemists at this institute have investigated electroplating and the corrosion of metals, and the rust proofing of iron. In analysis, they have worked in photometric analysis of various elements and synthesized a new product, "Tiooksin", for the very sensitive analysis of cooper, rhenium, and other metals. In the organic field, they have published the results of their investigation on the chemistry and use of pyridine and quinoline.

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Name: Institute of Chemistry
 (Institut khimii)

Address: Kishinev

Director: A. V. Ablov, Academician (Moldavian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Moldavian S.S.R. (1961)

Selected Staff Members:

I. B. Bersuker
 O. S. Konovalenko
 Ts. B. Konunova
 N. I. Lobanov
 Yu. S. Lyalikov, Corresponding Academician (Moldavian S.S.R.)
 N. M. Samus

Description:

The Institute of Chemistry of the Moldavian Academy of Sciences was founded in about 1958 within the framework of the then Moldavian Branch of the U.S.S.R. Academy. Five laboratories were established--the Laboratory of Inorganic Chemistry, Laboratory of the Chemistry of Natural Compounds, Laboratory of Analytical Chemistry, Laboratory of High-Molecular Compounds, and Laboratory of Physical and Chemical Methods of Investigation. Investigations were to be done in the field of the chemistry of terpenes and alkaloids, on the use of furfural for organic synthesis, and on new

methods of physical and chemical analysis. Work on complex compounds is also being done here. In 1958, this institute initiated, with Kishinev University, the Congress on the Methods of Polarographic Analysis.

Name: Institute of Chemistry
(Institut khimii)

Address: Stalinabad

Director: V. I. Nikitin, Doctor (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Tadzhik S.S.R. (1962)

Selected Staff Members:

G. A. Bekhtle
Ye. M. Glazunova
A. Kh. Khamatov

Description:

The Institute of Chemistry, Tadzhik Academy of Sciences, has investigated the chemistry of rare metals, especially the behavior of rhenium. Research has been done here for a number of years on acetylenic alcohols. A synthetic rubber with high mechanical strength and heat resistance was developed here.

Name: Institute of Chemistry
(Institut khimii)

Address: Ashkhabad

Director: A. N. Niyazov, Corresponding Academician (Turkmen S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Turkmen S.S.R. (1958)

Selected Staff Members:

M. V. Shishkina, Candidate
Kh. Vakhobova

Description:

The Turkmen Academy's Institute of Chemistry, with a petroleum and gas laboratory, was opened in 1957. The research here was to cover problems of the production of synthetic fatty acids and aliphatic alcohols of high molecular weight from paraffins of local petroleum, and the use of salt resources and supplies of boron, bromine, and iodine in the various bodies of water. Most of the research reported has been in the area of petroleum chemistry.

Name: Institute of Chemistry
(Institut khimii)

Address: Irkutsk

Director: I. V. Kalechits, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R., Eastern Siberian Branch of the Siberian Department (1961)

Selected Staff Members:

I. L. Kotlyarevskiy, Head of Laboratory
N. I. Popova

Description:

This institute, founded in 1949, specializes in organic polymer chemistry and the electrometallurgy of the light metals. In connection with the polymer work, carbonyls, unsaturated hydrocarbons, and pyridines have been studied, as have vinyl acetylene, piperylene, isoprene, organosilicon compounds, isobutylene, and polyethinylpolyarenes. The laboratory of I. L. Kotlyarevskiy, while studying polyphenyl hydrocarbons, developed a polyphenylpolyacetylene polymer with semiconductor properties.

The Institute grants the Candidate's Degree.

Name: Institute of Chemistry
(Institut khimii)

Address: Tashkent, ulitsa Kuybysheva, 12

Director: Ya. Yu. Aliyev (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1959)

Selected Staff Members:

U. Ibragimov
 S. G. Mel'kanovitskaya
 M. N. Nabiyev, Academician (Uzbek S.S.S.R.), Head of Laboratory
 A. S. Sultanov, Candidate
 I. P. Tsukervanik, Corresponding Academician (Uzbek S.S.R.)
 Kh. U. Usmanov

Description:

The Institute of Chemistry conducts research on organic and inorganic compounds. The staff has investigated nitric acid treatment of phosphates and rare-earth-element extraction. They formed new polymers of furan and sylvan, and worked with aromatic compounds and in petroleum chemistry. This institute also grants advanced degrees.

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Name: Institute of Chemistry
 (Institut khimii)

Address: Yerevan

Director: M. G. Manvelyan, Corresponding Academician (Armenian S.S.R.)

Deputy Director: --

Administrative Affiliation: Armenian Sovnarkhoz (1957)

Selected Staff Members: A. G. Yeganyan

Description:

The Institute of Chemistry of the Council of National Economy (Sovnarkhoz) of the Armenian S.S.R. was reported as newly organized in 1957. The Institute was formed from the Sector of Inorganic Chemistry of the Chemistry Institute of the Academy of Sciences, Armenian S.S.R.

The first experiments reported at the Institute were on the electrical welding of boron silicate glass. Establishment of a helio laboratory at the Institute was reported in 1961. This laboratory's specialty is problems of the automation of solar installations; it is constructing a prototype laboratory solar furnace.

Published articles describe research work at the Institute on the electrolytic extraction of gallium from aluminate solutions obtained during treatment of nephelinic syenites.

The Institute has developed a method of producing from stone a glass-type fiber that has superior electrical-insulation characteristics, high heat stability, high tensile strength, and low hygroscopicity. In this area, the Institute is receiving assistance from the All-Union Scientific-Research Institute of Glass Fibers. Research work is being continued on the technical and economic aspects of producing "glass fiber" from different species of rock.

Name: Institute of Chemistry
(Institut khimii)

Address: Sverdlovsk

Director: V. G. Plyusnin, Doctor (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
R.S.F.S.R., on Coordination of Scientific
Research (1962)

Selected Staff Members:

S. L. Alyamovskiy
Ye. P. Babin
G. N. Bogachev
P. V. Gel'd
I. Ye. Ivanovskiy
A. S. Mikulinskiy
T. M. Molchanova
S. S. Spasskiy
A. V. Tokarev
M. I. Yermakova

Description:

This institute was organized in 1958 under the Urals Branch, Academy of Sciences, U.S.S.R. from the Chemistry Division of the Institute of Chemistry and Metallurgy. In 1961, the Institute was transferred to its current affiliation. Research at the Institute has been primarily in polymer chemistry, especially copolymerization of unsaturated polyesters with vinyl and allyl monomers. Work has also been done on the determination and separation of gallium and titanium. It publishes a Trudy.

Name: Institute of Chemistry and Chemical Technology
(Institut khimii i khimicheskoy tekhnologii)

Address: Vil'nyus

Director: K. Yu. Daukshas (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Lithuanian S.S.R. (1961)

Selected Staff Members:

G. P. Kugatova
Yu. Yu. Matulis, Corresponding Academician (U.S.S.R.),
President, Academy of Sciences of the Lithuanian S.S.R.
M. A. Mitskus
P. K. Norkus
A. Yu. Prokopchik
V. A. Slizhis
V. S. Vesa

Description:

The Institute of Chemistry and Chemical Technology conducts research on electrochemical processes and the mechanism of electroplating certain metals. They are investigating the synthesis of organic substances analogous to vitamin A and studying local raw materials for future construction materials. With the use of a JEM-5V electron microscope, they have developed a method of direct electron-microscopic glass examination. The degree of Candidate is awarded by the Institute.

Name: Institute of Chemistry and Technology of Rare Elements and Mineral
Raw Materials
(Institut khimii i tekhnologii redkikh elementov i mineral'nogo
syr'ya)

Address: --

Director: O. S. Ignat'yev, Candidate (1959)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
R.S.F.S.R., for Coordination of Scientific
Research (1962)

Selected Staff Members: --

Description:

The Institute was organized in 1958 in the Kola Branch, Academy of Sciences, U.S.S.R., and was to have eight laboratories. It was to develop scientific investigations in the field of the chemistry and metallurgy of rare elements, as well as the exploitation of mineral raw materials of the Kola district for the rare-metals industry.

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Name: Institute of Chemistry imeni P. G. Melikishvili
(Institut khimii imeni P. G. Melikishvili--I Kh AS Gruz S.S.R.)

Address: Tbilisi

Director: G. V. Tsitsishvili, Academician (Georgian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

Kh. I. Areshidze, Corresponding Academician (Georgian S.S.R.)
N. G. Bekauri
P. V. Gogorishvili
T. S. Shakarashvili

Description:

The Institute of Chemistry imeni P. G. Melikishvili was organized in 1929 on the basis of the laboratory of the Supreme Council of National Economy of Georgia. The Georgian chemists are working in the fields of analytical chemistry, complex compounds, and the theory of solutions. Research in physical chemistry covers chemical kinetics, surface phenomena, thermodynamics, and photochemistry.

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Name: Institute of Chemistry of Natural Compounds
(Institut khimii prirodnykh soyedineniy)

Address: Moscow, 1-y Akademicheskii proyezd, 18

Director: M. M. Shemyakin, Academician (U.S.S.R.) (1960)

Deputy Director: N. K. Kochetkov, Corresponding Academician (U.S.S.R.)
(1961)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1960)

Selected Staff Members:

V. P. Burlaka
M. N. Chumachenko
A. S. Khokhlov

Description:

This institute was established in 1959 to work in the field of the chemistry of natural compounds and the chemistry of biologically active compounds.

Name: Institute of Chemistry of Petroleum and Mineral Salts
(Institut khimii nefi i mineral'nykh soley)

Address: Gur'yev

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute of Chemistry of Petroleum and Mineral Salts was established in 1960. It conducts research on effective methods of using oil by-products for plastics, synthetic fibers, flotation reagents, detergents, ion-exchange resins, and special bitumens. Geochemical, physical-chemical, and technological studies of potash fertilizer salts of the western Kazakh Republic have been made. Other fields of research are high-molecular hydrocarbons, radiation chemistry, and the chemistry of mineral salts and rare and trace elements.

Name: Institute of Chemistry of Plant Substances
(Institut khimii rastitel'nykh veshchestv)

Address: Tashkent, ulitsa Kuybysheva, 12

Director: S. Yu. Yunusov (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1961)

Selected Staff Members: --

Description:

This institute specializes in the chemistry of cellulose and alkaloids. The Candidate's Degree is granted.

Name: Institute of Chemistry of Polymers and Monomers
(Institut khimii polimerov i monomerov)

Address: Kiyev, ulitsa Repina, 2

Director: K. A. Kornev, Corresponding Academician (Ukrainian S.S.R.) (1961)

Deputy Director: V. S. Gutyrya, Corresponding Academician (U.S.S.R.) (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members: R. R. Voytskhovskiy, Candidate, Director of
Laboratory of Physics and Chemistry of Polymers

Description:

This institute was organized in 1958 or 1959 primarily for investigations of monomers, polymers, and their possible industrial exploitation. In collaboration with the Academy of Sciences, U.S.S.R., the State Committee of the Council of Ministers for Chemistry of the U.S.S.R., and the Czechoslovakian Academy of Sciences, a process for rapid synthesis of nylon from caprolactam was developed. Clays, kaolin, and bentonite have been investigated as nylon filler materials in the Institute's Laboratory for the Physics and Chemistry of Polymers. Polymeric compounds, e.g., a new polyurethane, capable of withstanding elevated temperatures in a range of 300 C and new tricarbon acids and their cyanuric acid-base esters and nitrites have been synthesized. A new class of organic compounds, derived from aminosulfoacids, has been synthesized and studied.

Graduate study is offered in high-molecular chemistry, petroleum chemistry, physical chemistry, and radiation chemistry.

Name: Institute of Chemistry of Silicates imeni I. V. Grebenshchikov
(Institut khimii silikatov imeni I. V. Grebenshchikova--IKhS)

Address: Leningrad, naberezhnaya Makarova, 2

Director: N. A. Toropov, Academician (Academy of Construction and
Architecture, U.S.S.R.) (1961)

Deputy Director: A. F. Fedoseyev, Professor (1959)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

D. N. Andreyev
N. S. Andreyev
A. B. Andreyeva
A. A. Appen
I. A. Bondar'
V. P. Davydova
B. N. Dolgov, Doctor
N. A. Godina
N. N. Kachalov, Corresponding Academician (U.S.S.R.)
E. K. Keler
N. F. Orlov
M. F. Romanov
M. G. Voronkov
S. P. Zhdanov, Doctor

Description:

In 1933, the Laboratory of Silicate Chemistry was organized in Leningrad. In 1948, it was reorganized into the present Institute.

The Institute conducts fundamental research on the physical chemistry of silicates. It has studied the synthesis of inorganic high polymers and new methods of synthesizing organosilicon compounds. Studies of silicates containing rare earths have been initiated in the Institute's laboratories. It has done conspicuous work in the study of the interaction at high temperatures of calcium-aluminum silicates and compounds that contain fluoride.

The Institute has developed new methods of grinding and polishing glass. It built the first Soviet high-temperature microscope, used to study processes that take place at temperatures up to 2800 C, to observe effects such as wetting, to determine melting points, and to study crystallization processes.

The Institute also has worked on the synthesis of isoprene.

Name: Institute of Complex Transportation Problems
(Institut kompleksnykh transportnykh problem)

Address: Moscow, Nizhnaya Krasnosel'skaya ulitsa, 39

Director: --

Deputy Director: --

Administrative Affiliation: State Economic Council, U.S.S.R. (1960)

Selected Staff Members:

T. S. Khachaturov, Corresponding Academician (U.S.S.R.)
A. V. Voronin

Description:

This institute was organized by the Division of Technical Sciences of The Academy of Sciences, U.S.S.R., in 1956. In 1960, the Institute was transferred to its current administrative organ.

This institute is engaged in research and development as applied to the transportation industry. Research has been done on the use of atomic energy for the propulsion of ships. Some consideration has also been given to aircraft transportation, such as short-range commuter and urban transportation.

Name: Institute of Construction
(Institut stroitel'nogo dela)

Address: Tbilisi

Director: K. S. Zavriyev, Academician (Georgian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

A. L. Churayan
Sh. A. Dzhabna
A. N. Safaryan

Description:

The Institute has been active in the compilation of subregional seismic classification maps, the effects of microgeology on the earthquake resistance of buildings, and seismic work related to hydrotechnical construction areas.

Name: Institute of Construction and Architecture
(Institut stroitel'stva i arkhitektury)

Address: Minsk, Podlesnaya, 13

Director: S. S. Atayev (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1961)

Selected Staff Members: A. U. Franchuk

Description:

The Institute has been concerned with radiation and construction engineering, particularly the influence of solar radiation on the external surfaces of buildings. Other work has involved studies of crystallization nuclei in supercooled liquids, and the associated effect of ultrasonic waves on the kinetics of crystallization.

Name: Institute of Construction and Architecture
(Institut stroitel'stva i arkhitektury)

Address: Riga

Director: A. K. Malmeyster, Academician (Latvian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute is active in work connected with deformation theory, stress analysis of construction materials, and general architectural and construction research.

Name: Institute of Construction and Construction Materials
(Institut stroitel'stva i stroitel'nykh materialov)

Address: Tallin

Director: V. P. Polonskiy (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members: N. A. Alunyye, Academician (Estonian S.S.R.)

Description:

Mathematical work at the Institute has been concerned with elastic shells and plates. A special section was organized in 1957 to deal with problems in the technology of silicalcite and other sand-lime building materials. Gamma-radiation methods have been used for moisture migration studies in structural materials.

Name: Institute of Crystallography
(Institut kristallografii--IK)

Address: Moscow, Pyzhevskiy pereulok, 3

Director: A. V. Shubnikov, Academician (U.S.S.R.) (1961)

Deputy Director: L. M. Belyayev (1960)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

K. S. Aleksandrov
N. M. Bashkirov, Candidate
N. V. Belov, Academician (U.S.S.R.)

A. A. Chernov
 I. V. Gavrilova
 V. L. Indenbom, Candidate
 M. V. Klassen-Neklyudova, Doctor
 V. P. Konstantinova
 G. G. Lemmleyn, Doctor
 L. S. Milyevskiy
 V. F. Myuskov
 V. F. Parvov
 Z. G. Pinkser, Professor, Head of Laboratory of Electronography
 V. R. Regel', Doctor
 I. S. Rez
 S. A. Semiletov, Candidate
 I. M. Silvestrova
 V. I. Simonov
 B. K. Vaynshteyn, Doctor
 G. S. Zhdanov, Doctor
 I. S. Zheludev, Candidate

Description:

This is the only institute in the U.S.S.R. which investigates in detail the structure and physical properties of crystals and seeks industrial applications of the results obtained. Research is carried out on crystal growth, structural isomorphism, fluorescence, phosphorescence, magnetic properties of thin films, structure of proteins, and effects of radiation on crystals. The Institute is currently studying the means of prolonging the "life" of ferroelectric crystals. Other Soviet institutes are beginning crystallographic investigations, and the Institute of Crystallography is supplying these institutes with equipment and drawings and is consulting with them on problems. The Institute publishes a Trudy.

Name: Institute of Cybernetics
 (Institut kibernetiki)

Address: Tallin

Director: N. A. Alomyae, Academician (Estonian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute of Cybernetics was founded in 1960. Research has been devoted largely to problems of the linear and nonlinear stability of the equilibrium and dynamics of fine elastic film. A considerable amount of work is conducted on mathematical computations.

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Name: Institute of Cybernetics
(Institut kibernetiki)

Address: Tbilisi

Director: V. V. Chavchanidze (1961)

Deputy Director: I. N. Bukreyev (1961)

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1962)

Selected Staff Members: --

Description:

This institute was recently organized to conduct research in the field of cybernetics. Computer mathematics and computer technology thus fall within its interests. This is also one of the first Soviet institutes to start training specialists in cybernetics.

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Name: Institute of Cybernetics
(Institut kibernetiki)

Address: Kiyev, Bol'shaya Kitayevskaya, 115

Director: V. M. Glushkov, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: B. N. Malinovskiy, Candidate (1959)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

Yu. V. Blagoveshchenskiy, Candidate
R. Ya. Chernyak
L. N. Dashevskiy
B. V. Gnedenko, Academician (Ukrainian S.S.R.)

A. A. Chernov
 I. V. Gavrilova
 V. L. Indenbom, Candidate
 M. V. Klassen-Neklyudova, Doctor
 V. P. Konstantinova
 G. G. Lemmleyn, Doctor
 L. S. Milyevskiy
 V. F. Myuskov
 V. F. Parvov
 Z. G. Pinkser, Professor, Head of Laboratory of Electronography
 V. R. Regel', Doctor
 I. S. Rez
 S. A. Semiletov, Candidate
 I. M. Silvestrova
 V. I. Simonov
 B. K. Vaynshteyn, Doctor
 G. S. Zhdanov, Doctor
 I. S. Zheludev, Candidate

Description:

This is the only institute in the U.S.S.R. which investigates in detail the structure and physical properties of crystals and seeks industrial applications of the results obtained. Research is carried out on crystal growth, structural isomorphism, fluorescence, phosphorescence, magnetic properties of thin films, structure of proteins, and effects of radiation on crystals. The Institute is currently studying the means of prolonging the "life" of ferroelectric crystals. Other Soviet institutes are beginning crystallographic investigations, and the Institute of Crystallography is supplying these institutes with equipment and drawings and is consulting with them on problems. The Institute publishes a Trudy.

Name: Institute of Cybernetics
 (Institut kibernetiki)

Address: Tallin

Director: N. A. Alumyae, Academician (Estonian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute of Cybernetics was founded in 1960. Research has been devoted largely to problems of the linear and nonlinear stability of the equilibrium and dynamics of fine elastic film. A considerable amount of work is conducted on mathematical computations.

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Name: Institute of Cybernetics
(Institut kibernetiki)

Address: Tbilisi

Director: V. V. Chavchanidze (1961)

Deputy Director: I. N. Bukreyev (1961)

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1962)

Selected Staff Members: --

Description:

This institute was recently organized to conduct research in the field of cybernetics. Computer mathematics and computer technology thus fall within its interests. This is also one of the first Soviet institutes to start training specialists in cybernetics.

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Name: Institute of Cybernetics
(Institut kibernetiki)

Address: Kiyev, Bol'shaya Kitayevskaya, 115

Director: V. M. Glushkov, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: B. N. Malinovskiy, Candidate (1959)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

Yu. V. Blagoveshchenskiy, Candidate
R. Ya. Chernyak
L. N. Dashevskiy
B. V. Gnedenko, Academician (Ukrainian S.S.R.)

L. N. Ivanenko
 L. A. Kaluzhmin
 A. I. Kondal'yev
 V. S. Korolyuk
 V. A. Kovalevskiy, Candidate
 V. V. Kraynitskiy, Head of Department
 H. H. Lyubchenko
 V. S. Mikhailevich, Candidate, Head of Section on Economic
 Cybernetics
 Yu. T. Mitulinskiy
 V. N. Ostapenko, Candidate
 I. T. Parkhomenko, Chief Engineer
 N. N. Pavlov
 Ye. B. Pogrebinskiy
 G. N. Polozhiy
 G. Ye. Pukhov, Corresponding Academician (Ukrainian S.S.R.)
 Z. L. Rabinovich, Candidate
 V. Ye. Shamanskiy, Candidate, Head of Department
 Ye. A. Shkabara
 V. I. Skurikhin, Candidate
 E. L. Yushehenko, Candidate, Head of Department
 O. A. Yushehenko

Description:

This institute was formed in 1957 as a Computer Center to conduct research in the areas of cybernetics, control processes, and computers. In 1962, the Computer Center became the Institute of Cybernetics. Theoretical questions are investigated, computing techniques are improved, methods for the solution of various problems are worked out, and new machines are designed to control production processes. Specific projects have concerned the design of automatic systems, the optimum design of power-system loads, language and machine translation, theorem checking, mathematical physics, theory of automatic machines, theory of abstract automata, industrial problems such as the control of the Bessemer process, economic planning via linear programming, and pattern recognition.

This facility also offers graduate training in computer devices and instruments, computer mathematics, and cybernetics.

Name: Institute of Earthquake-Proof Construction
 (Institut antiseysmicheskogo stroitel'stva)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Turkmen S.S.R. (1960)

Selected Staff Members:

G. V. Becheneva
I. L. Korchinskiy
K. I. Nikolayev

Description:

This institute is making a study of local raw materials for possible utilization in earthquake-resistant buildings.

Name: Institute of Earthquake-Resistant Construction and Seismology
(Institut seysmostoykogo stroitel'stva i seysmologii)

Address: Dushanbe

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Tadzhik S.S.R. (1962)

Selected Staff Members:

V. I. Bune
V. N. Gayskiy
A. V. Kozlov
T. I. Kukhtikova
V. A. Nechayev

Description:

The Institute, organized in 1958, investigates problems connected with the movements of the earth's crust and questions related to the resistance of buildings to earthquakes.

Name: Institute of Eastern Languages
(Institut vostochnykh yazykov)

Address: Moscow

Director: A. A. Kovalev, Docent

Deputy Director: --

Administrative Affiliation: Moscow State University imeni M. V. Lomonosov
(1961)

Selected Staff Members:

F. M. Atsamb, Docent, Head of Chair
 B. M. Grane, Professor
 A. A. Guber, Corresponding Academician (U.S.S.R.)
 V. N. Nasilov, Professor
 L. D. Pozdneyeva, Professor

Description:

This institute prepares philologists specializing in Eastern languages and historians of the Orient with proficiency in one of the Eastern languages. The curriculum emphasizes area study of Eastern countries and peoples, particularly ethnology, ecology, culture, physical geography, etc. The following languages are studied: Chinese, Japanese, Korean, Vietnamese, Hindi, Indonesian, Arabic, Persian, Turkish, and the major languages and dialects of Africa.

Name: Institute of Economics
(Institut ekonomiki)

Address: Yerevan

Director: A. Arakelyan, Academician (Armenian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members: A. Kh. Karapetyan, Head of Mathematical and
Statistical Research Laboratory

Description:

The Institute was organized in 1955. It has a laboratory which is working on and applying mathematical methods in economic analysis. It is also presently working on problems of increasing labor productivity in Armenian industry.

Name: Institute of Economics
(Institut ekonomiki)

Address: Minsk

Director: G. T. Kovalevskiy

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1958)

Selected Staff Members: --

Description:

This institute concentrates primarily on problems of planning and organization of industry, agriculture and natural resources of Belorussia.

It publishes a Trudy annually.

Name: Institute of Economics
(Institut ekonomiki)

Address: Tbilisi

Director: P. V. Gugushvili (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1960)

Selected Staff Members: --

Description:

This institute is concerned with the economics of industry, agriculture, and natural resources in the Georgian Republic.

It publishes Nauchno-Populyarniya Seriya (Popular Science Series).

Name: Institute of Economics
(Institut ekonomiki)

Address: Ashkhabad

Director: A. A. Annaklychev, Corresponding Academician (Turkmen S.S.R.)
(1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Turkmen S.S.R. (1957)

Selected Staff Members: --

Description:

This institute was organized in 1956. It is primarily concerned with improving the industrial and agricultural productivity of the Turkmen S.S.R. It publishes a Trudy annually.

Name: Institute of Economics
(Institut ekonomiki)

Address: Kiyev, ulitsa Lenina, 15

Director: P. N. Pershin (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute offers graduate training in political economy, economics of industry and agriculture, economic geography, statistics, and history of the economy.

Its research activities are concentrated primarily on problems of the Ukrainian national economy, such as preservation of water resources and expansion of industrial construction. The Institute publishes Ekonomika Sovetskoy Ukrainy (Economy of the Soviet Ukraine).

Name: Institute of Economics
(Institut ekonomiki)

Address: Moscow, Volkhonka, 14

Director: K. N. Plotnikov, Corresponding Academician (U.S.S.R.) (1962)

Deputy Director: N. Y. Linkun (1960)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

L. M. Gatovskiy, Corresponding Academician (U.S.S.R.)
 T. S. Khachaturov, Corresponding Academician (U.S.S.R.)
 G. F. Mikhayev, Head of Sector for Atomic Energy Economics
 A. I. Pashkov, Corresponding Academician (U.S.S.R.)
 I. Yu. Pisarev, Professor, Head of Sector of Economic Statistics
 K. A. Pozhnitov, Corresponding Academician (U.S.S.R.)
 T. V. Ryabushkin, Head of Sector of Statistics

Description:

This institute is primarily concerned with problems related to the long-range development of the Soviet national economy. The Institute has studied the use of computers for planning and statistics. It has also investigated the economic effectiveness of new techniques such as automation, and has carried out studies in the field of labor economy. A number of recent studies at the Institute has been concerned with the economics of the use of radioisotopes in industry. The Institute confers the Candidate's and Doctor's Degrees.

Name: Institute of Economics and Organization of Industrial Production
 (Institut ekonomiki i organizatsii promyshlennogo proizvodstva)

Address: Novosibirsk

Director: G. A. Prudenskiy, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
 U.S.S.R. (1961)

Selected Staff Members: --

Description:

This institute is studying manpower reserves, labor productivity, and improvement of work efficiency through time-study methods. Automatic machine-time control instrumentation is available at the Institute.

Name: Institute of Electrical Engineering
 (Institut elektrotehniki)

Address: --

Director: G. T. Adonts, Doctor (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1960)

Selected Staff Members:

A. M. Arakelyan
K. A. Melik-Vartanyan
E. A. Meyerovich, Professor

Description:

The Institute of Electrical Engineering has been given the assignment of solving problems in the unification of the power systems of Armenia, Georgia, and Azerbaydzhan into a single trans-Caucasian system.

Name: Institute of Electrical Engineering
(Institut elektrotekhniki)

Address: Kiyev, ulitsa Chkalova, 55-b

Director: A. N. Milyakh, Doctor (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

A. B. Budnitskiy, Docent
A. G. Ivakhmenko, Doctor, Head of Laboratory of Automatic Control
I. Z. Khomenko, Engineer
K. K. Khrenov, Corresponding Academician (U.S.S.R.)
V. E. Moravskiy, Candidate
G. K. Nechayev, Candidate
I. M. Postnikov, Doctor
V. N. Shestopalov, Candidate
L. V. Tsukernik, Candidate
B. F. Vashura, Professor

Description:

This facility is engaged in research in various fields of automation, with specific applications in metallurgy. Some very interesting work

has been done on general theories of cybernetic systems for automatic control by one of the leading experts on automation in the Ukraine.

The Institute also offers graduate training in electric machines, electrical systems, theoretical principles of electrical engineering, automation and remote control, electric measuring devices, and the technology and equipment of welding.

Name: Institute of Electric Welding imeni Ye. O. Paton
(Institut elektrosvarki imeni Ye. O. Patona--IES)

Address: Kiyev, ulitsa Gor'kogo, 69

Director: B. Ye. Paton, Academician (Ukrainian S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1962)

Selected Staff Members:

A. Ye. Asnis, Candidate
 A. S. Dem'yanchuk
 V. Ya. Dubovetskiy
 D. A. Dudko, Candidate
 I. I. Frumin, Doctor
 S. M. Gurevich, Candidate
 N. I. Kakhovskiy, Candidate
 B. S. Kasatkin
 A. A. Kazimirov, Candidate
 G. K. Kharchenko
 R. I. Lashkevich, Candidate
 Yu. V. Latash, Candidate
 B. F. Lebedev, Candidate
 A. M. Makara, Candidate
 B. I. Maksimovich
 Yu. B. Malevskiy, Candidate
 S. L. Mandel'berg, Candidate
 B. I. Medovar, Doctor
 B. A. Movchan, Candidate
 O. K. Nazarenko
 V. I. Novikov, Candidate
 S. A. Ostrovskaya
 G. I. Parfessa
 V. V. Polgayetskiy
 I. K. Pokhodnya, Candidate
 D. M. Rabkin, Candidate
 G. V. Rayevskiy, Candidate, Head of Laboratory
 I. M. Savich

P. I. Sevbo, Candidate
 V. V. Shevernitskiy
 T. M. Slutskaya, Candidate
 Yu. A. Sterenbogan, Candidate
 V. I. Trufiyakov, Candidate
 V. G. Vasil'yev
 G. Z. Voloshkevich, Candidate
 Yu. A. Yuzvenko, Candidate
 I. I. Zaruba, Candidate

Description:

This institute is responsible for the coordination of all welding research in the U.S.S.R. Its main accomplishment has been the development of the electroslag process of remelting and welding metals. The special equipment needed and welding techniques for a wide variety of metals have been developed at the Institute. Other major welding advances coming from this institute include an electron-beam-welding apparatus for vacuum operation, an automatic submerged-arc-welding technique for butt and T joints, and an automatic-flux electric-welding method. Research on automatic welding processes is stressed. Welding studies on molybdenum, titanium, nickel, and aluminum alloys, as well as steels, have been conducted.

The Institute confers graduate degrees.

Name: Institute of Electrochemistry
 (Institut elektrokhimii--IELAN)

Address: Moscow, Leninskiy prospekt, 31

Director: A. N. Frumkin, Academician (U.S.S.R.) (1961)

Deputy Director: N. A. Shumilova (1961)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

N. A. Bakh
 G. M. Budov
 R. Kh. Burshteyn
 B. N. Kabanov
 V. G. Levich, Corresponding Academician (U.S.S.R.)
 D. I. Leykis
 V. A. Myamlin
 Yu. V. Pleskov
 T. I. Popova
 V. N. Shubin

Description:

During 1958, Electrochemical Institutes were organized at Moscow, Sverdlovsk, and Irkutsk for research on chemical current sources and for economic exploitation of electric power sources. The Moscow Institute has been particularly active in research on the electrochemistry of fuel cells, semiconductors, surface-transfer phenomena and cathode kinetics, electron-emission processes, radiation chemistry, and radiolysis. A large percentage of its published research work concerns electrode processes such as discharge of lanthanum ions on a mercury cathode, theory of anodic dissolution of silicon, structural changes and variation of the active mass surface of a porous zinc electrode, and the rectifying effect of oxide films on zirconium electrodes.

A number of scientific conferences has been held at this institute, and its members have participated in scientific sessions throughout the U.S.S.R. In January, 1960, a conference here discussed achievements in the development of organic polymers with enhanced electric and magnetic properties. In October, 1960, the Third Conference on the Electrochemistry of Organic Compounds convened at this institute with the collaboration of the All-Union Chemical Society imeni D. I. Mendeleev. Problems of electro-synthesis of monomers to produce high-molecular compounds, anode and cathode kinetics in various media such as methyl alcohol, and electric regeneration by unsaturated hydrocarbons of more complex molecular compounds were discussed.

The Institute also grants higher academic degrees.

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Name: Institute of Electrochemistry
(Institut elektrokhimii)

Address: Irkutsk

Director: --

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members: --

Description:

In an effort to expedite electric-power production throughout the country, the Academy of Sciences, U.S.S.R., authorized establishment of three electrochemical research institutes during 1958, to be located at Moscow, Sverdlovsk, and Irkutsk.

Name: Institute of Electrochemistry
(Institut elektrokhimii)

Address: Sverdlovsk

Director: V. G. Plyushin, Doctor (1960)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers
R.S.F.S.R. for Coordination of Scientific
Research (1962)

Selected Staff Members:

A. N. Baraboshkin, Candidate
L. Ye. Ivanovskiy
S. V. Karpachev
Yu. N. Krasnov
S. F. Pal'guyev
M. V. Smirnov

Description:

This institute and similar organizations at Moscow and Irkutsk were established during 1958. Research here has been concerned principally with the exploitation of rare-metal and low-grade metal resources. Electrolytic methods for extracting and refining metals such as titanium, beryllium, zirconium, and tantalum have been developed. Electrochemical corrosion processes, especially in molten electrolytes, have also received considerable attention. The Institute has also investigated oxychlorides of the rare-earth elements, the effect of oxygen in electrodeposition processes, electrochemical cells using solid electrolytes, and the behavior of various anode compositions during electrolysis. In November, 1960, an All-Union Conference on the Physical Chemistry of Molten Salts and Slags was convened at the Institute. Papers dealing with surface-transfer phenomena in electrolytes and the physical chemistry and thermodynamics of molten slags and salt systems comprised a large percentage of the total information presented.

The Institute publishes a Trudy and grants higher academic degrees.

Name: Institute of Electromechanics
(Institut elektromekhaniki--IEM)

Address: Leningrad, Dvortsovaya naberezhnaya, 18

Director: M. P. Kostenko, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building

Selected Staff Members:

A. Ye. Alekseyev, Corresponding Academician (U.S.S.R.)
I. A. Glebov, Docent
M. B. Ignat'yev, Engineer
L. R. Neyman, Corresponding Academician (U.S.S.R.)
Ye. P. Popov, Corresponding Academician (U.S.S.R.)
A. N. Radchenko, Candidate
Yu. Sabinu, Candidate
V. K. Sirotko, Engineer
A. A. Voronov
D. A. Zavalashin, Corresponding Academician (U.S.S.R.)

Description:

The Institute, formerly of the Academy of Sciences, U.S.S.R., is working on the theory of the synthesis and analysis of special computers. This work is intended to advance theoretical investigations of the accuracy of new specialized computers for automatic-control systems. Scientists have developed an almost complete program-control system for automatically tracking stars.

The Candidate's Degree is granted, and the Institute publishes a Trudy and Sbornik Rabot.

Name: Institute of Electronic Control Machines
(Institut elektronnykh upravlyayushchikh mashin)

Address: Moscow, Leninskiy prospekt, 16

Director: I. S. Bruk, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

N. N. Lenov, Candidate, Project Leader
A. N. Patrikeyev, Head of Design Office

Description:

This institute has designed individual components of computers and controllers. One of the first efforts of this institute was a computer developed for the control of the electric power networks of the European part of the U.S.S.R.

In 1958, the M-2 computer was modernized by this institute. Only the arithmetic unit remained unchanged.

The Institute has recommended extensive utilization of electronics in economic planning and industrial management, and is currently specializing in the development of high-speed digital computers for these purposes.

Name: Institute of Electronics and Computing Technology
(Institut elektroniki i vychislitel'noy tekhniki)

Address: Riga

Director: E. A. Yakubaytis, Corresponding Academician (Latvian S.S.R.)
(1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

Ya. Ya. Dambit
L. B. Leont'yev
M. Vaivars

Description:

This institute was organized to further the development of research electronics, cybernetics, and computing technology. The Institute consists of Laboratories of Computer Installations, Control Machines, and Cybernetics, and a computer center.

The accomplishments of the Institute include machine translation from Russian into Latvian and development of devices that automatically give information on the movement of railroad rolling stock and cybernetic devices to test semiconductors and control processes of chemical enterprises.

It publishes a Trudy.

Name: Institute of Electronics, Automation, and Remote Control
(Institut elektroniki, avtomatiki i telemekhaniki)

Address: Tbilisi, Gorodok nauki, Kura River

Director: A. I. Eliashvili, Candidate (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1962)

Selected Staff Members:

A. Kakauridze, Head of the General Automation Department
G. N. Muskhelishvili

Description:

This institute is engaged in work in computer technology and cybernetics. A digital telemetry system for operation in conjunction with contactless remote-control systems has been developed.

A considerable amount of work has been done in machine translation. A translating device designed by the Institute can translate technical and mathematical texts from Russian into Georgian. Work is being done to enable translation from any language.

Cybernetics plays a sizable role in the activities of the Institute. Research is being conducted on robot machines and machines that can speak and respond to oral commands. The Institute's future plans call for a machine that can translate by receiving its input orally.

It publishes a Trudy annually.

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Name: Institute of Elemental-Organic Compounds
(Institut elementoorganicheskikh soyedineniy--IEOS)

Address: Moscow, Leninskiy prospekt, 31

Director: A. N. Nesmeyanov, Academician (U.S.S.R.) (1961)

Deputy Director: V. V. Korshak, Corresponding Academician (U.S.S.R.) (1960)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

K. A. Andrianov, Corresponding Academician (U.S.S.R.)
N. V. Delazari
R. Kh. Freydlina, Corresponding Academician (U.S.S.R.)
M. I. Kabachnik, Academician (U.S.S.R.)
A. I. Kitaygorodskiy, Professor, Head of Laboratory of X-Ray
Structural Analysis
I. L. Knunyants, Academician (U.S.S.R.)
G. S. Kolesnikov
N. S. Kozlov

D. N. Kursanov, Corresponding Academician (U.S.S.R.)
 Yu. V. Mnyukh
 I. V. Obreykov, Academician (U.S.S.R.), Head of Optical Laboratory
 S. R. Rafikov, Professor, Head of Laboratory of Polymer Research
 S. V. Rogozhin
 G. L. Slonimskiy, Professor, Head of Laboratory of Polymer Physics
 V. V. Vovodskiy, Corresponding Academician (U.S.S.R.)
 A. A. Zhdanov

Description:

The research and development activities of this institute, conducted by a highly qualified staff, are both numerous and comprehensive. Among the areas of investigation are (1) bio-organic chemistry, (2) effects of ionizing radiation upon metallic surface phenomena, (3) high-molecular-weight compounds with improved electrophysical properties, (4) organometallic rare-element compounds, and (5) crystal structure analysis. Collaboration with the All-Union Scientific-Research Institute for Pellicular Materials and Artificial Leather has produced polymeric pellicles with a wide range of electro-insulating properties.

Among various laboratories at the Moscow site of this institute are Laboratories for Alumino-Organic Synthesis, for Optical Analyses, and for High-Molecular-Weight Compounds. In Volgograd, a laboratory supervised by R. Kh. Freydlina has been working on industrial applications for synthetic fibers. In 1961, it was proposed that this laboratory be expanded into a branch of the Moscow Institute.

Name: Institute of Ethnography
 (Institut etnografii--IE)

Address: Moscow, 1-ya Cheremushinskaya ulitsa, 19

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

D. A. Ol'derogge, Corresponding Academician (U.S.S.R.)
 S. P. Olstov, Corresponding Academician (U.S.S.R.)
 A. V. Yefimov, Corresponding Academician (U.S.S.R.)

Description:

This institute has studied the development of the culture and life of Soviet and other peoples. Research is done in the general fields of ethnography, archeology, anthropology, and folklore. The Institute publishes the periodical Sovetskaya Etnografiya (Soviet Ethnography) and a Trudy.

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Name: Institute of Ferrous Metallurgy
(Institut chernoy metallurgii--IChM)

Address: Dnepropetrovsk, ulitsa Pisarzhevskogo, 5

Director: Z. I. Nekrasov, Corresponding Academician (Ukrainian S.S.R.)
(1961)

Deputy Director: M. S. Polyakov, Corresponding Academician (Ukrainian S.S.R.) (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1962)

Selected Staff Members:

N. G. Asada
K. P. Bunin, Corresponding Academician (Ukrainian S.S.R.)
V. V. Chekin
A. P. Chekmarev, Academician (Ukrainian S.S.R.)
V. I. Danilin
A. A. Dinnik
N. N. Dobrokhotov, Academician (Ukrainian S.S.R.)
V. M. Klimenko
S. N. Kozhevnikov, Corresponding Academician (Ukrainian S.S.R.)
M. P. Lapshova
Ya. N. Malinochka, Candidate
G. V. Rodionov, Doctor, Head of the Laboratory of Physical
Fundamentals of Excavation and Beneficiation
N. P. Spiridonov
K. P. Staradubov, Academician (Ukrainian S.S.R.)
V. N. Svechnikov

Description:

This institute was founded in 1939; then, it was located in Khar'kov, with branches in Dnepropetrovsk and Kiyev. From 1944 to 1953, the Institute was located in Kiyev. In 1953, it was moved again to Dnepropetrovsk. It coordinates the research of many institutes on the development of rolling-mill equipment and the technology of the production of rolled products.

In general, the work of the Institute includes the heat treatment of metals, blast-furnace and open-hearth processes, and mechanization and automation of metallurgical production. Other areas of interest include the utilization of iron ore from the Kirch deposits, the reproducibility of iron ores and sinters, the effect of arsenic addition on the properties of steels, the use of natural gas in open-hearth furnaces, the behavior of carbon and graphite in steels, the study of the microstructure of steels, and the brittle behavior of steels.

In 1961, some work was done in the field of mining. This was preliminary to the future establishment of a mining institute in Dnepropetrovsk.

Also in 1961, construction began on a new complex of laboratories and buildings. These were to be ready for occupancy in a year or more.

The Degree of Candidate is granted by this institute. A Trudy is published frequently.

Graduate training is offered in the metallurgy of steel and pig iron, foundry production, pressure working of metals, metal working and heat treatment, and mechanical equipment of metallurgical plants.

Name: Institute of Fine Organic Chemistry
(Institut tonkoy organicheskoy khimii)

Address: Yerevan

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members:

A. A. Afrikyan
A. A. Aroyan
A. L. Mndzhoyan, Academician (Armenian S.S.R.)
O. L. Mndzhoyan
A. N. Oganyesyan

Description:

A new institute in the Armenian Academy of Sciences was formed in 1955 when the Laboratory of Pharmaceutical Chemistry was reorganized into the Institute of Fine Organic Chemistry. They have published three volumes on the "Synthesis of Heterocyclic Compounds". Research on the pharmacological properties of thiophene and other organic compounds continues to be done here.

Name: Institute of Forestry Problems and Chemistry of Wood Pulp
(Institut lesokhozyaystvennykh problem i khimii drevesiny)

Address: Riga

Director: A. I. Kalnin'sh, Academician (Latvian S.S.R.) (1960)

Deputy Director: P. Sarma, Candidate (1961)

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

L. A. Fedotova
S. Gillers
A. Karmilciks
Yu. L. Pogosov
Kh. M. Vasserman

Description:

Research has been conducted on the hydrolysis of wood, the decarbonylation of furfural, and quaternary polymethylene-bis-pyrrolidine and piperidine salts.

Name: Institute of Foundry Production
(Institut liteynogo proizvodstva)

Address: Kiev, ulitsa Vyubetskaya, 47

Director: A. A. Gorshkov, Corresponding Academician (Ukrainian S.S.R.)
(1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

M. P. Braun
M. E. Garf
A. I. Kondrashev
S. V. Serensen, Academician (Ukrainian S.S.R.)
B. B. Vinokur

Description:

In late 1958, the Presidium of the Ukrainian Academy of Sciences established the new Institute of Foundry Production. This institute represents a reorganization of the Academy's Institute of Machine Studies and Agricultural Mechanics.

The reorganized institute studies new foundry production technology and assists in introducing it into industrial practice, and also works on the planning and design of new casting and foundry equipment, the introduction of complex mechanization and automation, and the application of new casting materials. In addition to the solution of theoretical and technological problems, cooperation with industry has been intensified, laboratory and design facilities expanded, and new departments founded.

A primary function of the Institute is to develop new molding materials, sand mixtures, cast-metal compositions, and modern casting technology. It advocates combining the mechanization and automation of casting and foundry equipment.

Examples of studies made by the Institute's Department of Molding and Molding Technology are the investigation of bentonites found in the Cherkassy deposits and an investigation of zirconia-sand mixtures for foundry molding.

Special emphasis has been placed on studying the formation of spherical graphite in gray iron and the effect of additions of copper, magnesium, calcium, cerium, and zinc to molten gray iron. Related studies have been on the role of super-cooling on the formation of spherical graphite flakes, the corrosion of nodular cast iron, and the physical metallurgy of nodular cast iron. High-strength cast iron has been studied in terms of the effect of friction and plastic deformation and fatigue strength.

In the area of steel metallurgy, the Institute has made studies on internal friction of high-quality steels, new construction steels for large forgings, the effect of low temperatures on fracture strength, temper embrittlement of steel, nickel steel for large forgings, mechanical properties and heat resistance, heat treatment of alloy steel, influence of columbium on the fracture characteristics of alloy steel, and effect of alloying on austenite transformation in Si-Mn steels.

The Institute cooperated with the Sumskoye Plant of Electronic Microscopes and Electronic Apparatus to develop new electronic apparatus for control of cupola furnaces. The Institute has also made automation studies of the cupola. The Institute designed and built a fatigue-testing machine for large components, which was on display in New York in 1958.

The Institute offers graduate training in the specialties of foundry production, metalworking and heat treatment, and automation of foundry production.

Name: Institute of Gas Utilization
(Institut ispol'zovaniya gaza)

Address: Kiyev, ulitsa Mel'nika, 44

Director: V. F. Kopytov, Corresponding Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

V. A. Baum
N. N. Dobrokhoyov, Academician (Ukrainian S.S.R.)
A. M. Levin
L. S. Pioro
A. Ye. Yerinov
N. A. Zakharikov

Description:

Much of the work of the Institute of Gas Utilization is directed toward heat transfer and the control of heat in industrial gas furnaces. Injection-type burners, heat treating of materials in furnaces, and the combustion processes of natural gases in industrial furnaces are of research interest to the Institute. Together with the L'vov Polytechnic Institute, the Institute of Gas Utilization has carried out research in the automation of manufacturing processes. The Candidate's Degree is offered at the Institute.

Name: Institute of General and Inorganic Chemistry
(Institut obshchey i neorganicheskoy khimii)

Address: Minsk

Director: M. M. Pavlyuchenko, Academician (Belorussian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1961)

Selected Staff Members:

M. A. Bezborodov, Academician (Belorussian S.S.R.)
S. A. Levina
Yu. S. Lipatov
T. E. Lipatova

G. M. Pavlyuchenko
N. F. Yermolenko

Description:

The Institute of General and Inorganic Chemistry appears to have been set up on the basis of the Institute of Chemistry of the Belorussian S.S.R. about 1959. Investigations in organic and inorganic chemistry are being conducted. M. A. Bezborodov is working on glass coatings for aluminum. The staff is also pursuing studies of the effect of polymers on a glass surface.

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Name: Institute of General and Inorganic Chemistry
(Institut obshchey i neorganicheskoy khimii--IONKh AN UkSSR)

Address: Kiyev, ulitsa Leontovicha, 9

Director: Yu. K. Delimarskiy, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

A. K. Babko, Academician (Ukrainian S.S.R.)
A. S. Barabanova
R. V. Chernov
Yu. F. Deynega
A. V. Dumans'kiy, Corresponding Academician (U.S.S.R.)
N. N. Gratsianskiy
P. V. Marchenko
B. F. Markov
V. A. Nazarenko
F. S. Ovcharenko, Corresponding Academician (Ukrainian S.S.R.)
Head of a Laboratory
I. S. Panchenko
Ts. V. Pevzner
I. A. Sheka
I. S. Vdovenko
B. A. Voytovich

Description:

The Institute of General and Inorganic Chemistry of the Academy of Sciences, Ukrainian S.S.R., is a large institute, with a number of personnel engaged in research in inorganic compounds, complexes, electro-metallurgy, and electrochemistry. They have investigated the analysis of

pure metals and of ores of rare earth metals, electrolytic refining of lead, electrochemical polishing of steel, and corrosion. Polarography and polarographic analysis have been studied here, and many articles have been published on the investigation of complex compounds. This institute has sponsored the publication of books on complex compounds, polarography and electrode processes, and the processing of ceramic materials. The Institute grants the Degrees of Candidate and Doctor in the areas of inorganic chemistry, colloidal chemistry, analytical chemistry, hydrochemistry, and the chemistry and technology of rare metals. Branch laboratories to the Institute are located in Odessa.

Name: Institute of General and Inorganic Chemistry imeni N. S. Kurnakov
(Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova--
IONKh)

Address: Moscow, Leninskiy prospekt, 31

Director: I. I. Chernyayev, Academician (U.S.S.R.) (1956)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

G. V. Boki, Corresponding Academician (U.S.S.R.)
L. M. Dikareva
M. Ye. Dyatkina
V. A. Golovna, Doctor
A. A. Grinberg, Academician (U.S.S.R.)
A. F. Kapustinskiy, Corresponding Academician (U.S.S.R.)
N. P. Luzhnaya, Doctor
V. I. Mikheyeva
A. V. Nikolayev, Corresponding Academician (U.S.S.R.)
Z. V. Popova
M. A. Poray-Koshits
N. K. Pshenitsyn, Corresponding Academician (U.S.S.R.)
G. B. Ravich
T. V. Rode, Doctor
O. Ya. Samoylov, Doctor (1959)
Ya. K. Syrkin, Corresponding Academician (U.S.S.R.)
I. V. Tananayev, Corresponding Academician (U.S.S.R.), Head of a
Laboratory

Description:

This institute, directed for many years by I. I. Chernyayev, is comprised of a number of laboratories, such as the Laboratory of the

Chemistry of Metal Alloys, the Mechanical Tests Laboratory, the X-ray Laboratory, and the Laboratory of High Pressures, and of several sections or divisions, such as the Division of Physical-Chemical Analysis and the Division of Platinum and Other Noble Metals. Metal alloys, electrodeposition, and rare-earth and diffuse elements are investigated here. Research on inorganic compounds, complex compounds, and inorganic polymers has been done. Much work on methods of physical-chemical analysis is conducted. Recently, a ternary solid solution having valuable thermoelectrical properties was found, and a synthesis of boron arsenide was developed.

As an educational institute, Candidate's and Doctor's Degrees are granted.

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Name: Institute of Geochemistry
(Institut geokhimii)

Address: Irkutsk

Director: A. P. Vinogradov, Academician (U.S.S.R.) (1959)

Deputy Director: L. V. Tauson, Candidate

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members: --

Description:

This institute was established in 1958 for the exploitation of ore deposits throughout the Siberian and Far East regions of the U.S.S.R. The Institute has done research on rare-earth components of pegmatite formations, and has studied the effect of rare earths on mineral growth and structure.

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Name: Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy
(Institut geokhimii i analiticheskoy khimii imeni V. I. Vernadskogo--
GEOKHI)

Address: Moscow, Vorob'yevskoye shosse, 47-a

Director: A. P. Vinogradov, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

I. P. Alimarin, Corresponding Academician (U.S.S.R.)
 V. L. Barsukov
 K. P. Florenskiy
 V. I. Kuznetsov, Corresponding Academician (U.S.S.R.)
 A. K. Lavrukhina
 Ye. S. Makarov
 D. P. Malyuga
 A. B. Ronov
 A. K. Rusanov
 D. I. Ryabchikov
 M. M. Senyavin, Doctor
 E. Ye. Vaynshteyn
 Yu. A. Zolotov

Description:

This institute developed from the Laboratory of Geochemical Problems imeni V. I. Vernadskiy about 1948. By 1957, it was reported to maintain 12 laboratories and had extended its fields of research to include the geochemistry of isotopes. In this context, a beta spectrometer for studying radioactive elements was obtained from the Moscow Fizpribor Plant. Representative areas of research are the geochemistry of titanium, rubidium, hafnium, cesium, zirconium; formation of lanthanum, neodymium, praseodymium, and neptunium complexes; and determination of ore components such as uranium, boron, and germanium by oscillographic and spectrographic methods. Of special interest are their discoveries of new Ir¹⁸³, Ir¹⁸⁴, and Pt¹⁸⁷ isotopes as fission products of gold bombarded by 660-Mev protons. They have also investigated the decay products of Er¹⁶¹. Tagged atoms have been used by their investigators to study the distribution of atoms in a d.c.-arc plasma in air, argon, and helium.

The Institute has collaborated with the Institute of Analytical Chemistry in developing methods for the analysis of impurities in semi-conductors.

In 1958, K. P. Florenskiy organized and headed an 80-man expedition to study the Tunguska meteorite, which descended in Siberia in 1908; samples of the meteorite material and surrounding terrain were returned to Moscow for analysis. Also, in 1960, the Institute assisted in analyzing lead isotopes from fragments of a meteorite which fell near Yardymly in Adzerbaydzhan.

Members of the Institute have participated in a number of conferences on analytical chemistry and isotope application. Typical books produced by staff members concern the application of tracer atoms in analytical chemistry (1955); spectrophotometric and colorimetric methods of analysis

(1958); special features of ultramicro methods of qualitative and quantitative inorganic analysis, primarily from the geochemical standpoint (1960); and methods for the determination and analysis of rare elements (1961). This institute awards higher academic degrees and publishes a Trudy.

Name: Institute of Geography
(Institut geografii)

Address: Baku, Kommunisticheskaya ulitsa, 10

Director: K. K. Gyul' (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaydzhan S.S.R. (1961)

Selected Staff Members: --

Description:

In addition to studies concerning changes in the hydrological characteristics of the southern Caspian Sea, this institute has provided the background for two books concerned with Azerbaydzhan geography.

Name: Institute of Geography
(Institut geografii)

Address: Moscow, Staromonetnyy pereulok, 29

Director: I. P. Gerasimov, Academician (U.S.S.R.) (1960)

Deputy Director: M. I. Neyshtadt (1961)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

- G. A. Avsyuk, Corresponding Academician (U.S.S.R.), Head of Department of Glaciology
- B. L. Dzerdzeyevskiy, Professor, Head of Department of Climatology
- A. N. Formozov, Professor, Head of Department of Biogeography
- S. Yu. Geller, Head of Department of Geomorphology
- A. A. Grigoryev, Academician (U.S.S.R.), Head of Department of History of Geography
- N. F. Leontyev, Head of Department of Cartography

- M. I. I'vovich, Head of Department of Hydrology
 V. V. Pokshishevskiy, Head of Department of Economic Geography
 of the U.S.S.R.
 K. M. Popov, Head of Department of Geography of Capitalist
 Countries
 G. D. Rikhter, Professor, Head of Department of Physical Geography
 R. Yu. Veniyeri, Head of Polar-Ural Expedition
 V. T. Zaychikov, Doctor, Head of Department of Geography of Peoples
 Democracies

Description:

Founded in 1931, the Institute's scientific activities are concentrated on physical and economic geography. In addition to geographical studies on the U.S.S.R. and foreign countries, much glaciological and climatological research has been done within the program of the IGY. Recent activities include a map showing secular pulsations of the earth's crust in the western European U.S.S.R. and studies determining the characteristics of the ice domes of Franz Josef Land.

The Institute has 11 research departments: (1) Biogeography, (2) Cartography, (3) Climatology, (4) Economic Geography of the U.S.S.R., (5) Geography of Capitalist Countries, (6) Geography of Peoples Democracies, (7) Geomorphology, (8) Glaciology, (9) History of Geography, (10) Hydrology, and (11) Physical Geography. In addition, it maintains laboratories of pollen analysis, biochemical analysis, photography, and stereogrammetry. It maintains four field stations, one near Moscow, one in the northern Urals, one in Novaya Zemlya, and one in the Tian'-Shan'. Izvestiya Akademii Nauk S.S.S.R., Seriya Geograficheskaya, is based mainly on the work of the Institute.

Name: Institute of Geography imeni Vakhushti
 (Institut geografii imeni Vakhushti)

Address: Tbilisi, ulitsa Chimadze, 8

Director: A. N. Dzhavakhishvili, Academician (Georgian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

- A. F. Aslanikashvili
 G. D. Dondua
 G. G. Gvelesyani
 L. Yu. Maruashvili

D. V. Tsereteli
L. A. Vladimirov, Doctor

Description:

Founded in 1945, the Institute is concerned primarily with research on the physical and economic geography of the Georgian Republic. It maintains Departments of Cartography, Climatology, Economic Geography, Geomorphology, Glaciology, Hydrology, Speleology, and Karst.

The Institute has done extensive research on the population of Georgia, as regards its distribution, labor resources, economic and physical conditions, and regionalization, for the purpose of improving the distribution of agriculture and manufacturing.

The Institute is preparing a geographic atlas of the Georgian S.S.R., to be published in 1962.

Name: Institute of Geography of Siberia and the Far East
(Institut geografii Sibiri i dal'nogo vostoka)

Address: Irkutsk

Director: V. B. Sochava, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1961)

Selected Staff Members: --

Description:

The Institute is working on problems connected with surveys of the Lake Baykal water basin.

Name: Institute of Geological Sciences
(Institut geologicheskikh nauk)

Address: Yerevan, ulitsa Pushkina, 12

Director: S. S. Mkrtchyan, Academician (Armenian S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members:

E. B. Adzhimamudov
 Ts. G. Akopyan
 E. A. Arutyunyan
 N. I. Dolokhanova
 S. M. Krtchyan
 I. G. Magak'yan, Academician (Armenian S.S.R.)
 B. M. Meliksetyan

Description:

This institute studies the geology and mineralogy of Armenia and techniques of prospecting. It has a metallurgical laboratory, which has developed a new simplified hydrometallurgical system of obtaining selenium and tellurium from anode sludges.

Name: Institute of Geological Sciences
 (Institut geologicheskikh nauk)

Address: Minsk

Director: A. N. Avksent'yev, Corresponding Academician (Belorussian S.S.R.)
 (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1961)

Selected Staff Members:

I. A. Balabushevich
 B. V. Bondarenko
 A. V. Fursenko, Corresponding Academician (Belorussian S.S.R.)
 V. K. Golubtsov
 G. I. Kedo
 K. I. Lukashev, Academician (Belorussian S.S.R.)
 V. N. Shcherbina, Corresponding Academician (Belorussian S.S.R.)

Description:

Extensive theoretical research is conducted at this institute on methods of prospecting for mineral deposits, stratigraphy, the geological history of individual structures, the geology of the Belorussian S.S.R.,

and the determination of the pattern of distribution and formation of subterranean waters in the Republic and in the territories adjacent to it. The Institute, in 1959 established a seismic station in Pleshchenitsy to study the geomagnetic, geoelectric, and gravitational fields and microseismic oscillations of the earth's crust.

Name: Institute of Geological Sciences
(Institut geologicheskikh nauk)

Address: Alma-Ata, Vinogradova, 34

Director: K. I. Satpayev, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members:

P. Ya. Avrov, Professor, Head of Petroleum and Gas Section
I. I. Bok
I. I. Gekht
S. I. Izyumskiy
G. Ts. Medoyev, Head of Section of Geomorphology and Quaternary Geology
L. A. Miroshnichenko
Ye. D. Shiygin
N. G. Syromyatnikov
G. B. Zhilinsky
V. S. Zvontsov

Description:

The Institute has the following organization:

Division of Geomorphology
Division of Hydrogeology and Engineering Geology
Division of Mineral Fuels
Polarographic Laboratory
Laboratory of Coal Petrography
Paleontological Laboratory
Diamond-Cutting Workshop
Geography Sector.

The Institute is involved in classical geological research studies of the Kazakh Republic. It produced the first forecasting metallogenic map of its kind in the U.S.S.R., on the principal useful minerals of Central

Kazakhstan and the Altay regions. The Institute also has studied the pre- and early-Paleozoic periods of Central Kazakhstan, and studied in detail the water resources of certain parts of the Republic. Recently, research has been concentrated on the development of scientific fundamentals of metallogenesis. A number of rare- and nonferrous-metal occurrences were uncovered. Considerable data on the regularity of titanium ores in the southeastern part of the Turgery depression were obtained. Studies were made on the interphase isotopic exchange of uranium-234 and uranium-238. The Institute publishes a Trudy.

Name: Institute of Geological Sciences
(Institut geologicheskikh nauk)

Address: Kiyev, ulitsa Lenina, 15

Director: V. G. Bondarchuk, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

N. F. Balukhovskiy
Ye. S. Burkser, Corresponding Academician (Ukrainian S.S.R.)
F. M. Kharchenko
A. V. Krashennikov, Candidate
V. V. Kravet's
Ye. K. Lossovs'kyy
B. F. Mitskevich
Ye. S. Nazarevich
K. A. Tovarenko

Description:

This institute has a spectral-analysis laboratory which analyzes rare-earth elements. The most outstanding contribution the Institute has made is the development of the structural-petrographic map of the Ukrainian crystalline massif. Other studies have concerned high-frequency seismic prospecting to detect the metamorphic rock complex of the Bilozersky iron-ore deposits, and the physical and magnetic properties of stone meteorites. A small seismic device for geological engineering and hydrogeological explorations was developed by the Institute.

Graduate training is offered in the geology of ore deposits, stratigraphy, paleontology, geotectonics, and geochemistry. The Institute publishes Trudy Seriya Geofizicheskaya.

Name: Institute of Geology
(Institut geologii)

Address: Tartu

Director: K. K. Orviku, Academician (Estonian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members:

E. Yu. Mourk
A. I. Verte

Description:

This institute conducts geological studies in the Estonian S.S.R. Studies include the collection of meteorites and stratigraphic investigations. A Trudy is published.

Name: Institute of Geology
(Institut geologii)

Address: Frunze

Director: M. M. Adyshev, Corresponding Academician (Kirghiz S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1961)

Selected Staff Members: --

Description:

This institute's research has concerned the geological structure of the mineral deposits of the Kirghiz and Kazakh Republics. It also has done work in hydrodynamics and gas dynamics.

The Institute publishes a Trudy.

Name: Institute of Geology
(Institut geologii)

Address: Stalinabad

Director: R. B. Baratov, Corresponding Academician (Tadzhik S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Tadzhik S.S.R. (1961)

Selected Staff Members: --

Description:

This institute is involved in seismic studies made in connection with the work on the hydroengineering construction on the River Vakhm and in the Stalinabad area.

Name: Institute of Geology
(Institut geologii)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Turkmen S.S.R. (1961)

Selected Staff Members:

A. A. Ali-Zade

A. V. Sidorenko, Corresponding Academician (U.S.S.R.)

Description:

This institute conducts geological studies near the Caspian lowlands of the southwestern Turkmen S.S.R. It publishes a Trudy.

Name: Institute of Geology
(Geologicheskii institut--GIN)

Address: Moscow, Pyzhevskiy pereulok, 7

Director: A. V. Peyve, Corresponding Academician (U.S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

G. Z. Atanesyan
 V. N. Grigor'yev
 M. Ya. Kats
 Yu. A. Kosygin, Corresponding Academician (U.S.S.R.)
 D. N. Kropotkin
 A. A. Lazarenko
 N. V. Logvinenko
 Yu. P. Mel'nik
 A. M. Patiokni
 Yu. M. Pushcharovskiy, Candidate
 A. P. Romadonov
 S. R. Sergiyenko, Academician (Turkmen S.S.R.)
 N. S. Shatskiy, Academician (U.S.S.R.)
 V. D. Shutov, Candidate
 A. V. Sidorenko, Corresponding Academician (U.S.S.R.), Head of a
 Laboratory
 N. M. Strakhov, Academician (U.S.S.R.), Head of Laboratory
 V. V. Tikhomirov

Description:

This institute consists of the following units: Division of Mineralogy and Geochemistry; Division of Mineralogy with a Laboratory of Experimental Mineralogy and a Laboratory of Authigenous Mineralogy; Division of Geochemistry; Division of Comparative Lithology with a Laboratory of Comparative Lithology; Laboratory of High-Molecular Compounds; Laboratory of X-Ray Chemistry; and Section of Technical and Experimental Petrography. It has investigated methods of studying oxidation kinetics and thermal-oxidation stability of petroleum products, an isodynamic magnetron separator by which aluminiferrous, suspended materials can be separated, seismic activity and structure of Kamchatka and the northern part of the Kuril isochain, and chromatographic separation of titanium from columbium and tantalum. The Institute also has studied the geology of diamond deposits, geochemistry, seismology, theory of lithogenesis, and ultrasonic rock crushing. In 1959, the Institute prepared a tectonic map of the Arctic.

The Institute grants the Candidate's and Doctor's Degrees and publishes a Trudy.

Name: Institute of Geology
 (Institut geologii)

Address: Tashkent, ulitsa Stalina, 33

Director: G. A. Mavlyanov, Corresponding Academician (Uzbek S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1960)

Selected Staff Members:

Kh. M. Abdullayev, Corresponding Academician (U.S.S.R.), Head
of Sector
V. G. Avetikov
S. T. Badalov
A. K. Kasymov
N. T. Kenesarin, Professor
I. K. Khamrabayev, Professor
Sh. K. Rasulev
A. Sh. Shamansurov
Sh. Sharakhmedov

Description:

The Institute of Geology is concerned with oil and gas development in the Uzbek S.S.R., predictions of oil and gas production, ground-water studies, and various geological surveys. Specialized studies of a geo-chemical nature are performed. Institute studies on trace-element distributions in ore bodies and various rock formations are expected to yield information valuable to the prospector, as well as to the field of mineral and ore-body origins.

Name: Institute of Geology and Geography
(Institut geologii i geografii)

Address: Vil'nyus

Director: K. K. Belyukas, Academician (Lithuanian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Lithuanian S.S.R. (1961)

Selected Staff Members:

P. Blinstrubas
A. I. Buz
V. Matulyavichyus
B. I. Styro

Description:

This institute erected the first Soviet meteorology station to study the relation of atmospheric radioactivity to weather. Areas of research

include wind velocity in the lower layers of the atmosphere, physics of clouds and precipitation, distribution of radioactive aerosols in the free atmosphere, and interpretation of magnetic anomalies. A device was developed to function automatically on a 24-hour basis to measure radioactivity in the air. Research papers are periodically published by the Institute in a Nauchnyye Soobshcheniya.

Name: Institute of Geology and Geophysics
(Institut geologii i geofiziki)

Address: Novosibirsk

Director: A. A. Trofimuk, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

Ye. F. Doil'nitsyn
E. E. Fotiadi, Corresponding Academician (U.S.S.R.)
Yu. A. Kosygin, Corresponding Academician (U.S.S.R.)
V. A. Kuznetsov, Corresponding Academician (U.S.S.R.)
U. M. Matoshin
G. L. Pospelov
I. Ya. Provodniko
V. N. Saks, Corresponding Academician (U.S.S.R.)
M. G. Serbulenko
F. N. Shakhov, Corresponding Academician (U.S.S.R.)
M. Ya. Shcherbakova
V. S. Sobolev, Academician (U.S.S.R.)
O. A. Solov'yev
A. I. Trubetskoy
A. L. Yanshin, Academician (U.S.S.R.)

Description:

After the Institute was established in 1958 as an experimental facility with living quarters for 1,000 persons, 28 expeditionary crews were formed to perform scientific and exploratory work. The Institute has conducted basic geological work related to the discovery and development of Siberia's mineral wealth. Recent studies have been directed toward the development of a modern theory of the origin of mineral and ore deposits. Some current geophysical studies at the Institute are directed toward the determination of the depth of the upper surfaces of magnetized ore bodies within the earth's crust.

Name: Institute of Geology and Mineral Resources
(Institut geologii i poleznykh iskopayemykh)

Address: Kishinev, proyezd Lenina, 1

Director: P. K. Ivanchuk, Doctor (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Moldavian S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute was founded in 1958. Its research tasks are broadly the investigation of the geological structure of the Moldavian S.S.R. and the distribution of the Republic's natural resources. The Institute consists of Laboratories of Lithology, Petrography, and Study of the Physical Properties of Natural Resources, Geology of Mineral Oil and Natural Gas, Hydrogeology and Engineering Geology, Development of Natural Building Materials, Mechanization of the Production of Natural Building Materials, Synthetic Building Materials, Technology of Synthetic Building Materials, and Seismic Stability of Buildings.

When the Institute was planned, it was intended that two additional laboratories would be opened in the period 1959 to 1965. They are the Laboratories for Quaternary Geology and Geomorphology and for Geochemistry and Natural Resources.

Name: Institute of Geology and Processing of Mineral Fuels
(Institut geologii i razrabotki goryuchikh iskopayemykh)

Address: Moscow, Leninskiy prospekt, 29

Director: M. F. Mirchink, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on the Fuel Industry (1962)

Selected Staff Members:

F. A. Alekseyev, Professor
K. R. Chepikov, Corresponding Academician (U.S.S.R.)
A. T. Donabedov
S. F. Fedorov, Corresponding Academician (U.S.S.R.)
Ye. V. Lebedev

A. A. Petrov
 S. R. Sergiyenko, Academician (Turkmen S.S.R.)
 L. A. Shreyner, Academician (Turkmen S.S.R.)
 M. I. Varentsov, Corresponding Academician (U.S.S.R.)
 V. I. Yermakov, Candidate
 P. P. Zotov

Description:

This institute, formerly under the Academy of Sciences, U.S.S.R., was established in 1959 from part of the Institute of Petroleum. It is involved in a wide range of research on the chemical properties of high-molecular hydrocarbons in petroleum and the geology of the Turkmen S.S.R. Developmental work has been done on the radiometer method of prospecting for petroleum deposits under the sea. A new theory advocated by the Institute says that an enormous quantity of heat was generated, and is being generated, inside the earth as a result of the action of gravitational forces on earth. The Institute also has studied metal surface wear and seismology.

Name: Institute of Geology and Useful Minerals
 (Institut geologii i poleznykh iskopayemykh)

Address: Riga

Director: K. Ya. Springis, Corresponding Academician (Latvian S.S.R.)
 (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members: V. Staprens, Candidate, Head of Hydrology Section

Description:

This institute has limited its area of research to chemical and geological studies of Devonian and other deposits within Latvia.

Name: Institute of Geology imeni I. M. Gubkin
 (Institut geologii imeni akademika I. M. Gubkina)

Address: Baku, ulitsa Fizuli, 67

Director: A. D. Sultanov, Academician (Azerbaijdzhan S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaydzhan S.S.R. (1961)

Selected Staff Members:

M. Ya. Abramovich
 M. G. Agabekov
 Sh. A. Azizbekov
 G. A. Kerimov, Professor
 U. P. Kuznetsov
 A. V. Mamadov
 B. A. Osipova
 I. I. Potapov
 D. M. Suleymanov
 G. P. Tamrazyan

Description:

The Institute is involved in seismic, magnetic, and mineralogical studies of the Lower Caucasus to locate gas sources in the Apsheronkiy Peninsula and to determine the possibilities of utilizing the large known deposits of iron ore, cobalt, copper, zinc, aluminites, rare metals, and other valuable raw materials.

The Institute publishes a Uchenyye Zapiski.

Name: Institute of Geology of Mineral Deposits, Petrography, Mineralogy, and Geochemistry
 (Institut geologii rudnykh mestorozhdeniy, petrografii, mineralologii i geokhimii--IGEM)

Address: Moscow, Staromonetnyy pereulok, 35

Director: F. V. Chukhrov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

G. D. Afanas'yev, Corresponding Academician (U.S.S.R.), Head of a Section
 V. V. Arkhangel'skaya
 R. L. Barinskiy
 A. G. Betekhtin, Academician (U.S.S.R.)
 I. G. Chentsov
 I. I. Ginzburg
 M. I. Kalganov
 D. S. Korzhinskiy, Academician (U.S.S.R.)
 O. D. Levitskiy, Corresponding Academician (U.S.S.R.)

N. P. Poluzerov
 A. A. Saukov, Corresponding Academician (U.S.S.R.)
 I. S. Smirnova
 S. G. Tseytlin
 N. I. Vlodavets
 B. V. Zalesskiy

Description:

Primary research interests of the Institute are ore and mineral analysis. A specific interest involves the quantitative determination of trace elements and rare earths in complex ores. Emphasis is placed on the development of new methods and instrumentation to be used in mineralogical analysis. The Radiochemical Laboratory of this institute recently developed an instrument called an atomic spectrometer in which radiation from a radioactive source located centrally in a fine mineral powder causes the chemical elements of the powder to emit characteristic X-rays. A compact, electronic computing apparatus acts as a recording and analyzing device to give the qualitative and quantitative analysis of the mineral powder.

It publishes a Trudy.

Name: Institute of Geology of Useful Minerals
 (Institut geologii poleznykh iskopayemykh)

Address: L'vov, ulitsa Kopernika, 15

Director: V. B. Porfir'yev, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

A. P. Bobriyevich
 A. P. Bondarenko
 I. L. Dikiy, Head of Korets Station of the Institute
 U. A. Kalyuzhnyy
 I. A. Kozachok
 U. V. Kruglyakov
 R. I. Kutas, Head of Morshin Station of the Institute
 Ya. I. Sereda, Corresponding Academician (Ukrainian S.S.R.)
 G. I. Smirnov
 S. I. Subbotin, Corresponding Academician (Ukrainian S.S.R.)
 T. Z. Verbytskiy

Description:

This institute has two geological stations, the Korets Station at the western ridge of the Ukrainian crystalline rock mass, 215 meters above sea level, and the Morshin Station, 2.5 kilometers southwest of the resort at Morshin and 360 meters above sea level. Much geological and geophysical research is done, including studies of oil- and gas-deposit formations.

Advanced degrees are conferred with specialization in hydrogeology, geology of petroleum and gas, stratigraphy, engineering geology, and geochemistry of combustible minerals.

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Name: Institute of Geophysics
(Institut geofiziki--GIGAN)

Address: Tbilisi

Director: A. V. Bukhnikivshvili (1961)

Deputy Director: V. V. Kebuladze, Candidate (1958)

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

A. G. Balabuyev, Academician (Georgian S.S.R.)
 B. K. Balavadze, Professor
 Ye. I. Byus, Corresponding Academician (Georgian S.S.R.)
 A. I. Kartsivadze
 N. A. Katsiashvili
 V. K. Koyava
 V. D. Kupradze
 M. Z. Nodia, Professor
 D. I. Sikharulidze
 A. D. Tskhakaya
 G. K. Tvaltvadze

Description:

The Institute of Geophysics in the Georgian S.S.R., was established in 1933. Research is carried on in the fields of atmospheric physics, seismology, gravimetry, terrestrial magnetism, terrestrial electricity, and geophysical methods of exploration. Radiometric and gravimetric researches and glaciological explorations are also carried out. The Institute participated in the IGY program on geomagnetic and geoelectric perturbations and the investigation of variations of the intensity of cosmic rays. In 1960, the Institute began large-scale research on the structure of the earth's

crust in the Caucasian Range using deep seismic probings. The Institute has a cosmic-ray station, and telluric currents are investigated at the Dusheti station, the Institute's geophysical observatory. The Institute publishes a Trudy.

Name: Institute of Geophysics
(Institut geofiziki)

Address: Kiyev, ulitsa Repina, 2

Director: S. I. Subbotin, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

F. M. Kharchenko
V. V. Kravets
Ye. K. Lossovskiy

Description:

This institute was founded in the Spring of 1961. It was to deal with the following four problems: the earth's upper mantle and its effect on the earth's crust; the electromagnetic field of the earth and its relation to ionospheric phenomena; the earth's structure, using geophysical investigations; and the deep layers of the earth's crust, using seismological and other methods.

The Institute offers graduate training in the physics of the earth's crust and geophysical prospecting.

Name: Institute of Geophysics
(Institut geofiziki)

Address: Sverdlovsk

Director: Yu. P. Bulashevich, Doctor (1959)

Deputy Director: --

Administrative Affiliation: State Committee of the R.S.F.S.R. for the Coordination of Scientific Research (1961)

Selected Staff Members:

N. I. Khalevin
G. M. Voskoboynikov

Description:

This institute, formerly in the Ural Branch of the Academy of Sciences, U.S.S.R., comprises seven laboratories dealing with radioactive prospecting methods, electric prospecting, magnetic prospecting, regional geophysics, seismologic prospecting, electronics, and construction of geophysical devices. It also has a Computation Department.

The Institute was established to develop new methods of prospecting geophysics, as well as methods of geophysical investigation under the conditions prevailing in the Urals. It publishes a Trudy.

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Name: Institute of Geophysics and Engineering Seismology
(Institut geofiziki i inzhenernoy seysmologii)

Address: Leninakan

Director: A. G. Nazarov, Academician (Armenian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members: --

Description:

This institute, organized in 1961, is the eightieth scientific-research institution of the Armenian Republic. The basic task of the Institute is to study the deep geological structure of the Armenian S.S.R. using geophysical means. Research will be conducted on the physical properties of mountain rocks. Armenia will be divided into seismic regions, and a geophysical study of the effect of earthquakes on buildings will be made.

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Name: Institute of High-Molecular Compounds
(Institut vysokomolekulyarnykh soyedineniy--IVS)

Address: Leningrad, 2-y Birzhevoy proyezd, 6

Director: M. M. Koton, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

I. A. Arbuzova
M. I. Bessonov, Engineer
S. Ye. Bresler, Doctor, Head of Laboratory
S. N. Danilov, Corresponding Academician (U.S.S.R.),
former Director
B. A. Dolgoplosk, Corresponding Academician (U.S.S.R.),
Head of Laboratory
V. Ye. Eskin
S. Ya. Frenkel'
O. V. Kallistov
A. A. Korotkov, Corresponding Academician (U.S.S.R.)
Ye. V. Kurshchinskiy, Doctor
G. P. Mikhaylov
M. I. Mosevitskiy
N. I. Nikitin, Corresponding Academician (U.S.S.R.)
V. N. Nikitin
O. B. Ptitsyn
V. M. Tsvetkov, Doctor, Head of Laboratory of Polymer Solutions
S. N. Ushakov, Corresponding Academician (U.S.S.R.), Head of
Laboratory
A. A. Vansheydt, Head of Laboratory
M. V. Vol'kenshteyn
L. A. Volkova

Description:

The Institute of High-Molecular Compounds is one of the leading polymer-research institutes of the U.S.S.R., and is staffed with many important chemists and physicists. Organized in 1948, the Institute had seven laboratories. By 1958 the Institute had grown to include 11 laboratories.

The Institute is active in many phases of high-molecular-weight-compound research, for example, the synthesis of new polymers, heat-resistant polymers, fluoroplastics, heat-resistant transparent plastics, elemental-organic compounds, plastic scintillators, synthetic fibers from polyvinyl alcohol, ion-exchange resins, and synthetic rubber (including development of carboxylate and isoprene rubbers). The Institute has developed apparatus for the physical and mechanical testing of plastics.

A research group, under the direction of Bresler and Vol'kenshteyn, is working in molecular biology and biochemistry.

Name: Institute of History
(Institut istorii)

Address: Kiyev

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members: --

Description:

This institute coordinates the scholarly activity of Ukrainian historians. Its efforts are concentrated largely on Ukrainian history. It publishes Ukrayns'kiy Istorichniy-Zhurnal (Ukrainian Historical Journal) and a Nauchnyye Zapiski.

Name: Institute of History
(Institut istorii)

Address: Moscow, Volkhonka, 14

Director: V. M. Khvostov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

A. M. Deborin, Academician (U.S.S.R.)
 N. M. Druzhinin, Academician (U.S.S.R.)
 A. A. Guber, Corresponding Academician (U.S.S.R.)
 M. P. Kim, Corresponding Academician (U.S.S.R.)
 I. M. Mayskiy, Academician (U.S.S.R.)
 M. V. Nechkina, Academician (U.S.S.R.)
 F. V. Potemkin, Corresponding Academician (U.S.S.R.)
 S. D. Skazkin, Corresponding Academician (U.S.S.R.)
 V. V. Struve, Academician (U.S.S.R.)

Description:

The staff of this institute studies the history of the U.S.S.R. and its peoples, world history, and the history of workers' movements. The Institute has a branch in Leningrad.

The Institute grants Candidate's and Doctor's Degrees. Its publications include the monthly Voprosy Istorii (Problems of History), Istoricheskiy Arkhiv (Historical Archives), Istoriya SSSR (History of the U.S.S.R.), Novaya i Noveyshaya Istoriya (Modern and Recent History), and Voprosy Istorii Religii i Ateizma. Sbornik Statey (Problems of the History of Religion and Atheism. Collection of Articles).

Name: Institute of History, Archeology, and Ethnography
(Institut istorii, arkheologii i etnografii)

Address: Stalinabad

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Tadzhik S.S.R. (1960)

Selected Staff Members: --

Description:

This institute is concerned with social, economic, and political studies of the peoples of the Tadzhik S.S.R. It publishes a Trudy irregularly.

Name: Institute of History of Natural Science and Engineering
(Institut istorii yestestvoznaniya i tekhniki)

Address: Moscow, Novaya ploshchad', 3/4

Director: N. A. Figurovskiy, Doctor (1961)

Deputy Director: --

Administrative Affiliation: Presidium of the Academy of Sciences, U.S.S.R.
(1961)

Selected Staff Members: G. V. Bykov, Candidate

Description:

This institute was created to investigate the historical development of Soviet science and technology. To date, published studies from its

staff members have been, for the most part, intensive histories of specific subjects, such as production of synthetic nitric acid or variable mass mechanics, rather than broad, state-of-the-art reports. Studies are published in journals representing the particular field of interest, and collections of articles by staff members are periodically, published in a Trudy.

The Institute has a branch in Leningrad and publishes Voprosy istorii yestestvoznaniya i tekhniki (Problems of the History of Natural Sciences and Engineering) and Nauchnoye nasledstvo. Yestestrenno-nauchnaya seriya (Scientific Heritage. Natural Science Series).

Name: Institute of Hydrodynamics
(Institut gidrodinamiki)

Address: Novosibirsk

Director: M. A. Lavrent'yev, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department of the Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

- E. I. Grigolyuk, Corresponding Academician (U.S.S.R.)
- P. Ya. Kochina, Academician (U.S.S.R.)
- S. I. Pokhozhayev
- Yu. N. Rabotnov, Academician (U.S.S.R.)
- B. V. Voytsekhovskiy, Doctor, Director of Department of Dynamics of Rapid Processes

Description:

This institute was established in 1957 as part of the Siberian Division of the Academy of Sciences of the U.S.S.R. near Novosibirsk. The All-Union Conference on Problems of the Application of Explosions for Industrial and Economic Purposes was held on February 16-20, 1959, at this institute. The staff of the Institute of Hydrodynamics is very active in theoretical and applied studies on the movement of liquid masses, on blasting, especially in mining, and in testing of materials. A number of devices has been developed here--a pulsed 1,000-atmosphere water thrower, a piezo pickup for recording shock-wave pressures, and a device for testing stress in tubular samples.

Name: Institute of Hydrology and Hydraulic Engineering
(Institut gidrologii i gidrotekhniki)

Address: Kiyev, ulitsa Zhelyabova, 8/4, and ulitsa Artema, 45

Director: G. I. Sukhomel, Academician (Ukrainian S.S.R.) (1960)

Deputy Director: M. M. Didkovs'kiy, Candidate (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1962)

Selected Staff Members:

L. I. Dyatlovyts'kiy, Doctor
A. M. Panchenkov
G. M. Spirin
B. M. Yehidis

Description:

The Institute was organized in 1935 for work in hydraulics and hydrodynamics. A considerable amount of their current and past research has been theoretical, especially in the areas of plasticity, strength, and elasticity, where they have developed mathematical models for dealing with problems. However, their theoretical work on velocity and pressure has furthered the use of electronics in hydraulic studies. For example, a two-component, instantaneous velocity sensor has been developed at the Institute.

The motion of hydrofoils and the hydromechanical characteristics of wings have been subjects of recent study. This work would be of interest in designing submarines and aircraft. The Institute's test basin is used to create suitable conditions for various hydrodynamic experiments, such as studies of methods for increasing the speed of ships.

The Institute can grant the Degrees of Candidate and Doctor. Periodically, an Izvestia is published by the Institute.

Name: Institute of Information Transmission Systems
(Institut sistem peredachi informatsii)

Address: Moscow, Shosse Entuziastov, 156

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

E. L. Blokh
 V. A. Gormash
 A. A. Kharkevich, Corresponding Academician (U.S.S.R.)
 N. Ye. Kirillov
 D. S. Lebedev

Description:

This institute is engaged in work on computer applications, special devices, and circuit theory. Theoretical studies are made of circuits, such as relay circuits, that can be used in mechanized systems.

Computers are used for synthesizing relay circuits and as pattern-recognition machines or reading machines. The Institute has developed a computer that recognizes the sound of three words: "zero", "one", and "stop". It is capable of receiving commands given by any human voice at any volume. The Institute is working on a machine capable of both receiving speech and delivering it in printed form and of making translations.

Name: Institute of Inorganic Chemistry
 (Institut neorganicheskoy khimii)

Address: Novosibirsk

Director: A. V. Nikolayev, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department of the Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

V. A. Mikhaylov
 K. Ye. Mironov
 B. V. Ptitsyn, Corresponding Academician (U.S.S.R.)
 V. K. Val'tsev
 V. N. Vertoprakhov

Description:

This institute was established in 1957 as part of the Siberian Division of the Academy of Sciences of the U.S.S.R. near Novosibirsk, and was organized with the cooperation of the Institute of General and Inorganic Chemistry imeni N. S. Kurnakov. G. B. Bokiy is credited with organizing this institute. The building to house this institute was under construction as of 1961. This institute investigates the elements formed during the splitting

of uranium and plutonium, problems of complex compounds, and the extraction and investigation of rare-earth metals. Personnel at the Institute have investigated various multiply bonded compounds that are stable at high temperatures.

Name: Institute of Linguistics
(Institut yazykoznaniya--IYaZ)

Address: Moscow, Volkhonka, 18/8

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

- I. I. Meshchaninov, Academician (U.S.S.R.)
- B. A. Serebrennikov, Corresponding Academician (U.S.S.R.)

Description:

Fields of interest at this institute include linguistics, history of language, phonetics, linguistic morphology, grammar, methodology of linguistic research and teaching, and mathematical linguistics. It publishes Voprozy Yazykoznaniya (Problems of Linguistics). The Institute has a Leningrad Branch.

Name: Institute of Machine Science
(Institut mashinovedeniya)

Address: Minsk

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1960)

Selected Staff Members:

- V. A. Belyy
- S. S. Grigor'yev
- A. M. Lebedev

V. Ye. Starzhinskiy
A. N. Sviridenok

Description:

This institute conducts research on the theory of machines and the automation of production processes. It has developed machine tools and materials for machine tools, such as polyamide bearings.

Name: Institute of Machine Science
(Institut mashinovedeniya)

Address: Kiyev

Director: A. A. Vasilenko (1957)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

Ya. I. Burak
A. V. Chernovol
E. Ya. Filatov
M. Ya. Leonov
K. T. Shatalov
I. I. Sinyuk

Description:

This institute conducts theoretical and applied research in mechanical engineering. In addition to work on machine theory, research is conducted on structural strength, hysteresis, metal physics, and the use of radioactive tracers in quality control.

Name: Institute of Machine Science
(Institut mashinovedeniya--IMash)

Address: Moscow, Tsentr, Malye Khariton'yevskiy pereulok, 4

Director: A. A. Blagonravov, Academician (U.S.S.R.)

Deputy Director: S. Pinegin, Doctor

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1961)

Selected Staff Members:

I. I. Artobolevskiy, Academician (U.S.S.R.)
N. G. Bruyevich, Academician (U.S.S.R.)
M. L. Bykhovskiy, Doctor
A. L. Chestnov
V. I. Dikushin
F. M. Dimentberg
P. Ye. D'yachenko, Doctor
A. K. D'yachkov
G. A. Gulyayev, Corresponding Academician (Ukrainian S.S.R.)
A. I. Isayev, Doctor
M. M. Khrushchov, Head of Laboratory of Wear Resistance
A. Ye. Kobrinskiy
S. P. Korolev, Academician (U.S.S.R.), Head of Laboratory
M. G. Lozinskiy, Doctor
N. T. Neskorod'yev, Assistant Head of Laboratory
N. P. Rayevskiy, Doctor
B. M. Rovinskiy
S. V. Serensen, Doctor
A. D. Tomlenov, Head of Laboratory of Pressure Working
G. V. Uzhik

Description:

This institute, formerly in the Academy of Sciences, U.S.S.R., is the foremost Soviet research institute in the theory of machines. The Institute consists of four sections, which work in:

- (1) Theory of machines
- (2) Elasticity and stress analysis
- (3) Friction and lubrication
- (4) Technology of automatic machines.

Major research efforts have been in the stability of shells, high-temperature creep of metals, metal strength at high and low temperatures, plasticity of metals, and machine design (including kinematics, dynamics and vibration, hydraulics and pneumatics, and theory of electromechanical machines). Other areas of endeavor include research on the crystallization of metals, computer-controlled machines, ultrasonic cutting of diamonds, vacuum welding at high temperatures, and metal forming, and development of a variety of testing machines and friction materials.

The research of the staff is published frequently in a Trudy entitled *Trenie i Iznos v Mashinakh* (Friction and Wear in Machines).

Name: Institute of Machine Science and Automation
(Institut mashinovedeniya i avtomatiki)

Address: L'vov, ulitsa Kopernika, 15

Director: G. V. Karpenko, Doctor (1960)

Deputy Director: G. G. Maksimovich (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

B. I. Blazhkevich, Head of Chair of Electrical Circuits of the
Means of Automation
M. I. Choyevskiy
K. B. Karandeyev, Corresponding Academician (U.S.S.R.)
M. Ya. Leonov
L. Ya. Mizyuk
V. M. Mikhaylovs'kiy, Head of Chair of Automatic and Telemechanics
Equipment
V. V. Panasyuk
O. N. Romanov
Yu. A. Shevlyakov, Doctor
V. T. Stepurenko
Yu. I. Sytnyts'kiy, Head of Chair of Automation of Continuous
Industrial Processes
A. N. Tynnyy

Description:

The work at this institute has two main emphases: (1) mechanics, and (2) automation, telemechanics, and measuring techniques. In the former category is research work on brittle fracture of plates, thermodynamics of solid solutions, corrosion, fatigue of steel, elastic-plastic deformation under torsion, thermal stress in shells, propagation of cracks during deformation, linear dislocation effects on tensile strength, thermal diffusion, influence of sulfurization on fatigue strength, embrittlement in deformed steel, effect of molten tin on fatigue strength of steel, and role of physical-chemical processes in surface layers of steel. In the second category, studies have been made of electronic prospecting equipment, a transistorized volt meter, indicator-type computers, a compensator, circuits having semiconductor devices, magneto modulation for determination of magnetization of rock samples, automatic thread inspection, and a telemetering system.

A Nauchnyye Zapiski is published in two series: Automation and Measuring Techniques and Machine Sciences, and the Candidate's Degree is conferred. The Institute also offers courses in automation and automatic control, remote control, theoretical principles of electrical engineering, mechanics, and strength of materials.

Name: Institute of Mathematics
(Institut matematiki)

Address: Kiyev

Director: Yu. O. Mitropol'skiy, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: O. S. Parasyuk, Academician (Ukrainian S.S.R.) (1958)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

- M. M. Amosov, Doctor, Head of Department of Modeling of Higher Nervous Activity
- L. Dashevskiy, Candidate
- V. Glushkov, Professor
- B. V. Gnedenko, Academician (Ukrainian S.S.R.), Head of Department of Theory of Probability
- A. I. Kukhtenko, Doctor, Head of Department of Dynamics and Modeling of Control Systems
- E. Ya. Remez, Corresponding Academician (Ukrainian S.S.R.)

Description:

This institute is an important center for research and development of electronic computers. Research has been devoted mainly to mathematical physics, history of mathematics, computer mathematics, and theoretical mechanics. One of the Institute's laboratories played a major role in the development of the KIYEV universal electronic digital computer and the first Soviet automatic computer, the MESM. A larger model, the BESM, a general-purpose digital computer, was also designed in this laboratory. The staff also developed a highly specialized instrument, the EGDA integrator.

Name: Institute of Mathematics and Computer Technology
(Institut matematiki i vychislitel'noy tekhniki)

Address: Minsk

Director: V. I. Krylov, Academician (Belorussian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1960)

Selected Staff Members:

- V. S. Ayzenshtat
- S. A. Chunikhin, Corresponding Academician (Belorussian S.S.R.),
Head of Laboratory for Finite Groups

A. V. Ivanov
 I. V. Lebedev
 A. S. Metel'skiy
 N. I. Posnov
 D. A. Suprunenko, Corresponding Academician (Belorussian S.S.R.)
 N. P. Yerugin, Academician (Belorussian S.S.R.), Head of
 Laboratory of Ordinary Differential Equations

Description:

The Institute works on the application of the general theory of linear groups and has completed several problems related to the theory of local nilpotent principles of linear groups. A new method, called the method of indexials, has been developed for the calculation of the subgroups in terminal groups. The stability of the solutions of linear systems of differential equations with periodic and nonperiodic coefficients of small parameters has also been investigated by the Institute. Methods using Green's function to solve many other problems of mathematical physics for homogeneous layered bodies with unstable contact between the layers and under nonuniform limiting conditions were also developed by the Institute.

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Name: Institute of Mathematics and Computer Center
 (Institut matematiki i vychislitel'nyy tsentr)

Address: Novosibirsk

Director: S. L. Sobolev, Academician (U.S.S.R.) (1961)

Deputy Directors: Yu. G. Kosarev
 E. V. Yevreinov

Administrative Affiliation: Siberian Department, Academy of Sciences,
 U.S.S.R. (1961)

Selected Staff Members:

P. P. Belinskiy
 A. V. Bitsadze, Corresponding Academician (U.S.S.R.)
 L. V. Kantorovich, Corresponding Academician (U.S.S.R.)
 A. I. Mal'tsev, Academician (U.S.S.R.)
 A. D. Taymanov, Doctor
 D. V. Shirkov, Corresponding Academician (U.S.S.R.)
 S. L. Sobolev, Academician (U.S.S.R.)

Description:

This institute is working for a number of research institutes and industrial enterprises. The Computation Center consists of four computers used in support of the activities of the Institute of Mathematics. The

Center was built to serve the scientific and industrial needs of eastern Siberia. It works on methods of computer mathematics, the theory of programming, and the solution of other theoretical problems.

Name: Institute of Mathematics and Mechanics
(Institut matematiki i mekhaniki)

Address: Yerevan

Director: S. A. Ambartsumyan, Academician (Armenian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members:

B. L. Abramyan
N. Kh. Arutyunyan, Academician (Armenian S.S.R.)
A. A. Babloyan
A. G. Bagdoyev
M. M. Dzhrbashyan, Academician (Armenian S.S.R.)
A. B. Nersesyan
E. M. Nersesyan
A. L. Shaginyan, Academician (Armenian S.S.R.)
A. A. Talalyan

Description:

This institute is concerned primarily with structural mechanics. Much of its research is on plates, shells, and bars, with particular emphasis on creep and plasticity and on anisotropic, orthotropic, and sandwich or layered plates and shells. Much of the mathematical research leans toward pure mathematics, but infinite series, their use, and convergence also have been investigated in connection with calculations of structural elements.

A. G. Bagdoyev and E. M. Nersesyan have concentrated their efforts on the transmission of pressures and shock waves in compressible and incompressible liquids.

Name: Institute of Mathematics and Mechanics
(Institut matematiki i mekhaniki)

Address: Baku

Director: I. I. Ibragimov, Corresponding Academician (Azerbaijdzhan S.S.R.)
(1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaijdzhan S.S.R. (1961)

Selected Staff Members:

K. T. Akhmedov
A. A. Babayev
Sh. I. Bekilov
G. I. Chandirov
Z. I. Khalilov, Academician (Azerbaijdzhan S.S.R.)

Description:

Most of the work at this institute is in the area of integrodifferential equations, boundary-value problems for second-order differential equations, and the use of integral equations for the solution of problems. A further area of interest is Banach space. Investigations have been performed concerning compactness conditions in Banach-type space and the stability of solutions to a differential equation in a Banach space. The Institute publishes a Trudy.

Name: Institute of Mathematics and Mechanics imeni V. I. Romanovskiy
(Institut matematiki i Mekhaniki imeni V. I. Romanovskogo)

Address: Tashkent, Astronomicheskii tupik, 11

Director: V. Bugayev (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1961)

Selected Staff Members:

M. G. Antsilevich
I. S. Arzhanykh, Corresponding Academician (Uzbek S.S.R.), Head
of Chair of Mathematical Analysis
B. A. Bondarenko
R. Kh. Diveyev
V. I. Gubin
V. K. Kabulov
M. K. Khalikov, Candidate
I. S. Kukles, Corresponding Academician (Uzbek S.S.R.)
T. A. Sarymsakov, Academician (Uzbek S.S.R.)

S. Kh. Sirazhdinov, Corresponding Academician (Uzbek S.S.R.)
I. P. Tsay, Candidate

Description:

In addition to the Chair of Mathematical Analysis, this institute has a large Seismology Section. The Institute, however, does not limit its study of earth sciences to seismology. M. G. Antsilevich analyzed the geomagnetic observations of the first Soviet cosmic rocket, and several other members of the Institute concentrate on meteorology. The Institute has a URAL-type computer which is used in meteorological studies.

Considerable attention is given to the theory of elasticity and to the solution of structural problems for construction engineering. Most prominent in this area are B. A. Bondarenko and V. K. Kabulov. Another area of great interest is probability and statistics. Studies in this area are applied to economics, quality control, and statistical mechanics. Still another effort is directed to the solution of nonlinear differential equations and various other areas of pure mathematics.

The Institute publishes a Trudy periodically.

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Name: Institute of Mechanics
(Institut mekhaniki)

Address: Kiyev, ulitsa Chkalova, 55-b

Director: A. D. Kovalenko, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1962)

Selected Staff Members:

I. Ya. Amiro
F. P. B'yelyankin, Academician (Ukrainian S.S.R.)
V. G. Chudnovskiy, Professor
D. A. Draygor, Doctor
G. I. Dybenko
P. I. Galaka, Candidate
B. D. Grozin, Corresponding Academician (Ukrainian S.S.R.),
Head of Chair
F. Ya. Iokheles, Candidate
A. N. Istomine, Candidate
V. O. Kononenko
Yu. O. Kopeykin, Candidate
V. S. Kramarov, Professor
Yu. B. Malevskiy, Candidate

M. A. Narodetskiy, Candidate
 I. P. Petrenko, Candidate
 M. A. Puzanov, Candidate
 G. M. Savin, Academician (Ukrainian S.S.R.)
 I. T. Selezov
 V. N. Semirog-Orlik, Candidate
 V. A. Shevchuk
 O. T. Strel'bitskaya
 V. F. Vankevich, Candidate
 V. F. Vatsenko
 D. V. Vaynberg, Doctor
 A. D. Yaroshek

Description:

Founded in 1919, the Institute was known initially as the Institute for Technical Mechanics, and later as the Institute of Structural Mechanics. However, in 1960, its name was changed to the Institute of Mechanics, due to the enlargement of its research scope.

Some of the main interests of the Institute are the theory of plates and shells, elasticity and plasticity, gas-turbine equipment, the effect of heat on machinery, and metal fatigue. Nondestructive-testing apparatus and methods, controlled heat-treatment, and hardening methods for machine components have been developed. Fatigue strength and strength limits have been studied for plastics and metals. The staff has also investigated processes to increase the service reliability of roller bearings for gas turbines.

The Institute has a Mechanical Laboratory, a Laboratory of Measurement Engineering, and a Department of Metallurgy and Contact Strength. Doctor's and Candidate's Degrees are granted at the Institute and it publishes a Trudy.

Name: Institute of Mechanics
 (Institut mekhaniki--IMEKh)

Address: Moscow, Leningradskiy prospekt, 7

Director: A. A. Nikol'skiy, Professor (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

V. V. Bolotin, Professor
 V. I. Danilovskaya

L. A. Galin, Corresponding Academician (U.S.S.R.)
 E. I. Grigolyuk, Corresponding Academician (U.S.S.R.)
 A. S. Grigor'yev
 A. A. Gvozdev
 A. A. Il'yushin, Corresponding Academician (U.S.S.R.)
 G. M. Ivanova
 Ya. Z. Kleyman
 Ye. A. Krasil'shchikova
 A. Ye. Marenov
 V. N. Nikolayevskiy
 S. V. Serensen, Corresponding Academician (U.S.S.R.)
 G. S. Shapiro
 S. A. Shesterikov
 V. A. Smirnov
 V. V. Sokolovskiy, Corresponding Academician (U.S.S.R.)
 R. D. Stepanov, Candidate
 A. N. Yelpat'yevskiy

Description:

The Institute of Mechanics has conducted extensive research in structural mechanics, the theories of plasticity and elasticity, the theory of plastic flow as applied to the treatment of metals by pressure, and the statics and kinematics of free-flowing media (wave dynamics). Other investigations have included problems of gas dynamics and heat transfer, and the production of alloys and compounds of the rare elements.

It publishes the Inzhenernyy Sbornik (Institut Mekhaniki Akademii Nauk SSR).

Name: Institute of Mechanics
 (Institut mekhaniki)

Address: Tashkent, ulitsa A. Takayeva, 1

Director: N. V. Svechin

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1961)

Selected Staff Members: I. S. Arzhanykh, Corresponding Academician
 (Uzbek S.S.R.)

Description:

Established in 1959, the Institute has concentrated on theoretical mechanics. Its investigations have included mathematical analysis, calculation schemes, and theoretical expressions for the effects of stresses,

tensions, dynamic loads, heat exchange, and flow of two-phase media. Some applied research has been done on calculation of tensions in railroad rails and stresses in pipelines during seismic action.

Name: Institute of Metallurgy
(Institut metallurgii)

Address: Sverdlovsk, ulitsa Mamina-Sibiryaka

Director: V. P. Revebtsov, Candidate (1960)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1962)

Selected Staff Members:

A. A. Babadzhan
V. N. Bogoslovskiy, Engineer
V. P. Chernobrovkin, Candidate
G. I. Chufarov, Corresponding Academician (U.S.S.R.)
L. S. Gorshkova
G. N. Kozhevnikov, Candidate
B. M. Lepinskikh
S. V. Mikhaylikov
V. I. Musikhin
V. V. Paduchev
P. A. Pazdnikov
A. A. Rerestoronin
V. I. Smirnov, Academician (Kazakh S.S.R.)
P. Ya. Sorokin, Candidate
Ye. A. Vetrenko
O. A. Yesin, Doctor
M. G. Zhuravleva

Description:

This institute, one of the important metallurgical groups in the U.S.S.R., has done experimental studies on the theory and practice of oxidation of sulfides and sulfide ores, including the development of the autocatalytic theory of reducing metals from oxides and sulfides and study of the effect of dynamic conditions on these processes. They have also engaged in research on the problems of copper and nickel metallurgy and the electrometallurgy of aluminum and magnesium.

While examining the thermodynamics of pyrometallurgical processes, they included studies on heat-exchange processes in blast furnaces. Their

interest in shaft smelting has resulted in the design and construction of a laboratory shaft furnace in which they have studied the extraction of nickel. During 1952 to 1955, they completed the design of a thermocouple for use in temperature control of hot steel in ladles and furnaces.

Ferrites have received considerable attention at the Institute, especially the reduction of iron, cobalt, and nickel ferrites by hydrogen and graphite, and the effect of additives, such as the alkali carbonates. They have also been active in semiconductor research, including better methods of determining selenium and tellurium and investigations of vanadium pentoxide systems for possible use as semiconductor materials.

Their Analytical Laboratory cooperates with various groups by doing spectral and chemical analyses of metals they have produced.

They have investigated the feasibility of using oxygen in metallurgical furnaces and the effects of vacuum in the processing of nonferrous metals.

The Institute irregularly publishes a Trudy.

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Name: Institute of Metallurgy and Ore Beneficiation
(Institut metallurgii i obogashcheniya rudov)

Address: Alma-Ata, Shevchenko ulitsa, 17

Director: M. A. Sokolov (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members:

Kh. K. Avetisyan, Corresponding Academician (Kazakh S.S.R.)
 V. G. Benkovskiy, Head, Sector of Chemistry
 A. N. Grigorovich
 R. A. Isokova
 Yu. N. Kuznetsov
 K. B. Lebedev
 A. K. Loshakova
 G. I. Lyudogovskiy, Head of Laboratory of Ferrous Metals
 L. P. Ni
 V. D. Ponomarev, Corresponding Academician (Kazakh S.S.R.), Head
 of Laboratory of Metallurgy of Rare and Light Metals
 Ye. I. Ponomareva
 B. F. Pylayev, Head of Laboratory of Ore Dressing
 O. A. Suvorova
 E. G. Svirchevskaya
 Z. P. Rorokina

Description:

Probably no area in the world has such large deposits of chromium and vanadium as the Kazakh S.S.R. New deposits of iron, copper, aluminum, lead, and zinc are continually being discovered. The Kazakhstan deposits of copper, lead, zinc, cadmium, silver, tungsten, and molybdenum are the largest in the U.S.S.R. There are also rich deposits of manganese in the region. It might be said there probably are few chemical elements that could not be found somewhere in Kazakhstan; despite this, however, the Kazakh S.S.R. still accounts for only 16 per cent of the industrial production of the U.S.S.R. For this reason, considerable attention is being paid by the Institute of Metallurgy and Ore Beneficiation to the development of methods for the complete extraction of all valuable components from the nonferrous and ferrous ores of Kazakhstan.

Studies conducted by the Institute have concerned the ore-concentration properties of slags; extraction of arsenic from speiss; recovery of numerous rare metals from smelting dust and slags by leaching and hydrometallurgy; electrolytic precipitation of lead and zinc and drying of lead-zinc concentrates; concentration, extraction, and electrolytic refining of rhenium; obtaining lead-calcium alloys by carbide-thermal and electrolytic methods; hydrolysis of chlorides and nature of complex lead compounds in chloride solutions; extraction of vanadium and manganese from phosphide ores; and hearths for open-hearth furnaces. Studies also have been made of the use of radioisotopes in metallurgy, new solvents of rare-metal compounds, kinetics of solutions, vibro-inertial grinding equipment, nonferrous metallurgy slags, and ore flotation.

The Institute has also studied principles and processes of working mercury mines and high-speed sinking of shafts, and new methods of smelting nickel oxide ores. Analytical studies have been conducted on the determination of arsenic, tellurium, and selenium in ores. Investigations have been made of physico-chemical properties of foam glass.

The Institute also has the task of studying problems pertaining to the distillation of compounds of rare metals from aqueous solutions.

The Institute develops complete flow sheets and methods for the conversion of raw materials by different methods. Flow sheets are being developed that may eliminate the loss of valuable metals in slags and tailings. Work is progressing on a more complete extraction of dispersed elements from intermediate products, i.e., extraction studies on indium, selenium, germanium, gallium, rhenium, cadmium, thallium, lead, zinc, and other metals. New flow sheets are being worked out on the Koynakly copper deposits and major deposits of rare metals. Flow sheets for the Tugay bauxite ores and for the flotation of the Tekelin lead-zinc ores have been developed.

Work also has been done on the development of methods for producing aluminum from new types of raw materials. The technology for the production of titanium and vanadium has been investigated.

Studies have been made of electrolytic production of high-purity tin. Work has also been done on vacuum refining of tin; in particular, this latter method saves associated elements such as lead and bismuth that were previously lost in processing. This vacuum-distillation-refining process both shortened the time of refining and cut production costs at the Novosibirsk Tin Plant.

Studies on the selection of optimum charges in copper reverberatory furnaces increased productivity 15 to 20 per cent.

In scientific work done on the complete conversion of copper and polymetal ores, attention is also paid to the introduction of new pyrometallurgical and hydrometallurgical methods, and also to the improvement of the smelting of copper, lead, zinc, and polymetal concentrates, as well as intermediate products.

During 1958, the Institute of Metallurgy and Ore Beneficiation, in cooperation with the Power Institute, also a member of the Academy of Sciences, Kazakh S.S.R., continued its work on the theory of the relatively new cyclone smelting processes. Copper concentrates were successfully smelted in a cyclone chamber of the Balkhast Copper Smelting Plant; production increased by a factor of 1.5 to 1.6. It was established that the process was very efficient compared with conventional methods for smelting copper. Laboratory research has also been completed on cyclone smelting of Tekeliysk intermediate products, Leningorsk slags, Ust-Kamenoyorsk zinc concentrates (KeK), and Achisaysk oxidized lead-zinc ore. It is also hoped to utilize this new cyclone smelting process in ferrous metallurgy.

The Institute publishes a Trudy frequently, and offers courses in ore dressing, ferrous metallurgy, rare metals, chemistry, and nonferrous metallurgy.

Name: Institute of Metallurgy imeni A. A. Baykov
(Institut metallurgii imeni A. A. Baykova--IMET)

Address: Moscow, Leninskiy prospekt, 49

Director: A. M. Samarin (1961)

Deputy Director: I. A. Oding (1961)

Administrative Affiliation: State Economic Council, U.S.S.R. (1962)

Selected Staff Members:

- I. B. Borovskiy, Head of Laboratory of Physical Analysis Methods
- D. M. Chizkhikov, Head of Extractive Metallurgy Laboratory
- I. I. Kornilov, Head of Laboratory of Chemistry of Metallic Alloys
- P. K. Oshchepkov, Head of Electrophysical Laboratory

I. M. Pavlov, Head of Plastic Deformation Laboratory
 N. N. Rykalin, Doctor, Head of Welding Laboratory
 Ye. M. Savitskiy, Doctor, Head of Laboratory of Rare-Metal Alloys

Description:

The scientific staff of the Baykov Institute, numbering approximately 1,100, has broad metallurgical interests. In the tradition of I. P. Bardin, its late Director, the Institute is oriented toward industrial research, but there is also a strong emphasis on theoretical research. The research activity of its 20 laboratories includes:

- (1) Investigations in the field of the physics of metals and alloys
 - (a) Plastic deformation
 - (b) Mechanical working
 - (c) Phase diagrams, particularly of rare-metal systems
 - (d) Nickel-base and high-temperature alloys
 - (e) Titanium alloys
 - (f) Refractory metals
- (2) Determination of physical-chemical constants of metals, their alloys, and compounds
 - (a) Corrosion resistance
 - (b) Physical properties
 - (c) Super-strong metals (whiskers and metal foil)
- (3) Theories of metallurgical processes, including development of new processes
 - (a) Powder metallurgy
 - (b) Steelmaking
 - (c) Ultrasonic and electric-arc welding, and the development of welding equipment
 - (d) Drawing of glass-insulated, iron microgage wire
 - (e) Extractive metallurgy, particularly of pure metals
- (4) New methods of investigation and the development of new apparatus
 - (a) Ultrasonic apparatus for quality control of production
 - (b) Electron microscopy
 - (c) Spectroscopy.

The Institute publishes a Trudy.

Name: Institute of Metal Physics
 (Institut metallofiziki)

Address: Kiyev

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1960)

Selected Staff Members:

I. Ya. Dekhtyar, Doctor
 V. N. Gridnev, Corresponding Academician (Ukrainian S.S.R.)
 M. A. Krivoglaz, Doctor
 G. V. Kurdyumov, Academician (U.S.S.R.)
 A. S. Lashko
 A. A. Smirnov, Corresponding Academician (Ukrainian S.S.R.)
 V. N. Svechnikov, Academician (Ukrainian S.S.R.)

Description:

The Institute was established in 1957, after the reorganization of the Laboratory of Metal Physics, which it replaced, to conduct research in metal physics and the technology of new alloys. It conducts studies on the electrical, magnetic, and mechanical properties of metals and alloys, including heat-resistant materials, and has developed testing techniques applicable to this research, for example, ultrasonic techniques. Much work has been done also in X-ray and thermal-neutron scattering. The Institute has a Theoretical Department and an X-Ray Spectral Laboratory. It publishes a collection of articles titled "Voprosy fiziki metallov i metallovedeniya" (Problems in the Physics of Metals and Metal Science).

Name: Institute of Metals and Mining
 (Institut metalla i gornogo dela)

Address: Tbilisi

Director: F. N. Tavadze, Corresponding Academician (Georgian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

R. I. Agladze
 V. M. Bereziani
 G. K. Gedevanishvili
 T. A. Gogitidze
 M. A. Kekelidze

Ye. K. Kovshikov
 M. A. Makhataдзе
 G. Sh. Mikeladze
 P. G. Napetvaridze
 V. V. Perova
 M. D. Tskilishvili

Description:

This institute has engaged in extensive studies exploiting the metallurgical raw materials of the region, especially manganese ores (i.e., concentration of low-grade ores, development of by-products from manganese wastes, etc.). Aluminum extraction has also been investigated, as well as alloying properties of aluminum, silicon, copper, arsenic, nickel, and zinc. The Metals Machining Laboratory has investigated the effect of reduced temperature on the oxidation rate of titanium alloys during machining. In collaboration with the Transcaucasian Metallurgical Plant, new methods to improve steel casting and rolling processes were developed. Modernization of the heat treatment of forging dies, automatic signaling of the onset of the martensitic transformation in steel during quenching, and a universal test rig for determining hardenability in various media have also been under investigation.

Members of the Institute have published reports on the corrosion of titanium and aluminum alloys, the manufacture of cast-iron thin-walled machine parts by liquid pressing, chromium-metal production, etc. In addition, the Metals-Joining Department has been active in investigations of the weldability of steel and the quality of welded joints.

The Institute annually publishes a Trudy. It offers courses in the machining of metals, corrosion, and metallurgy.

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Name: Institute of Metal Science and Physics of Metals
 (Institut metallovedeniya i fiziki metallov)

Address: Moscow

Director: G. V. Kurdyumov, Academician (U.S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Central Scientific-Research Institute of Ferrous Metallurgy imeni I. P. Bardin (1962)

Selected Staff Members:

Yu. A. Bagaryatskiy, Doctor
V. T. Borisov
R. I. Entin, Professor
E. I. Estrin
N. S. Fastov
D. S. Kamenetskaya
V. M. Kardonskiy
B. Ya. Lyubov
O. P. Maksimova, Candidate
V. Ye. Neymark, Candidate
Yu. A. Opis'yan
L. G. Orlov, Engineer
M. D. Perkas, Candidate
V. M. Rozenberg
L. A. Shvartsman
L. M. Utevskiy, Candidate
L. A. Voloshina
A. M. Zubko, Candidate

Description:

The Dnepropetrovsk Physical-Technical Institute was established in 1932; however, after reorganization in 1944, it was renamed the Institute of Metal Science and Physics of Metals, and became part of TsNIChM in Moscow.

Work has been done on the effect of various preliminary treatments (plastic deformation, alloying, cold working, and irradiation with neutrons and deuterons) on the subsequent transformations of austenite, martensite, and pearlite. Thermodynamic investigations have centered on the irreversible processes of elastic phenomena. Research was also conducted on the thermodynamics of phase transformations in binary aluminum alloys.

They have also developed electron-microscopic and X-ray-diffraction techniques for the study of fracture and temper brittleness of steel. The Laboratory for Phase Changes cooperated in this research.

The Institute's interest in nuclear radiation and its effects is evident in the reports of radiation and solid-state-physics studies of the effect of nuclear radiation on material properties and the strengthening of metals by irradiation.

In 1955, they commenced investigations on melting and hot rolling of metals and alloys in vacuum and in inert atmospheres. Various phases of this work are still in progress.

Crystallization of binary alloys, solid solutions, and high-purity iron (including the effects of alloying elements, dislocations, and plastic deformation) has received considerable attention at the Institute. Currently,

they are studying the effect of ultrasonic treatment on the structure, mechanical properties, and deformability of steels. The Laboratory of Crystallization has developed a method for determining the crystallization boundaries in ingots cast by continuous methods.

The Institute periodically publishes Problemy Metallovedeniya i Fiziki Metallov and Sbornik Trudov.

Name: Institute of Mineral Fuels
(Institut goryuchikh iskopayemykh--IGI)

Address: Moscow, Leninskiy prospekt, 29

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Fuel Industry, Council of Ministers, U.S.S.R. (1962)

Selected Staff Members:

A. A. Akhrem
M. I. Batuyev
V. P. Glushko, Academician (U.S.S.R.), Head of a Laboratory
L. V. Gurvich
B. V. Kantorovich, Doctor
N. M. Karavayev, Corresponding Academician (U.S.S.R.)
V. I. Kasatochkin
N. V. Lavrov, Academician (Uzbek S.S.R.)
B. I. Losev, Professor
A. V. Lozovoy
A. D. Matveyeva
V. A. Medvedev, Academician (U.S.S.R.)
L. M. Sapozhnikov, Corresponding Academician (U.S.S.R.)
R. N. Smirnov
N. G. Titov, Doctor
V. A. Zakharenko

Description:

This institute has existed at least since 1934. It publishes a Trudy. It studies all phases of the preparation, properties, and utilization of coal, oil, and gas. Its studies have included thermodynamic properties of gases, light hydrocarbons, and salts, preparation of pure hydrocarbon gases, preparation of hydrogen and catalysts, development of "solid" gasoline, underground gasification of coal, processing of petroleum and coal tar, and preparation and reactions of coal.

The Institute confers Candidate's and Doctor's Degrees.

Name: Institute of Mineralogy, Geochemistry, and Crystallography of
Rare Elements
(Institut mineralogii, geokhimi i kristalloghimi redkikh
elementov--IMGRE)

Address: Moscow, ulitsa Kuybysheva, 8

Director: K. A. Vlasov, Corresponding Academician (U.S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

V. B. Aleksandrov
A. A. Beus
L. F. Borisenko
L. S. Borodin
Ye. A. Fabrikova
K. A. Nenadkevich, Corresponding Academician (U.S.S.R.)
V. S. Saltykova
Ye. I. Semenov
O. V. Verzhkovskaya, Candidate

Description:

This institute was established in 1956. It has studied the regularity of the extension of rare elements in the rocks of the earth's crust, their minerals and deposits, and the factors determining the concentration of rare elements in deposits of an industrial character. It has also assisted in developing the mineral-raw-material bases of the Soviet rare-metals industry.

In cooperation with the Institute of Metallurgy, Academy of Sciences, U.S.S.R., and the Interdepartmental Commission on Rare Metals, State Science and Technology Commission of the U.S.S.R., it carried out a series of 33 studies on rhenium.

The Institute publishes a Trudy.

Name: Institute of Mineral Resources
(Institut mineral'nykh resursov)

Address: Simferopol', ulitsa Chkalova, 9

Director: Yu. Yu. Yurk (1956)

Deputy Director: S. D. Shargorodskiy (1956)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1962)

Selected Staff Members: --

Description:

This institute was organized about 1956 by incorporating a group of departments and laboratories formerly associated with the Crimean Branch of the Academy of Sciences, which was assimilated at that time by the Ukrainian Academy of Sciences. The principal task of the new Institute was exploitation of Ukrainian mineral-raw material resources. The Institute may have been reorganized again in 1959.

Graduate study is offered in mineralogy, hydrogeology, geochemistry, physical chemistry, chemistry and technology of mineral substances, and concentration of minerals.

Name: Institute of Mining
(Institut gornogo dela)

Address: Alma-Ata, Shevchenko ulitsa, 17

Director: A. Ch. Musin, Corresponding Member (Kazakh S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute of Mining at Alma-Ata conducts mining research in areas such as prospecting, drill-blast technology, mechanization of mining, open-cut working, stratified deposits, dust problems, and industrial and economic exploitation of ore resources. Among its achievements are the development of a method of following the movement of rocks with the aid of radioactive isotopes, and the development of a multipercussion perforator which increased the speed of drilling by two to two-and-a-half times. It publishes a Trudy.

Name: Institute of Mining
(Institut gornogo dela)

Address: Novosibirsk

Director: N. A. Chinakal, Corresponding Academician (U.S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute of Mining conducts research on mining techniques and designs mining equipment. Some research has also been conducted on the utilization of rock pressure in mining.

Name: Institute of Mining
(Institut gornogo dela)

Address: Moscow oblast', Stantsiya Panki

Director: N. V. Mel'nikov, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on the Fuel Industry (1962)

Selected Staff Members:

M. I. Agoshkov, Corresponding Academician (U.S.S.R.)
M. G. Akopov
E. A. Anifimova
N. A. Chinakal, Corresponding Academician (U.S.S.R.)
A. V. Dokukin, Doctor
V. A. Glembotskiy, Professor
N. G. Kell', Corresponding Academician (U.S.S.R.)
V. I. Klassen, Professor
G. I. Man'kovskiy, Corresponding Academician (U.S.S.R.)
L. N. Marchenko, Candidate
G. P. Nikonov
I. N. Plaksin, Corresponding Academician (U.S.S.R.)
N. S. Polykov, Doctor
R. Sh. Shafeyev
L. D. Shevyakov, Academician (U.S.S.R.)
V. N. Smirnov
V. I. Solnyshkin
A. O. Spivakovskiy, Corresponding Academician (U.S.S.R.)
L. P. Starchik
V. I. Tyurnikova, Candidate

Description:

Founded in 1938, the Institute conducts research and development work in the following areas: (1) physical-chemical processes and other phenomena that occur in the earth during the extraction of minerals; (2) extraction of minerals for increased productivity and safety of labor; (3) new and improved systems of mining; (4) mechanization of labor; (5) mine aerology; and (6) radioactive devices for use in the mining industry. A Trudy is published.

Name: Institute of Mining and Metallurgy
(Institut gornogo dela i metallurgii)

Address: Frunze

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1961)

Selected Staff Members: --

Description:

This institute was organized in about 1961. Its purpose is to meet the demands of the Kirghiz coal, petroleum, and ore-mining industries, whose rapid rate of growth requires a substantial scientific base. The further development of existing mining and metallurgical processes and the determination of new ones are described as being important tasks of the Institute. The elaboration of scientific principles for new methods of opening up the mineral wealth of the Kirghiz S.S.R. and new systems for rock blasting and rock crushing are envisaged, as well as process investigations in nonferrous and rare-metal metallurgy.

Name: Institute of Mining imeni A. A. Skochinskiy
(Institut gornogo dela imeni A. A. Skochinskogo--IGD AN)

Address: Moscow, 1-y Akademicheskii proyezd, 18

Director: N. V. Mel'nikov, Corresponding Academician (U.S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: State Committee of The Council of Ministers, U.S.S.R., on the Fuel Industry (1962)

Selected Staff Members:

M. I. Agoshkov, Corresponding Academician (U.S.S.R.), Head of
Laboratory
M. A. Belyakov
Ye. M. Chaplygina, Candidate
A. V. Dokukin, Professor
V. A. Glembotskiy, Doctor
G. N. Khazhinskaya, Candidate
V. I. Klassen, Professor
A. G. Konstantinova
V. M. Kurlatov
L. N. Marchenko, Candidate
G. A. Myasnikova, Candidate
A. M. Okolovich
R. V. Orlov
I. N. Plaksin, Corresponding Academician (U.S.S.R.)
R. Sh. Shafeyev, Candidate
L. P. Starchik
V. N. Voronin, Docent

Description:

One of the major mining institutes in the U.S.S.R., IGD conducts extensive research on mining techniques, equipment, and geology. Some research has also been conducted on flotation processes and reagents, gamma irradiation, ion-exchange methods of mineral separation, and the use of radioactive isotopes, radioluminescence, and neutron activation for analysis of mineral samples. An explosive called izdanite has been developed at this institute.

The Institute confers Candidate's and Doctor's Degrees and publishes a Trudy.

Name: Institute of Mining imeni M. M. Fedorov
(Institut gornogo dela imeni M. M. Fedorova)

Address: Donetsk, ulitsa Chudnovskogo, 3

Director: K. S. Borisenko (1961)

Deputy Director: K. I. Titsmir, Corresponding Academician (Ukrainian S.S.R.)
(1958)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

Ye. G. Bulakh
 A. S. Fidelev, Professor
 O. M. Krizhanovskiy
 V. M. Kuntsevich
 V. V. Nedin
 O. M. Pen'kov, Corresponding Academician (Ukrainian S.S.R.)
 S. A. Poluyanskiy

Description:

The Institute was organized in 1934 in Kiyev. In 1943, it was reorganized as the Institute of Mining imeni M. M. Fedorov, and in 1958, the Institute moved to Donetsk, retaining a branch in Kiyev. Other branches are at Krivoy Rog, Dnepropetrovsk, and Khar'kov.

The Institute conducts research in areas such as mechanization of mining, prospecting, ore processing, metallurgy, and deep coal mining. Among its achievements is the development of a method of using electronic computers to interpret geophysical anomalies, thus reducing the time required to determine the qualitative and quantitative characteristics of newly discovered deposits of ores, oils, and limestone.

The Institute confers advanced degrees.

Name: Institute of Nuclear Physics
 (Institut yadernoy fiziki)

Address: Alma-Ata

Director: Zh. S. Takibayev, Academician (Kazakh S.S.R.) (1959)

Deputy Director: I. G. Dem'yanikov, Candidate (1959)

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1959)

Selected Staff Members:

V. V. Chervyakova
 I. G. Grinman, Candidate
 G. D. Latyshev, Academician (Kazakh S.S.R.)
 A. V. Novikov
 A. A. Presnyakov
 M. T. Zhumartbayev

Description:

This institute, organized about 1958, is situated in the foothills of the Zailyskiy Ala-Tau mountains near Alma-Ata. The Institute has been

engaged in nuclear physics and chemistry research, including quality control using tagged atoms, hydrodynamics, and heat transfer. Kazakh's first atomic reactor is located in the Institute. Other equipment includes a cyclotron and horizontal channels for the study of neutron spectra and interactions with atoms of various elements. A Trudy is published annually.

Name: Institute of Nuclear Physics
(Institut yadernoy fiziki)

Address: Tashkent, ulitsa Stalina, 33

Director: U. A. Arifov, Academician (Uzbek S.S.R.) (1961)

Deputy Director: S. A. Azimov, Corresponding Academician (Uzbek S.S.R.)
(1958)

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1961)

Selected Staff Members: S. V. Starodubtsev, Academician (Uzbek S.S.R.)

Description:

The Institute was founded in 1956 to study fundamental problems of atomic physics and the use of tagged atoms in biology, chemistry, medicine, and industry. This institute is intended to be the principal producer of isotopes for Central Asia. A nuclear reactor, a cyclotron, a URAL computer, a fast-neutron generator, and a gamma-ray facility have been installed. The Institute has Laboratories of Nuclear Spectroscopy, Radiation Physics, Radiochemistry, and Theoretical Physics. The Theoretical Physics Laboratory is concerned mainly with the physics of elementary particles.

The Institute is presently studying the effects of radiation on materials such as silk and means of making practical use of these effects. Devices using radioisotopes for control and automation of industrial processes have been developed and constructed here and installed in various Soviet plants. In addition, studies are under way to develop radiation-resistant devices (i.e., capable of operating in a radiation environment while retaining their reliability).

Name: Institute of Nuclear Physics
(Institut yadernoy fiziki)

Address: Moscow

Director: S. N. Vernov, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Moscow State University imeni M. V. Lomonosov
(1961)

Selected Staff Members:

V. V. Balashov
I. S. Dmitriyev
Ye. V. Gorchakov
N. L. Grigorov
D. D. Ivanenko
V. S. Nikolayev
P. I. Shavrin
I. B. Teplov
Ya. A. Teplova
S. S. Vasil'yev

Description:

This well-equipped facility supports the research activities of physics students and faculty at the University. A large part of its current activity is concentrated on studies of cosmic radiation, atmospheric showers, and radiation in the upper atmosphere and outer space. It has assisted in equipping rockets and artificial satellites with instruments for the study of atmospheric radiation. Other general research interests include nuclear levels and shell theory, radioactive decay, nuclear spectroscopy, coulomb excitation, secondary-electron emission, particle accelerators, effects of ion bombardment on materials and components, production of electron and proton beams, inelastic scattering, and cross sections of nuclear reactions.

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Name: Institute of Nuclear Physics
(Institut yadernoy fiziki)

Address: Novosibirsk

Director: G. I. Budker, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

L. A. Artsimovich, Academician (U.S.S.R.)
B. V. Chirikov, Candidate
S. N. Rodionov, Candidate

Description:

The Institute of Nuclear Physics, organized in 1958, is the center of thermonuclear research in the Soviet Union. Research is conducted on controlled thermonuclear reactions, new principles of elementary-particle acceleration, and the physics of high- and super-high-energy particles. The Institute also designs and builds accelerators.

Name: Institute of Oceanology
(Institut okeanologii--IOAN)

Address: Moscow, ulitsa Bakhrushina, 8

Director: V. G. Kort, Doctor (1961)

Deputy Director: V. G. Bogorov, Corresponding Academician (U.S.S.R.) (1961)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

M. A. Bogdanov
K. N. Fedorov
Yu. A. Ivanov
Yu. P. Neprochnov
Yu. Ye. Ochakovskiy
N. N. Sepoyev
V. N. Stepanov
B. A. Tareyev
L. A. Zenkevich, Corresponding Academician (U.S.S.R.)

Description:

The Institute of Oceanology came into being December 24, 1945, as a result of the reorganization of the Laboratory of Oceanology of the Academy of Sciences, U.S.S.R. The basic aims of the 17 year old institute are to develop the theoretical problems of oceanology, to conduct research on the oceans and seas on the supposition that there is a singular occurrence in seas and oceans of physical, chemical, biological and geological processes, and to conduct special research on the problem of the fluctuation of the level of the Caspian Sea. The Institute, then, is capable of conducting studies on all facets of oceanology. The following is a list of problems on which the Institute recently conducted research:

1. Geography of the Pacific Ocean
2. Geography of Antarctic waters
3. Transport-geographical characteristics of Far-Eastern waters
4. General academic problems, such as the distribution and behavior of fish in connection with the conditions of their existence

5. Dynamics of sea currents and movements of water
6. Geological structure, history, regularity of deposit formation in seas and oceans (In connection with this study, during the 33rd voyage of the *Vityaz*, largest of five expeditionary ships belonging to the Institute, iron-manganese ore extracted from the floor of the Indian Ocean proved to be almost identical in compositional characteristics to ores found earlier in the Pacific and Atlantic Oceans.)
7. Processes and regularities in the formation of shore zones of seas
8. Biology of marine corers and the fouling of ships and hydro-engineering structures
9. Development of methods and instruments for oceanographic research (An instrument recently developed by the Institute called the "Okean" automatically records the direction and speed of sea currents.)
10. Dynamics of waters and ice of the Arctic.

In connection with the IGY program, the Institute conducted investigations which established the boundaries of currents and water masses, the geographical zonality of the central part of the Pacific Ocean, and the interconnection between physical, chemical, biological and geological phenomena and processes. The Institute also studied the radioactivity of ocean waters, determining maximum depths of the world's oceans and maximum depths of the depressions of the southern hemisphere.

The Institute has a Black Sea Station.

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Name: Institute of Organic Chemistry
(Institut organicheskoy khimii)

Address: Yerevan, ulitsa Aygestanis

Director: A. M. Gasparyan

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members:

A. N. Akopyan
A. T. Babayan, Corresponding Academician (Armenian S.S.R.)
Sh. D. Badanyan
S. G. Matscoyan
G. M. Pogosyan
S. A. Vartanyan, Doctor

Description:

In 1957, when the Department of Inorganic Chemistry was separated from the Chemical Institute of the Armenian Academy of Sciences, the Organic Section and its staff formed the basis of the Institute of Organic Chemistry. This institute engages in some physical-organic chemistry, but a greater effort appears to be devoted to organic synthesis, the halogenation of polymers, and the chemistry and compounds of vinylacetylene.

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Name: Institute of Organic Chemistry
(Institut organicheskoy khimii)

Address: Kiyev, ulitsa Vladimirskaia, 55

Director: A. V. Kirsanov, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

P. V. Golovin, Corresponding Academician (Ukrainian S.S.R.)
A. I. Kiprianov, Academician (Ukrainian S.S.R.)
K. A. Kornev, Academician (Ukrainian S.S.R.), Head of Laboratory
of High Molecular Compounds
L. M. Yagupol'skiy

Description:

This institute has developed methods for synthesizing unsaturated alcohols, cyanine and other dye materials, vitamins, and antibiotics. The antibiotic "Sanazin", which is used in the cure of tuberculosis of the bones, eyes, etc., seems to be subject of special interest, as are high polymers. Recently, investigations concerning gallic acid and some of its derivatives as inhibitors for acute radiation sickness have been published.

Advanced study is offered in organic synthesis, mechanisms of organic reactions, chemistry of phosphoro-organic compounds, chemistry of carbohydrates, and the chemistry of physiologically-active substances.

449

Name: Institute of Organic Chemistry
(Institut organicheskoy khimii)

Address: Kazan'

Director: B. A. Arbuzov, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

A. A. Balandin, Academician (U.S.S.R.)
V. I. Ivanov, Academician (Kirgiz S.S.R.)
B. A. Kazanskiy, Academician (U.S.S.R.)
A. D. Petrov, Corresponding Academician (U.S.S.R.)
K. T. Poroshin, Academician (Tadzhik S.S.R.)
N. I. Shuykin, Corresponding Academician (U.S.S.R.)

Description:

This institute was established in 1958-1959 as the scientific center for petrochemistry of the Kazan' area. Research is also conducted in rubber and polymer chemistry.

Name: Institute of Organic Chemistry
(Institut organicheskoy khimii)

Address: Novosibirsk

Director: N. N. Vorozhtsov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members: --

Description:

This institute is primarily concerned with problems related to petroleum synthesis and polymers. It has collected new data on the isolation of aromatic compounds, and it has studied isomerization of halogen-substituted acid derivatives of naphthalene. One of its important research contributions was the study of dealkylation of anthraquinone dyestuffs at high temperatures.

Name: Institute of Organic Chemistry
(Institut organicheskoy khimii)

Address: Ufa

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
R.S.F.S.R., for Coordination of Scientific
Research (1962)

Selected Staff Members: --

Description:

This institute was founded in the Bashkir Branch, Academy of Sciences, U.S.S.R. Interest has been indicated in the fractionation of hydrocarbons (probably petroleum cuts) to obtain chemicals for the synthesis of polymers, and research has been done on petroleum with a high sulfur content.

Name: Institute of Organic Synthesis
(Institut organicheskogo sinteza)

Address: Riga

Director: S. A. Giller, Academician (Latvian S.S.R.) (1961)

Deputy Director: M. Shimanskaya, Candidate (1961)

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

E. Lukevits

G. Ya. Vanag, Academician (Latvian S.S.R.)

Description:

This institute has been contributing to the development of raw materials for the Soviet plastics industry. In this context, work on the synthesis of furfural and its derivatives and on the vapor-phase oxidation of formaldehyde to glyoxal has been reported. In cooperation with the Leningrad Textile Institute imeni S. M. Kirov, a bacteriostatic fiber was developed from nitrofurans compounds. The Institute has established a laboratory in the Riga Paint and Varnish Factory to investigate "on-the-spot" problems. A Conference on Heterogeneous Catalytic Oxidation of Organic Substances was organized by the Institute in June, 1961. Particular

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interest was noted in the production of maleic and phthalic anhydride from raw materials. The Institute has also conducted some work in analytical chemistry, specifically, the qualitative analysis of organic compounds and the use of organic compounds as indicators.

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Name: Institute of Peat
(Institut torfa)

Address: Minsk, prospekt Stalina, 110

Director: P. I. Bel'kevich, Academician (Belorussian S.S.R.) (1957)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1959)

Selected Staff Members: V. G. Goryachkin, Corresponding Academician
(Belorussian S.S.R.)

Description:

The work conducted at the Institute of Peat is in the following areas: production of peat, mathematics, metals corrosion, gasification, and structural and theoretical mechanics.

Research performed by members has been published in the Trudy of this institute.

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Name: Institute of Petrochemical Processes
(Institut neftekhimicheskikh protsessov--INKhP)

Address: Baku, ulitsa Tel'nova, 34

Director: M. F. Nagiyev, Academician (Azerbaijdzhan S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaijdzhan S.S.R. (1962)

Selected Staff Members:

M. I. Aliyev
S. M. Aliyev
N. I. Chikareva
M. M. Dreyzin
N. M. Indukov
I. G. Ismailzade

- A. M. Kuliyeu, Academician (Azerbaijdzhan S.S.R.), Head of
Laboratory for Synthesis of Lubricant Additives
- R. Sh. Kuliyeu
A. M. Levshin
Sh. Mamedov, Professor
- S. D. Mekhtiyev, Corresponding Academician (Azerbaijdzhan S.S.R.),
Head of Laboratory for Monomers
- M. M. Melikzade
M. R. Musayev
I. M. Orudzheva
B. A. Sadykhova
T. N. Shakhtakhtinskiy, Candidate
I. A. Shikhiyev, Professor
G. A. Zeynalova

Description:

This institute was formed in late 1958 by merging the Institute of Petroleum of the Academy of Sciences, Azerbaijdzhan S.S.R., the Azerbaijdzhan Scientific-Research Institute of the Petroleum-Refining Industry imeni V. V. Kuybyshev, and part of the Institute of Chemistry of the Academy of Sciences, Azerbaijdzhan S.S.R. INKhP, the largest research organization in the Azerbaijdzhan S.S.R., is the leading scientific-research institute for the development of methods for refining petroleum and gas, thermal and catalytic transformation of petroleum products, and separation of gaseous and liquid products of petroleum refining. Raw materials for the synthesis of polymers also are a major interest here.

Research and development projects planned for the near future concern ways of synthesizing monomers; technological processes for refining petroleum raw materials to obtain high yields of aromatic hydrocarbons, particularly benzene and xylenes; synthesis of haloid-containing hydrocarbons; new types of silicon-organic and silicon-metallo-organic compounds, plastics, rubbers, etc.; synthesis of surface- and biologically active substances; industrial methods of obtaining bicarbonic acids and other oxygen-containing compounds; improvement of the quality of fuel and oil, including obtaining high-calorie, very thick fuels from Baku petroleum; synthesis of new fuel additives; new systems of catalysis; correlation between the structure of hydrocarbons and their derivatives and their reactivity in alkylation, oxidation, halogenation, isomerization, polymerization, and polycondensation reactions; and the kinetics of industrial processes for petrochemical and polymer production, and the modeling of these processes.

Other specific research programs concern the chemical composition of low-octane gasolines of the Karadag condensate and Siazan petroleums, and distribution of engineering indexes for reforming fractions of these gasolines over a platinum catalyst; contact pyrolysis in the fluid state for refining heavy petroleum raw materials and low-octane gasolines; high-speed contact and catalytic pyrolysis of low-octane gasoline in a continuous-flow reactor; catalytic reforming of products of high-temperature

decomposition of gaseous and liquid hydrocarbons; polymerization of ethylene into polyethylene over heterogeneous oxide catalysts at average pressures; high-speed pyrolysis of low-octane gas condensates, gasolines, and ligroins in electric reactors; catalytic chlorination of methane in the fluid state to obtain carbon tetrachloride; catalytic dehydrogenation of butane to divinyl and isopentane to isoprene in a continuous-flow vacuum reactor; deparaffination of petroleum products with a carbamide solution; processes for extraction of cyclohexane and its close homologs from gasolines by fractionation, azeotropic distillation, etc.; catalytic dehydrochlorination of 1,2-dichlorethane and hydrochlorination of acetylene.

The Institute also has undertaken investigations related to its main interests, for example, the development of clay mortars used in drilling gas and oil wells, colloidal and chemical methods of fighting filtration of water in irrigation systems, and processes for utilizing waste from an aluminum oxide plant. Ways of utilizing the sodium chloride deposits of the republic and the use of polymers for protection against corrosion also have been studied.

The Institute has a branch in Sumgait. A Sbornik Trudov is published.

Name: Institute of Petrochemical Synthesis
(Institut Neftekhimicheskogo sinteza--INKhS)

Address: Moscow, Leninskiy prospekt, 29

Director: A. V. Topchiyev, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

- A. N. Bashkirov, Corresponding Academician (U.S.S.R.)
- P. A. Borisov
- A. M. Brodskiy
- G. D. Gal'pern
- A. Geodekyan
- L. A. Gulyayeva
- V. A. Kargin, Academician (U.S.S.R.)
- B. A. Krentsel', Doctor
- M. M. Kusakov
- K. P. Lavrovskiy, Corresponding Academician (U.S.S.R.), Head of
Laboratory
- N. S. Nametkin
- L. S. Polak, Doctor, Head of Laboratory of Radiochemical Processes

P. I. Sanin
 I. K. Sedin
 G. V. Vinogradov, Doctor

Description:

This institute was established some time during 1959 using, as a model, the Department of Petroleum and Gas Chemistry and Technology of the Petroleum Industry, which was then closed. The new Institute incorporates a number of laboratories, such as the Laboratory for Petroleum Chemistry and the Laboratory for Radiochemical Processes. The original purpose of the Institute was to study the utilization of petroleum and "natural and incidentally recovered gases" to produce intermediate materials for the polymer industry. Subsequently, development work was conducted on polyhydrocarbons, such as polyisoamylene, polyvinylcyclohexane, and polybutylene, with increased strength, temperature, and electrophysical properties. Investigations have also been carried out on the results of radiolytic decomposition of aromatic compounds. The Institute has developed new methods for testing the mechanical properties of polymers, and in collaboration with the State Institute for Design and Planning of Rubber Industry Plants, has designed equipment for the pyrolysis of gaseous and liquid hydrocarbons. They have also designed an enlarged-condenser, gas-separator unit for isolating individual hydrocarbons. Investigations on the radiation resistance of various fractionation products have also been conducted. Members of the Institute have participated in a number of technical conferences. The Institute grants advanced academic degrees.

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Name: Institute of Petroleum
 (Institut nefiti)

Address: Gur'yev

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1962)

Selected Staff Members:

V. G. Ben'kovskiy, Corresponding Academician (Kazakh S.S.R.)
 Ye. A. Drizo
 T. M. Goroslovskaya
 S. S. Sukharev

Description:

This institute was established in 1955 as an outgrowth of the Ural-Emba Scientific-Research Base of the Academy of Sciences, Kazakh S.S.R. In 1957-1958, the Institute was one of four put under the control of a West-Kazakhstan Branch of the Kazakh Academy of Sciences.

The Institute does studies on the physical, chemical, and technological properties of oil products. These studies have included purification of crude oils, bituminous coatings, drilling muds, and production of aviation kerosene.

The Institute has eight laboratories and publishes a Trudy. The Candidate's Degree is awarded.

457

Name: Institute of Philosophy
(Institut filosofii)

Address: Moscow, Volkhonka, 14

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

G. F. Aleksandrov, Academician (U.S.S.R.)
M. A. Dynnik, Corresponding Academician (U.S.S.R.)
P. N. Fedoseyev, Academician (U.S.S.R.)
M. T. Iovchuk, Corresponding Academician (U.S.S.R.)
M. D. Kammari, Corresponding Academician (U.S.S.R.)
B. M. Kedrov, Corresponding Academician (U.S.S.R.)
P. F. Yudin, Academician (U.S.S.R.)

Description:

This institute deals with the history of philosophy, problems of dialectic materialism, and philosophical thought in the U.S.S.R. and abroad. It publishes Voprosy Filosofii (Problems of Philosophy) monthly.

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Name: Institute of Physical Chemistry
(Institut fizicheskoy khimii--IFKh)

Address: Moscow, Leninskiy prospekt, 31

Director: V. I. Spitsyn, Academician (U.S.S.R.)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

I. N. Aleynikova
G. K. Berukshtis
B. V. Deryagin, Corresponding Academician (U.S.S.R.), Head of
Laboratory of Surface Phenomena
M. M. Dubinin, Academician (U.S.S.R.)
A. N. Frumkin
N. S. Gorbunov, Candidate
V. V. Karasev
Yu. M. Kirillova, Corresponding Academician (U.S.S.R.)
G. B. Klark, Candidate
N. A. Krotova, Candidate
N. T. Kudryavtsev, Doctor
P. A. Rebinder, Academician (U.S.S.R.)
S. Z. Roginskiy, Corresponding Academician (U.S.S.R.)
I. L. Rozenfel'd, Doctor
N. D. Tomashov, Doctor
A. A. Trapeznikov, Doctor
A. T. Vagramyan, Doctor
I. V. Vereshchinskiy
F. F. Vol'kenshteyn

Description:

Formerly the Colloidal-Electrochemical Institute, the present Institute of Physical Chemistry was organized about 1945. Since then, various laboratories and departments have been identified within its structure: an Electrochemical Section, or Department; Laboratories for Catalysis, Electrodeposition, Disperse Systems, Hydrocarbon Oxidation, Sorption Processes, and Surface Phenomena (this laboratory celebrated its 25th Anniversary in 1960). In addition, corrosion stations are maintained at various locations for continuous environmental corrosion research. In 1961, the Institute was reported to own a high-energy-particle accelerator. The Institute publishes a Trudy and grants higher academic degrees.

Books recently written by members of the Institute cover topics such as: the structure of oxide films on metals and the mechanism of their formation; theories and methods for applying thin emulsion coatings to film bases for obtaining light-sensitive materials; electrolytic and chemical polishing of metals; studies on physical-chemical hydrodynamics (theory of heat exchange, theory of motion, and theory of cavitation); technological

processes for cementing, varnishing, glueing, etc.; complex compounds of transuranium elements; methods and application of electron microscopy to physical-chemical research; and data on the composition of lubricants used in press working metals.

Typical research work and types of equipment developed here include apparatus to measure continuously rates of liquid flow in chromatographic columns; fuel cells for supplying small amounts of electric current; a new adsorption method for determining the structure of protective films on metals; a laboratory cryostat for temperatures to -40 C ; isotope tracer methods to investigate adsorption of gases on semiconductor and metal catalysts; a microfurnace for microscopic studies of metal oxidation; a device for measuring the coefficient of static friction of plastics up to 8,500 psi; an instrument to reduce the exposure time in high-speed photography; devices to study the atmospheric corrosion of metals and to study the corrosion of metals by aggressive media in irradiated systems (nuclear reactors); a flow ultramicroscope to count aerosol particles automatically (dust content of air); oxidation of ethane and methane by photochemical sensitization with mercury or using ozone as the oxidant; and use of slow radiation from nuclear reactors for ultrastrong welding of fluorine-containing polymers.

The Institute has collaborated with other institutes in the development of corrosion-resistant steels for chemical-industry equipment. It has also developed special apparatus to withstand heavy radiation doses, to assist other groups in investigating the radiation stability of ion-exchange resins. In 1961, the Institute was involved with other organizations in an investigation of the structure of materials used in the hardening process for water-glass mixtures.

Name: Institute of Physical Chemistry imeni L. V. Pisarzhevskiy
(Institut fizicheskoy khimii imeni L. V. Pisarzhevskogo--IFKh AN UkrSSR)

Address: Kiyev, ulitsa Lenina, 15

Director: A. I. Brodskiy, Corresponding Academician (U.S.S.R.) (1959)

Deputy Director: V. A. Royter, Academician (Ukrainian S.S.R.) (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

B. A. Geller
Ya. B. Gorokhovatskiy
G. P. Korneychuk
I. Ye. Neymark

M. V. Polyakov

I. Slinyakova

Description:

In 1958, the Presidium of the Ukrainian Academy of Sciences announced the establishment of a Laboratory of Chain Reactions and Polymerization within this institute. More recently, about 1960, a Branch was to be organized at Khar'kov.

Members of the Institute have participated in scientific conferences on physical chemistry at Khar'kov in 1959 and 1960, and at Kiyev in 1959. The Rubizhansk Chemical Combine is using catalysts developed by the Institute to increase their production of phthalic anhydride by some 6 to 7 per cent. Members of the Institute have also introduced a new process for producing highly dispersed silica with stable hydrophobic properties. Additional areas of research concern the catalytic polymerization of ethylene, olefin-substituted silicas as polymer fillers, and adsorption and ion-exchange processes for silica and alumina gel. Isotopes have been used in studies of uranium oxides and peroxides and the production of hydrogen peroxides and peracids.

This institute grants the Candidate's Degree with courses in the chemistry of isotopes, catalysis, adsorption, photochemistry, and radiation chemistry.

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Name: Institute of Physical-Organic Chemistry
(Institut fizikoorganicheskoy khimii)

Address: Minsk

Director: B. V. Yerefev, Academician (Belorussian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1961)

Selected Staff Members:

I. I. Bardyshev, Corresponding Academician (Belorussian S.S.R.)
Ya. A. Ol'dekop
G. A. Razuvaev, Corresponding Academician (U.S.S.R.)
L. G. Tsykalo
A. I. Yurzhenko

Description:

This institute has been doing research on the polymerization of cyclohexadiene-1,3 and ethylene (in the presence of metallic catalysts

such as $TiCl_4$). Work has also been done on the low-temperature chlorination of ethane, using catalysts. A compilation of scientific work, published in 1960, entitled "Initiation of Self-Oxidation and Polymerization Reactions and Other Valuable Liquid-Phase Processes", considers especially the role of peroxides in organic reactions.

Name: Institute of Physics
(Fizicheskiy institut)

Address: Yerevan

Director: A. I. Alikhan'yan, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members:

L. M. Afrikyan
A. Ts. Amatuni
F. R. Arutyunyan, Candidate
M. T. Ayvazyan
G. V. Badalyan
N. A. Dobrotin, Professor
V. A. Dzhrbashyan, Candidate
G. M. Garib'yan
I. I. Gol'dman
N. Grigorov, Doctor
V. M. Kharitonov
N. M. Kocharyan, Corresponding Academician (Armenian S.S.R.)
V. S. Murzin, Candidate
Yu. F. Orlov
K. A. Ter-Martirosyan, Doctor
M. L. Ter-Mikayelyan

Description:

Founded in the early 1940's, the Institute specialized in cosmic-ray physics during its early years. Its Cosmic-Ray Laboratory on Mount Aragats is located 3,250 meters above sea level and is equipped with a 100-ton permanent magnet, a 150-ton electromagnet, and a 70-ton magnet.

The Institute recently built a 6-Bev annular particle accelerator which will further the primary work, i.e., the study of the high-energy interaction of elementary particles. In connection with this work, methods of detecting charged particles and measuring their velocities and masses have been developed. In addition to this work, theoretical investigations in electrodynamics and ultrahigh densities of matter have been conducted.

Name: Institute of Physics
(Institut fiziki)

Address: Minsk, prospekt Stalina, 108

Director: B. I. Stepanov, Academician (Belorussian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1962)

Selected Staff Members:

S. I. Anisimov
G. P. Garinovich
L. G. Pikulik
A. N. Sevchenko, Academician (Belorussian S.S.R.)
K. N. Solov'yev

Description:

Problems of electromagnetic radiation constitute the primary investigations of the Belorussian Institute of Physics. These investigations include the establishment of applicability limits for the classical harmonic oscillator model used for solving optical problems, the study of luminescence and fluorescence phenomena of complex molecules, and the application of quantum mechanics to luminescence and fluorescence studies. The Institute occupies an outstanding place in the Soviet Union in the field of spectroscopy. It coordinates research on problems of the optics of anisotropic media and the theory of vibrational spectra, and it has been preparing ground for research in the field of high-temperature optics, receivers of beam energy, and semiconductor optics.

Name: Institute of Physics
(Institut fiziki)

Address: Tbilisi

Director: E. L. Andronikashvili, Academician (Georgian S.S.R.) (1959)

Deputy Directors: G. I. Dzhandieri (1961)
A. I. Gachechiladze (1958)

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

M. Bibilashvili
L. I. Buishvili

G. Ye. Chikovani
 G. A. Chilashvili
 R. Kazarov
 G. R. Khutsishvili
 Yu. G. Mamaladze
 V. I. Memaskhlisov, Academician (Georgian S.S.R.)
 Z. Manyavidze
 S. G. Matinyan
 V. A. Mikhaylov
 M. Ye. Perel'man
 N. N. Roynishvili
 N. L. Tsintsadze

Description:

The Georgian Institute of Physics is large, and its fields of study are varied. For many years, cosmic-ray studies have been conducted at the Institute's Mount El'brus Station, and in 1960, additional facilities for this work were made available in the new station at Tskhra-Tskaro Pass. Facilities at this new station include a 1,000-ton magnet which sets up a field with a volume of 6 cubic meters. In November, 1959, the main institute put into operation a nuclear reactor, which is used by scientists from various republics in Transcaucasia. The Institute has a Laboratory of the Physics of Low Temperatures, which has done work on liquid helium, superfluidity, and surface conductivity at low temperatures. The research activities of the Institute also include plasma physics, ion beams, magneto-hydrodynamics, and the physics of ferromagnetic materials. Some of the research effort is directed toward the design and development of instrumentation, such as a spark chamber which uses an electric spark in a neon atmosphere to trace the paths of high-energy particles.

The Institute publishes a Trudy at various times throughout the year.

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Name: Institute of Physics
 (Institut fiziki)

Address: Riga

Director: I. M. Kirko, Corresponding Academician (Latvian S.S.R.) (1961)

Deputy Director: V. Ya. Veldre (1961)

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

- V. Tolutis, Head of Semiconductor Laboratory
 V. A. Yanuskovskis, Head of Laboratory of Automation and Radio-
 active Methods

Description:

Since about 1954, the Institute has been very active in the development of industrial applications of atomic energy and the construction of devices for this purpose, especially process-control instrumentation. The Institute has been studying liquid metals and has produced a series of liquid-metal pumps. A nuclear reactor is located here, and studies are conducted on the effects of radiation on materials and also on biological effects of radiation. Recent work also is concerned with applications of magnetohydrodynamics. The Institute has designed an atomic spectrograph for the study of nuclear structure. Some computer work is being carried out and a recent project involved programming of the M-3 computer. The Institute publishes a Trudy.

Name: Institute of Physics
 (Institut fiziki)

Address: Kiyev, ulitsa Dobryy Put', 42

Director: M. V. Pasechnik, Corresponding Academician (Ukrainian S.S.R.)
 (1961)

Deputy Director: O. F. Nemets, Professor (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

- A. D. Belyayev
 P. G. Borzyak
 V. L. Broude
 M. F. Deygen
 I. M. Dykman
 K. D. Glinchuk
 A. G. Goldman, Academician (Ukrainian S.S.R.)
 V. Ye. Lashkarev, Academician (Ukrainian S.S.R.)
 V. I. Lyashenko, Head of Laboratory
 Ye. G. Miselyuk
 N. D. Morgulis, Corresponding Academician (Ukrainian Academy)
 S. Ya. Pekar
 A. F. Prikhotko, Doctor
 E. I. Rashba

O. G. Sarbei
 S. Z. Shil'ba, Head of Laboratory of Spectroscopy
 N. M. Tkach
 K. B. Tolpygo

Description:

The Institute was founded in 1929. It was a center of semiconductor research until 1960, when the Semiconductor Department became a separate institute. The Institute, which is actively investigating nuclear reactions, has a cyclotron, an electrostatic accelerator, and a 10,000-kw nuclear reactor, placed in operation in 1961. Other current projects include construction of a pulsed generator with memory, development of various semiconductor devices, and study of the use of thermionic emission for direct conversion of heat into electricity.

Graduate training is offered in nuclear physics, radiophysics and electronics, physical optics, theoretical physics, and radiation physics.

Name: Institute of Physics
 (Institut fiziki)

Address: Krasnoyarsk

Director: L. V. Kirenskiy, Doctor (1957)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R., Siberian
 Department (1961)

Selected Staff Members:

V. A. Ignatchenko
 A. V. Korshunov, Candidate, Head of Laboratory of Spectroscopy
 A. M. Rodichev
 N. M. Salanskiy
 M. K. Savchenko
 I. A. Terskov, Candidate, Head of Laboratory of Biophysics
 A. Yu. Vlasov

Description:

This institute is being reconstructed as part of the Soviet program for the establishment of scientific centers throughout Siberia. Three of its laboratories are (1) the Laboratory of Physics of Magnetic Phenomena, (2) the Laboratory of Biophysics, and (3) the Laboratory of Spectroscopy.

Most of the Institute's work in recent years has been on the properties of ferromagnetic materials and on the domain theory of ferromagnetism. The effects of temperature and ultrasonics on magnetic processes have been investigated as part of this work. Members of the Krasnoyarsk Pedagogical Institute have worked closely with the Physics Institute staff in the investigations. In addition to this work, some experimental investigations have been performed on arc-discharge plasmas and the development of an automatically controlled growth of chlorella--an alga which is being considered for use in space flight.

Name: Institute of Physics
(Institut fiziki)

Address: Makhachkala

Director: Kh. I. Amirkhanov, Academician (Azerbaijdzhan S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1962)

Selected Staff Members:

D. Kh. Amirkhanova
R. I. Bashirov
F. G. El'darov
A. M. Kerimov
Yu. D. Zakiyev

Description:

In 1958, the Institute of Physics was organized. The Institute was to have five laboratories concerned with investigation of thermogalvanomagnetic phenomena in electronic semiconductors; investigation of heat conduction in semiconductors, including both very low- and very high-temperature ranges; investigation of the effective masses of current carriers; investigation of the thermodynamics of liquids, vapors, and gases, including the neighborhood of the critical point; and investigation of the thermal conditions of accessible depths of the earth.

Name: Institute of Physics and Astronomy
(Institut fiziki i astronomii)

Address: Tartu, Tyakhetorn

Director: A. Ya. Kipper, Academician (Estonian S.S.R.) (1958)

Deputy Director: K. K. Rebane, Corresponding Academician (Estonian S.S.R.)
(1961)

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members:

H. P. Keres, Academician (Estonian S.S.R.), Head of Sector of
Theoretical Physics and Mathematics

Ya. Ya. Kirs

F. D. Klement, Academician (Estonian S.S.R.), Head of Luminescence
Laboratory

N. N. Kristofel'

G. G. Kuzmin, Corresponding Academician (Estonian S.S.R.), Head of
Sector of Stellar Astronomy

G. G. Liyd'ya

Ch. B. Lushchik

P. V. Myursepp

I. V. Yaek

Description:

The principal work at this institute is concerned with the theory of luminescence. Rebane, Yaek, Lushchik, and others have investigated the effects of pressure temperature, intensity, etc., on emitted radiation. Other fields of interest at the Institute include theoretical work on transition probabilities in crystals and molecules, structural mechanics, physics, and particle interactions and decay, as well as experimental and developmental work on satellite-tracking devices.

The Institute publishes a Trudy whose sections are published as separate volumes. Two of the sections are titled, "Research in Atmospheric Physics" and "Research in Luminescence".

The research equipment available to the Institute's staff includes an actinometric station, which was erected for use during the International Geophysical Year, and the Latvian IRT-2000 nuclear reactor at Salapils, which is shared by several research organizations.

Name: Institute of Physics and Geophysics
(Institut fiziki i geofiziki)

Address: Ashkhabad

Director: A. A. Berdyev (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Turkmen S.S.R. (1961)

Selected Staff Members: I. S. Astapovich

Description:

The Institute has carried out research on rare and rare-earth elements in collaboration with the Institutes of Chemistry and Geology of the Turkmen Academy. It took part in the International Geophysical Year by conducting observations of meteors, the ionosphere, earth currents, the night air glow, and geomagnetic and geoelectric phenomena. These observations were carried out at the Institute itself, in its Astrophysics Laboratory, in its Ionospheric-Wave-Propagation Laboratory, and at two newly established sites in the villages of Vannovskiy and Bikrov. Work has been done on the continuity of sunshine, strength of solar radiation, and data of practical significance for the work of helio installations. The staff also has studied the use of spectroscopy in the analysis of petroleum. The Institute publishes a Trudy.

Name: Institute of Physics and Mathematics
(Institut fiziki i matematiki)

Address: Baku

Director: Z. I. Khalilov, Academician (Azerbaijdzhan S.S.R.)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaijdzhan S.S.R.

Selected Staff Members:

G. B. Abdullayev, Corresponding Academician (Azerbaijdzhan S.S.R.)
A. A. Bashshaliyev
I. I. Ibragimov
A. A. Kuliyeu

Description:

This institute conducts research in several important fields. Most of its research is in pure mathematics, but considerable work has been done also on the physics of semiconductors, combustion processes and products, the acoustic effect in liquids, solar energy conversion, and boundary layers. Research of the staff is published infrequently in a Trudy.

Name: Institute of Physics and Mathematics
(Institut fiziki i matematiki)

Address: Minsk, prospekt imeni Stalina, 108 (1956)

Director: B. I. Stepanov, Academician (Belorussian S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R.

Selected Staff Members:

- P. A. Apanasevich
- F. I. Fedorov, Corresponding Academician (Belorussian S.S.R.),
Head of Laboratory of Theoretical Physics
- I. V. Lebedev, Head of Computer Laboratory
- A. N. Sevchenko, Academician (Belorussian S.S.R.)
- D. A. Suprunenko, Corresponding Academician (Belorussian S.S.R.)
- M. A. Yel'yashevich, Academician (Belorussian S.S.R.)

Description:

This institute is engaged in research in molecular spectroscopy, luminescence, and radiospectroscopy, and is considered to be among the most advanced institutes in the U.S.S.R. in these fields. The staff has designed a new electronic computer, the LUCH, to be used in calculating lenses for optical instruments. The Institute also conducts research on optics, photochemistry, and electromagnetic fields. It publishes a Trudy irregularly.

Name: Institute of Physics and Mathematics
(Institut fiziki i matematiki)

Address: Vil'nyus

Director: A. P. Yutsis, Academician (Lithuanian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Lithuanian S.S.R. (1961)

Selected Staff Members:

- P. P. Brazdzyunas, Academician (Lithuanian S.S.R.)
- V. Lazauskas, Engineer
- Yu. Pozhela
- V. Tolutis, Candidate

Description:

In 1956 this institute was set up with the basic purpose of studying semiconductors. It is still engaged in this field. Present studies involve thin CdTe films, a project of great potential value in the production of solar cells. The Semiconductor Laboratory at this institute is also developing semiconductor devices for power and computer engineering and remote control. A method has also been devised here for exciting semiconductor electrons to higher energy levels by placing the specimens in the field of a radar beam. Other projects of the Institute are development of methods for the spectroscopy of nuclei, atoms, and molecules and calculation of atomic band structures.

Name: Institute of Physics and Mathematics
(Institut fiziki i matematiki)

Address: Kishinev

Director: V. A. Andrunakevich, Academician (Moldavian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Moldavian S.S.R. (1961)

Selected Staff Members:

S. A. Moskalenko
S. I. Radautsan

Description:

The principal interest of the Institute is theoretical and applied semiconductor research. Scientists of the recently organized Division of Applied Mathematics also work closely with various production facilities on problems of automating various branches of industry by the use of computers, determining the most economical load for power stations, constructing the best schedules of traffic patterns, and other questions in statistics, economics, accounting, and logistics.

Name: Institute of Physics, Mathematics and Mechanics
(Institut fiziki, matematiki i mekhaniki)

Address: Frunze

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1961)

Selected Staff Members: Ya. V. Bykov, Corresponding Academician (Kirghiz S.S.R.)

Description:

This institute was established in 1960. It consists of the Departments of Nuclear Physics, Application of Physical Control Methods in Technology and National Economy, Radiophysics and Electronics, Mathematics, Seismology, and Mechanics. It has a Laboratory for Solid-State Physics. The aims of the Institute are the elaboration of radiometric methods in physics, the engineering of linear accelerators for the production of isotopes, the development through the use of high-speed computers of investigation methods for integrodifferential equations, calculation mathematics, and theory of programming, and the solution of scientific, technological, and production problems. In mechanics, methods of testing the strength and plasticity of solids, soils, and rocks, the theory of stability of motion, and oscillations of electromechanical systems are to be investigated. Problems of earthquakes and seismic divisions in the Kirghiz Republic are to be studied.

Name: Institute of Physics of High Pressures
(Institut fiziki vysokikh davleniy--IFVD)

Address: Moscow, Leninskiy prospekt, 31

Director: L. F. Vereshchagin, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

B. I. Beresnev
V. K. Isaykov
Yu. S. Konyayev
V. G. Levchenko
A. I. Likhter
S. Popova
Yu. N. Ryabinin
A. A. Semerchan
S. Stishov
N. K. Zhukhovskiy

Description:

This institute was organized about 1958 from the former Laboratory of Super-High-Pressure Physics, Academy of Sciences, U.S.S.R. Five laboratories were to study problems of the structure of matter, physical-mechanical properties, electric and galvanomagnetic phenomena, and dynamic methods, and to do research on liquids. The staff of the Institute has developed a hydro-compressor for producing a 10,000-atmosphere pressure, a piston-type gage for measuring pressures up to 20,000 atmospheres, a method for forming liquid metals under pressure, a 1,000-ton hydraulic press, and a tetrahedral-type press for pressures up to 100,000 atmospheres at temperatures up to 2000 C.

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Name: Institute of Physics of the Atmosphere
(Institut fiziki atmosfery--IFA)

Address: Moscow, Bol'shaya Gruzinskaya ulitsa, 10

Director: A. M. Obukhov, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: G. V. Rozenberg (1958)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

B. A. Bagaryatskiy
Ya. G. Birfel'd, Director of Loparskaya Station near Murmansk
A. Ya. Driving, Candidate
N. V. Dzhordzhio
N. I. Fedorova, Candidate, Deputy Director of Loparskaya Station
Ye. M. Feygel'son
Yu. I. Gal'perin, Candidate
G. S. Golitsyn
L. N. Gutman, Doctor
V. I. Krasovskiy, Professor, Director of Northern Scientific Station
M. S. Malkevich
A. V. Mironov, Director of Lutsino Station near Zvenigorod
A. S. Monin, Doctor
A. V. Perepelkina, Candidate
V. S. Prokudina
I. S. Shklovskiy, Professor
V. I. Tatarskiy, Head of Research Group on the Effects of Atmospheric Turbulence on Wave Propagation

Description:

In 1956, the Geophysics Institute of the U.S.S.R. Academy of Sciences was split into the Institute of Physics of the Earth, the Institute

of Applied Geophysics, and the Institute of Physics of the Atmosphere (IFA). Now under IFA are the Loparskaya, Lutsino, Roshchino, Severnaya, Tsimlyansk, and Northern research stations. Three of the Institute's laboratories are the Laboratory of Acoustics of the Atmosphere, the Laboratory of Atmospheric Optics, and the Radiophysics Laboratory.

As the existence of the Radiophysics Laboratory indicates, the propagation of radio waves through the atmosphere is a major interest at the Institute. There have been various investigations into the effect of turbulence on the propagation of radio waves, the reflection of radio waves by the aurora, and the reflection of radar beams by the aurora. Other important studies have been concerned with corpuscular radiation in the higher atmosphere.

A very important area of research is atmospheric optics. There have been studies of the scattering of light in the atmosphere, the emission of the aurora, and electrophotometric measurement of the aurora borealis. A. Ya. Driving, et. al., have developed the "searchlight method" for determining stratification in the atmosphere, and V. S. Prokudina has used spectroscopic means to determine the temperature of OH in the upper atmosphere.

A portion of the Institute's work is devoted to the study and forecasting of weather. An acoustic thermometer is used to determine the temperature of the air at 25 to 30-km altitude. The instrument was designed and built at the Institute and operates by measuring the speed of sound in the atmosphere at various altitudes.

The Institute publishes a Trudy.

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Name: Institute of Physics of the Earth imeni O. Yu. Shmidt
(Institut fiziki zemli imeni O. Yu. Shmidta--IFZ)

Address: Moscow, Bol'shaya gruzinskaya ulitsa, 10

Director: M. A. Sadovskiy, Corresponding Academician (U.S.S.R.) (1960)

Deputy Directors: Ye. A. Koridalin, Candidate (1960)
Ye. V. Karus, Professor (1960)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

O. M. Barsukov
V. V. Belousov, Corresponding Academician (U.S.S.R.), Head of
Department of Tectonics
I. S. Berzon, Professor, Head of Department of Seismic Methods
Ye. S. Borisevich, Doctor
Y. D. Bulanzhe, Professor

D. N. Chetayev
 B. I. Davydov
 B. S. Enenshteyn
 Ye. I. Gal'perin, Candidate
 V. I. Keylis-Borok, Doctor
 D. P. Kirnos, Doctor, Head of Geophysical Instruments Division
 S. Ya. Kogan
 N. V. Kondorskaya
 B. Yu. Levin, Doctor
 L. N. Malinovskaya
 V. A. Obukhov
 I. K. Ovchinnikov, Doctor
 Ye. I. Popov, Doctor
 Yu. V. Riznichenko, Corresponding Academician (U.S.S.R.)
 Ye. F. Savarenskiy, Doctor
 N. V. Shebalin, Doctor, Head of Seismological Service of the
 U.S.S.R.
 N. S. Smirnova, Corresponding Academician (Kazakh S.S.R.)
 Yu. I. Vasil'yev

Description:

In 1956, the Geophysics Institute was split into three institutes: the Institute of Physics of the Atmosphere, the Institute of Applied Geophysics, and the Institute of Physics of the Earth (IFZ). IFZ now comprises 15 departments and laboratories and employs about 100 professional researchers. It is the most important Institute in the U.S.S.R. for the study of the history, development, and structure of the earth. The Institute sponsors several field explorations each year. One of these explorations in 1961 investigated the phenomenon of uplifting on Sakhalin Island.

At this institute, many geophysical instruments have been designed. Among the instruments recently developed are a capacitative receiver for ultrasonic pulses and a galvanometer with a period adjustable from 80 to 130 seconds. In 1960, an investigation was carried out to check the effects of temperature and time on Norgard and SN-3 gravimeters.

IFZ conducts fundamental research in seismology, gravity, terrestrial electricity, etc. Results of this research are applied in geophysical prospecting.

Located at the Institute is the Seismological Service of the U.S.S.R. Its purpose is to locate quickly the epicenters of intensive earthquakes. The Service gathers information from the more than 40 seismic stations under its control and is engaged in compiling an atlas of seismicity of the U.S.S.R. The central seismic station Moskva is controlled by the Department of Seismology, as is the Seismological Service.

As is the case with other large institutes, the Institute's Trudy is published as several different volumes. "Problems of Theoretical

Seismology and Physics of the Earth's Interior", "Problems of Instrument Gravimetry", "Problems of Engineering Seismology", and "Seismic Prospecting" are titles of volumes that have appeared in the past few years.

Name: Institute of Powder Metallurgy and Special Alloys
(Institut metallokeramiki i spetsial'nykh splavov)

Address: Kiev, Yanvarskoye Vosstaniye, 21

Director: I. M. Frantsevich, Academician (Ukrainian S.S.R.) (1961)

Deputy Director: G. V. Samsonov, Doctor (1959)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

- I. N. Fedorchenko, Academician (Ukrainian S.S.R.), Head of Technological Division
- V. V. Grigor'yev
- B. D. Grozin, Doctor
- N. K. Kostyrko, Chief Engineer of Technological Division
- G. S. Pisarenko, Corresponding Academician (Ukrainian S.S.R.)
- V. N. Yeremenko, Candidate

Description:

Formerly the Special-Alloys Laboratory of the Academy of Sciences, Ukrainian S.S.R., this institute has become one of the most active scientific-research institutions in the Ukraine, and the leading center of powder-metallurgical research in the Soviet Union. In 1959, the Institute organized a branch in Zaporozh'ye.

Research of the Institute is both theoretical and applied. Physical and chemical studies have been made of the carbides, borides, silicides, nitrides, and beryllides. Particular attention has been given to the rare-earth-metal borides and hexaborides, the solid solutions of borides and other compounds such as carbides, intermetallic compounds, and the production, pressing and sintering of various metallic powders, such as iron, tungsten, and tantalum.

In its applied research, the Institute has developed a mill for rolling strip from powders of metals such as iron, nickel, copper, stainless steel, and tungsten. Other developments include the production of tubes and pipes of molybdenum disilicide, filters for the filtration of molten sodium, and thermocouples. Turbine blades from refractory compounds are also frequently mentioned in the research publications of this institute. The quarterly journal Powder Metallurgy (Poroshkovaya Metallurgiya) has been

published by this institute since January, 1961. The Institute also publishes irregular collections of research reports of the staff.

The Institute offers graduate training in powder metallurgy, technology of ceramics, refractories, inorganic substances, and the strength of materials.

Name: Institute of Power Engineering
(Energeticheskiy institut)

Address: Minsk, Podlesnaya, 13

Director: A. V. Lykov, Academician (Belorussian S.S.R.) (1962)

Deputy Director: V. S. Yermakov, Candidate (1962)

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1962)

Selected Staff Members:

A. N. Devoyno
A. V. Ivanov
T. L. Lyuboshits
T. L. Perel'man
G. D. Rabinovich
A. I. Veynik
I. F. Voloshin, Doctor
I. T. Yel'perin
P. P. Yushkov
S. S. Zabrodskiy

Description:

This rather new institute, possibly five to six years old, has studied heat transfer under various conditions and for different materials. It also studied thermistors and reactor-engineering problems. It has an experimental power reactor, which went critical on May 22, 1962. The Institute publishes a Trudy.

Name: Institute of Power Engineering
(Institut energetiki)

Address: --

Director: O. G. Kirret, Docent (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1961)

Selected Staff Members: --

Description:

This institute is engaged in research in machines, mathematics, and components for power generation. A considerable amount of theoretical work is done on analysis of power systems.

Mathematical studies of shells and other geometrical configurations, studies of thermal power systems, analysis of gas burners, fluid dynamics, and electric motors are among the projects of the Institute.

In 1956, a section for automation and remote control was organized within this institute.

Name: Institute of Power Engineering
(Institut energetiki)

Address: Alma-Ata, ulitsa Uyurskaya, 85

Director: Sh. Ch. Cholein (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members:

A. B. Reznyakov
A. V. Tonkonogiy, Candidate
B. P. Ustimenko
L. A. Vulis, Professor

Description:

There are several laboratories within the Institute, including the Laboratory for Gas-Turbine Units, Laboratory of Physical Principles of Thermal Processes, Laboratory for Stokers and Industrial Furnaces, Laboratory of Wind Power Installations, and Laboratory of Hydraulic Engineering Structures and Flow Phenomena.

The Institute's staff has done research in metallurgy, welding, hydrodynamics, hydrokinetics, combustion processes, gas dynamics, aerodynamics, hydraulics, and the utilization of water resources. However, they

are especially known for the development of the cyclone process for smelting and refining and its application to the cement and chemical industry.

A Trudy is published periodically by the Institute, and the Candidate's Degree is granted.

Name: Institute of Power Engineering and Automation
(Institute energetiki i avtomatiki)

Address: Kishinev

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute has been recently set up to design a system for the electrification of Moldavia. Studies are also made of problems of the comprehensive utilization of water resources and the design of automated systems for industry and agriculture.

Name: Institute of Power Engineering and Automation
(Institut energetiki i avtomatiki)

Address: Tashkent, ulitsa Lafarga, 42, Akadgorodok

Director: M. Z. Khamudkhanov, Doctor (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1962)

Selected Staff Members:

Kh. F. Fazylov, Professor
A. V. Grekhov, Candidate
Z. M. Salikhov

Description:

This institute, formerly the Institute of Power Engineering, was renamed in 1957. Its work has included research on an automatic tuning system for radio transmitters, study of the use of silicon solar batteries to supply power for remote-control equipment for irrigation systems and for gas and oil installations. Other work includes the design of a remote signal system which utilizes telephone lines, development of a new method of regulating the velocity of asynchronous electric motors, study of the design and the characteristics of silicon rectifiers, and development of a technique to increase the dynamic stability of electric systems by connecting load resistors.

The Institute has a Laboratory of Automatic Electric Drives. The Candidate's Degree is granted and a Trudy is published.

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Name: Institute of Power Engineering and Electrical Engineering
(Institut energetiki i elektrotehniki)

Address: Riga

Director: K. K. Plaude, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: M. Raman, Candidate (1961)

Administrative Affiliation: Academy of Sciences, Latvian S.S.R. (1961)

Selected Staff Members:

V. S. Kulebakin, Academician (U.S.S.R.)
T. Ya. Puritis
Ya. K. Shinka
D. F. Streng

Description:

This institute is engaged in research and development in the fields of power and electrical engineering. It has designed many new types of electrical machinery, including machines for the railway system. Theoretical and experimental studies have been conducted on power components and motors of various types. Semiconductor power units have been developed for power rectification. A problem laboratory has been set up in the Riga Diesel Plant. It publishes a Trudy.

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Name: Institute of Power Engineering and Electrical Engineering
(Institut energetiki i elektrotehniki)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Lithuanian S.S.R. (1961)

Selected Staff Members:

V. V. Neshukaytis

A. A. Zhukauskas, Corresponding Academician (Lithuanian S.S.R.)

Yu. I. Zhyugzhda, Academician (Lithuanian S.S.R.)

Description:

This institute is engaged in research in the fields of physics and power engineering. Calculations of the economic conditions of power distribution have been conducted with the MN-7 computer.

Devices such as a vibration sensor were developed to permit measuring low-frequency vibrations in any orientation in space. A device also was developed to detect flaws in paper sheet by an electron-optical scanning system.

Name: Institute of Power Engineering and Hydraulics
(Institut energetiki i gidravliki)

Address: Yerevan

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members: --

Description:

This institute is engaged in research in hydrodynamics and hydrokinetics. This research has been done with the aid of high-speed photography. Theoretical studies on incompressible fluids have also been conducted. Experiments on artificial atmospheric precipitation have been made using dry-ice seeding of clouds.

Name: Institute of Power Engineering and Water Economy
(Institut energetiki i vodnogo khozyaystva)

Address: Frunze

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1959)

Selected Staff Members: --

Description:

This institute is engaged in research on hydroelectric power systems and the remote control of such systems for the irrigation of remote areas.

Name: Institute of Power Engineering imeni A. I. Didebulidze
(Institut energetiki imeni A. I. Didebulidze)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1960)

Selected Staff Members: --

Description:

The most prominent contributions of this institute are in the areas of hydroelectric power, thermodynamics, and physics. Large scale water-power utilization projects have been worked out, and some work has been done on solar devices, electronic materials, and nuclear studies.

Name: Institute of Precision Alloys
(Institut pretsizionnykh splavov--IPS)

Address: Moscow

Director: D. I. Gabrielyan (1960)

and deformation rates and reverse martensite transformation during heating have been investigated. Studies have also been conducted on the quality of oxygen-blown converter steel, the effect of heat treatment on steel strength, and low-nickel steels suitable for apparatus in contact with acids. Currently, the alloying of columbium-base alloys for increased oxidation resistance is being investigated.

Name: Institute of Radio Engineering
(Institut radiotekhniki)

Address: Kiev, ulitsa Chkalova, 55-B

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members: --

Description:

This is a relatively new institute. It was organized to investigate problems where radioengineering has become identified with other technologies, such as chemistry, medicine, and mining. In 1961, the Institute's staff numbered close to 100 scientists and auxiliary personnel.

The Institute offers graduate training in theoretical radio engineering.

Name: Institute of Radio Engineering and Electronics
(Institut radiotekhniki i elektroniki--IRE)

Address: Moscow, Mokhovaya ulitsa, 11, K-9

Director: V. A. Kotel'nikov, Academician (U.S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences U.S.S.R. (1961)

Selected Staff Members:

G. Bernashevskiy
Z. S. Chernov, Doctor

N. D. Devyatkov, Corresponding Academician (U.S.S.R.)
 B. A. Gaygerov
 V. V. Grigor'yants
 S. G. Kalashnikov
 B. Z. Katsenelenbaum, Doctor
 Yu. N. Kazantsev
 V. Ya. Kislov
 Yu. B. Kobzarev, Corresponding Academician (U.S.S.R.)
 V. M. Kontorovich
 O. M. Kurbanov
 L. G. Lomize
 A. I. Morozov
 A. A. Pistol'kors, Corresponding Academician (U.S.S.R.)
 Ya. Ye. Pokrovskiy
 S. M. Rubchinskiy
 V. I. Siforov, Corresponding Academician (U.S.S.R.)
 G. A. Vasneva
 B. A. Vvedenskiy, Academician (U.S.S.R.)
 D. A. Yakovlev
 G. A. Yelkin
 D. V. Zernov, Corresponding Academician (U.S.S.R.)
 M. Ye. Zhabotinskiy
 N. A. Zheleznov, Doctor

Description:

Field emission and cathode electronics are areas of special research interest at this institute, which also is engaged in research in information theory and communications, plasma microwave tubes, secondary emission, photo-multipliers, thin films, and waveguides. The microwave work is under the direction of Z. S. Chernov.

The Institute grants the Candidate's and Doctor's Degrees. There is also a West Siberian branch of this institute.

Name: Institute of Radio Engineering Problems
(Institut radiotekhnicheskikh problem)

Address: Kiyev

Director: I. V. Akalovs'kiy (1961)

Deputy Director: G. I. Gladyshev (1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members: Z. I. Taranenko

Description:

The Institute was established in 1960 with a basic aim, according to its Director, "to find new ways of applying radio facilities in various branches of the national economy, industry in particular". Some of the tasks listed as research problems concern the use of radio frequencies for rock destruction, wireless power transmission, and radio-frequency studies of polymerization in plastics. The staff also plans to develop ultrasonic instrumentation for heart-disease detection and an apparatus for two- and three-dimensional X-ray photography.

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Name: Institute of Radio Physics and Electronics
(Institut radiofiziki i elektroniki--IRE AN UkSSR)

Address: Khar'kov, Yumovskiy Tupik

Director: A. Ya. Usikov, Corresponding Academician (Ukrainian S.S.R.)
(1961)

Deputy Director: S. Ya. Braude, Corresponding Academician (Ukrainian S.S.R.)
(1958)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

F. G. Bass, Candidate
P. V. Blokh, Candidate
A. A. Galkin
V. I. Gorbach
E. A. Kaner
V. M. Kontorovich
A. V. Men', Corresponding Academician (Ukrainian S.S.R.)

Description:

The Institute, organized in 1955, has been engaged in the study of physical electronics. This has involved the study of the electronic properties of solids and their surfaces to improve the old and create new types of electron sources. Other investigations have concerned the properties of plasma, the excitation of oscillations in different frequency intervals, the design and working of accelerators for electrons and ions, and improvements in generators of electromagnetic oscillations of various types (masers).

The Institute also grants advanced degrees in radio physics and electronics, radio astronomy, and theoretical physics.

Name: Institute of Radio Physics and Electronics
(Institut radiofiziki i elektroniki)

Address: Novosibirsk

Director: Yu. B. Rumer, Professor (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

A. M. Dykhne
G. V. Krivoshechekov, Candidate
V. L. Pokrovskiy
S. K. Savvinykh
F. R. Ulinich

Description:

This facility has several laboratories performing research in theoretical physics, electronic phenomena, and cathode electronics. This work encompasses electronic phenomena during superhigh-frequency discharge, physics of gas discharge, calculation of the most favorable direction for antennas, properties of magnetic fields, and phenomena occurring in electronic gas in constant magnetic fields.

Name: Institute of Refractories and Construction Materials
(Institut ogneporov i stroymaterialov)

Address: Alma-Ata, ulitsa Vos'mogo Marta, 21

Director: --

Deputy Director: L. K. Kovalev (1956)

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1958)

Selected Staff Members:

A. I. Minas, Candidate, Head of Laboratory of Binder Materials
A. I. Nagorny, Candidate, Head of Laboratory of Construction
Ceramics

Description:

The Institute has Laboratories of Binder Materials, Refractories, Construction Ceramics, and Glass, and also a Petrographic Laboratory. Its research is concentrated on refractories and construction materials, including clays, ceramics, concrete, and bricks. They have investigated properties and reactions, specifically, heating effects and corrosion protection against ground salinity.

Name: Institute of Russian Literature
(Institut russkoy literatury)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

M. P. Alekseyev, Academician (U.S.S.R.)
R. N. Berkov, Corresponding Academician (U.S.S.R.)
A. S. Bushmin, Corresponding Academician (U.S.S.R.)
D. S. Likhachev, Corresponding Academician (U.S.S.R.)

Description:

This institute is the principal institute for study of Russian literature. Russian folklore is also studied. It publishes Russkaya Literatura (Russian Literature), Russkiy Fol'klor. Materialy i Issledovaniya (Russian Folklore. Materials and Investigations), and a monograph series titled, "Pamyatuiki Russkogo Fol'klora" (Monuments of Russian Folklore).

Name: Institute of Semiconductors
(Institut poluprovodnikov)

Address: Kiev, Velikaya Kitayskaya ulitsa, 144

Director: V. Ye. Lashkarev, Academician (Ukrainian S.S.R.) (1960)

Deputy Director: O. G. Miselyuk, Candidate (1960)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

S. I. Pekar', Academician (Ukrainian S.S.R.), Head of a Division
K. B. Tolpygo

Description:

The Institute was organized in 1960 from the Department of Semiconductors, Institute of Physics, Academy of Sciences, Ukrainian S.S.R., Kiyev. The Institute consists of 14 laboratories: (1) Photoelectric Phenomena in Semiconductors, (2) Photoelectric Apparatus, (3) Semiconductor Optics, (4) Luminescence Phenomena in Semiconductors, (5) Action of Ionizing Radiation on Semiconductors, (6) Electronic Properties of Semiconductors, (7) Physics of Radiotechnical Apparatus, (8) Semiconductor Radiospectroscopy, (9) Semiconductor Surface Electronics, (10) Surface-Protection of Semiconductor Apparatus, (11) Semiconductor Cathode Electronics, (12) Semiconductor Metallurgy, (13) Semiconductor Chemistry, and (14) Scientific Bases and Applications of Semiconductor Apparatus. Two departments, Theoretical Physics and Theory of Semiconductor Apparatus, are also part of the Institute.

The Institute also offers graduate training in the physics of semiconductors and theoretical physics.

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Name: Institute of Semiconductors
(Institut poluprovodnikov--IP)

Address: Leningrad, Kutuzova naberezhnaya, 10

Director: A. R. Regel', Doctor (1962)

Deputy Director: M. S. Sominskiy, Candidate (1961)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

A. I. Anselm, Doctor, Head of Laboratory
S. V. Ayrapetyants
L. S. Berman, Candidate
B. I. Boltaks, Head of Laboratory
Ye. D. Devyatkova
G. B. Dubrovskiy
V. L. Gurevich
M. I. Klinger
Ye. A. Kolenko, Engineer, Head of Laboratory
T. A. Kontorova
M. I. Kornfel'd, Doctor
V. Kh. Kozlovskiy

Yu. P. Maslakovets, Professor
 I. V. Mochan, Doctor, Head of Laboratory
 Yu. N. Obraztsov
 G. Ye. Pikus, Candidate
 A. G. Samoylovich, Professor
 S. S. Shalyt, Doctor
 I. A. Smirnov
 G. A. Smolenskiy, Professor, Head of Laboratory
 L. S. Stil'bans, Candidate, Head of Laboratory
 V. K. Subashkev, Candidate
 V. P. Zhuze, Candidate

Description:

The Institute of Semiconductors was established in 1955 under the direction of the late A. F. Ioffe. The primary task of the Institute is to study the electrical, optical, thermal and mechanical properties of semiconductors, to search for new semiconductor materials, to develop new semiconductor devices, and to find new applications for semiconductors in industry. The Institute has been instrumental in the development of thermobatteries and the application of semiconductors to metering devices, voltage stabilizers, and transformers. They have utilized solar energy for heating homes, and have studied high-temperature semiconductors as well as gaseous and liquid semiconductors. Electrical conductivity in a magnetic field has been recently reported on, as have plasma diffusion in a magnetic field and crystal studies. Other recent studies have concerned direct energy conversion using semiconductor devices and thermoelectric refrigeration.

Name: Institute of Slavic Studies
(Institut slavyanovedeniya)

Address: Moscow, Trubenkovskiy pereulok, 30-a

Director: I. I. Udal'tsov, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1960)

Selected Staff Members: M. N. Tikhomirov, Academician (U.S.S.R.)

Description:

This institute, organized in 1946 by combining the Sector of Slavic Studies with the Slavic Commission of the Academy of Sciences, U.S.S.R., is a complex one. The staff includes historians, linguists, and literature specialists. The Institute has a number of sectors: Sector of History of the Slavic Peoples, Language Sector, Sector of Slavic Philology and History

of Slavic Literature, and Sector for Structural Typology of Slavic Languages. Work has been done on the history of the Slavic peoples, their historical interrelations, their languages, and their culture.

The Institute, which offers advanced degrees, has a Leningrad branch.

It publishes *Kratkiye Soobshcheniya*, *Uchenyye Zapiski*, and *Stat'i i Materialy po Bolgarskoy Dialektologii SSSR*.

Name: Institute of Soil Science
(Institut pochvovediniya)

Address: Alma-Ata, ulitsa Kirova, 89

Director: U. U. Uspanov (1958)

Deputy Director: S. I. Sokolov (1953)

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members: --

Description:

This institute has conducted studies dealing with humus formation, soil changes after irrigation, microbiological processes in soils, stratified treatment of alkaline soil, and fertilizer utilization by plants. The Institute has produced area studies, such as those on the soils of the Kazakh S.S.R., and soil maps. It has a Department on Soil Microbiology. Candidate's Degrees are granted by the Institute, and a Trudy is published.

Name: Institute of Structures
(Institut sooruzheniy)

Address: Tashkent, ulitsa Abdully Tukayeva, 1

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1957)

Selected Staff Members: --

Description:

The Institute is engaged primarily in structures work related to improving resistance to seismic forces. Academically, students are trained at both the undergraduate and graduate level in civil engineering, with emphasis on hydraulics. Both the Candidate's and Doctorate's Degrees are given. The technical staff has published Trudy in areas such as structural mechanics and analysis, materials technology, hydraulics, and subject matter related to seismology.

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Name: Institute of Terrestrial Magnetism, Ionosphere, and Radio-Wave Propagation
(Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln--IZMIRAN SSSR)

Address: Krasnaya Pakhra, near Moscow

Director: N. V. Pushkov, Professor (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

V. I. Afanas'yeva, Candidate
Ya. L. Al'pert, Professor
N. P. Benkova, Doctor
S. Sh. Dolginov, Magnetic Laboratory
Yu. D. Kalinin, Professor
V. Ye. Kashprovskiy
Ya. I. Khanin
Ya. I. Likhter
N. V. Mednikova, Candidate
E. I. Mogilevskiy

Description:

This institute, located near Moscow, also has a branch in Leningrad. Prior to 1956, the Institute was known as the Scientific-Research Institute of Earth Magnetism (IZMIR). It is a leading institute in the fields of magnetism and ionospheric work. Spherics, radio astronomy, auroras, cosmic rays, and solar physics are also studied here. The nonmagnetic ship, Zarya, belongs to this institute. The Institute publishes a Trudy.

Name: Institute of the Chemistry of Polymers
(Institut khimii polimerov)

Address: Tashkent, ulitsa Kuybysheva, 14

Director: Kh. U. Usmanov, Corresponding Academician (Uzbek S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1961)

Selected Staff Members:

V. S. Minina, Hydrolysis Laboratory
Yu. L. Pogosov, Hydrolysis Laboratory

Description:

This institute was established in late 1958 or early 1959. It incorporates a number of laboratories (e.g., Laboratory for the Physical Chemistry of Fibers and Cellulose; Laboratory for the Chemistry of Cotton Plants; Laboratories for Polymer Research; Laboratory for Optical Analysis; and Laboratory for Experiments and Technology, including a design and technological office). The principal area of research has been the exploitation of waste materials from the cotton and paper industries; recent publications also discuss the modification of polymer properties by irradiation processes.

Name: Institute of the Civil Air Fleet
(Institut grazhdanskogo vozdušnogo flota)

Address: Riga

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute was established in Riga in 1960 with an initial enrollment of 400 students. It is to be used for the education of students in mechanical, radio, and electrical engineering.

Name: Institute of Theoretical and Applied Mechanics
(Institut teoreticheskoy i prikladnoy mekhaniki)

Address: Novosibirsk

Director: S. A. Khristianovich, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute of Theoretical and Applied Mechanics was established in 1957 with two departments--Material Strength and Machine Science, and Aerodynamics. Organized to elaborate the problems of material strength in machine building and mining, the Institute is also concerned with the creation of new energy sources (such as a magnetohydrodynamic generator for the direct conversion of heat energy to electrical energy), theoretical studies of gas motion at very high temperatures, and mechanics of the earth's crust. It has installations for testing the interaction of bodies with gas currents at super-high speeds and temperatures.

Name: Institute of Theoretical and Experimental Physics
(Institut teoreticheskoy i eksperimental'noy fiziki)

Address: Moscow, Cheremushkinskaya ulitsa, 89

Director: A. I. Alikhanov, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., for the use of Atomic Energy (1962)

Selected Staff Members:

V. B. Berestetskiy
A. D. Galanin
B. L. Ioffe
P. I. Khristenko
I. Yu. Kobzarev
V. F. Kozlov
M. S. Kozodayev
G. V. Kurdyumov, Academician (U.S.S.R.)

V. N. Moiseyev
 S. Ya. Nikitin
 L. B. Okun
 I. Ya. Pomeranchuk, Corresponding Academician (U.S.S.R.)
 A. P. Rudik
 I. S. Shapiro
 K. A. Ter-Martirosyan
 V. V. Vladimirskiy
 Ya. B. Zeldovich

Description:

This institute possesses some outstanding equipments that enable it to carry out a variety of studies in the field of high-energy physics and nuclear physics. The Institute has a M-2 computer, a cyclotron, and a 7-Bev strong-focusing proton synchrotron. They are presently engaged in studies of nuclear reactions, structure of nucleons, and beta decay, and have undertaken bubble-chamber studies and neutronographic studies of alloys. Much of the high-energy-physics equipment used at the Institute was developed there.

Name: Institute of Theoretical Astronomy
 (Institut teoreticheskoy astronomii--ITPA)

Address: Leningrad, Universitetskaya naberezhnaya, 5

Director: M. F. Subbotin, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: I. D. Zhongolovich (1959)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1960)

Selected Staff Members:

Yu. V. Batrakov, Candidate
 G. A. Chebotarev, Doctor, Head of the Department of Applied
 Celestial Mechanics
 D. K. Kulikov
 S. G. Makover, Doctor
 V. F. Proskurin
 N. S. Yakhontova, Professor

Description:

The Institute of Theoretical Astronomy developed from the "Calculation Institute", which was established in 1920.

Many papers in the field of celestial mechanics are published here. From calculations on the motion of artificial earth satellites, the extent of the flattening of the earth and the earth's gravitational anomalies have been estimated. Orbits of satellites are also calculated here.

This institute has become a center for the observation of minor planets. At the request of the International Astronomical Union, this institute calculates their ephemerides for all of the observatories in the world. Its "Ephemerides of Minor Planets" has been published yearly since 1945. Other publications which this institute issues are a Byulleten' and a Trudy.

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Name: Institute of the Peoples of Asia
(Institut narodov Azii)

Address: Moscow, Armyanskiy pereulok, 2

Director: B. G. Gafurov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: N. A. Dvorenkov (1959)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

M. N. Bogolyubov, Doctor

A. N. Kononov, Corresponding Academician (U.S.S.R.), Head of
the Leningrad Division

N. I. Konrad, Academician (U.S.S.R.)

V. A. Livshits

N. A. Lutskaya

I. A. Orbeli, Academician (U.S.S.R.)

N. V. Figulevskaya, Corresponding Academician (U.S.S.R.)

G. Serdyuchenkov, Professor, Head of Oriental-Language Section

O. I. Smirnov

Description:

The Institute of the Peoples of Asia was created in 1960 by merging the former Institutes of Sinology and Oriental Studies. The main task of the Institute is to work out the problems of the modern status and development of Asian countries. General areas of research are the national liberation movement, the crisis and decay of the colonial system, modern colonial politics of imperialism, the economic and political development of newly independent Asian countries, international relations in Asia, the workers' and peasants' movements, the development of the culture and social thought of the Asian peoples, and research on the history of the peoples of Asia, their literature, and languages. In these studies, emphasis is on the study of modern problems.

The Institute administers the Publishing House of Eastern Literature. Its publications are "The History, Economics, and Culture of the Peoples of Asia and Africa" (Narody Azii i Afriki. Istoriya Ekonomika, Kul'tura) and "Asia and Africa Today".

The Institute has a Division in Leningrad. Advanced degrees are conferred.

Name: Institute of the Physics of Metals
(Institut fiziki metallov--IFM AN SSSR)

Address: Sverdlovsk

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R.

Selected Staff Members:

V. I. Arkharov, Doctor
N. N. Buynov
I. G. Fakidov
M. G. Gaydukov
K. A. Malyshev
M. N. Mikheyev, Doctor
S. A. Nemmonov
V. A. Paylov
N. M. Rodigin
V. D. Sadovskiy, Professor
Ya. S. Shur
S. V. Vonsovskiy, Corresponding Academician (U.S.S.R. Academy)

Description:

Until mid-1958, this institute was subordinate to the Ural Branch of the Academy of Sciences, U.S.S.R. In mid-1958, it was transformed into an independent research institute of the Academy. Primarily, the Institute conducts research on the physical properties of metals. Some of its laboratories are:

- (1) Precision-Alloy Laboratory
- (2) Diffusion Laboratory
- (3) Mechanical-Properties Laboratory
- (4) Physical-Metallurgy Laboratory
- (5) Special-Alloys Laboratory
- (6) Magnetic-Structural-Analysis Laboratory.

Research has been conducted on plastic deformation, low-temperature transformations, internal friction, ferromagnetic resonance, electrical resistivity, semiconductors, powder metallurgy, highly compressed metals, ferromagnetism, ferrites, magnetic properties of steels, radioscopy heat-resistance theory, dislocation theory, and the multi-electronic quantum-mechanical theory of solids.

Some of the research of the staff is published in the Trudy of the Institute, which appears irregularly but at least annually.

Name: Institute of Thermal Power Engineering
(Institut teploenergetiki)

Address: Kiev, ulitsa Chkalova, 55-b

Director: G. M. Shchegolov (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

A. Sh. Dorfman
Ye. P. Dyban
V. I. Fedorov
O. O. Kremnov
M. M. Nazarchuk
S. K. Rudkin
A. N. Shcherban', Academician (Ukrainian S.S.R.)
I. T. Shvets, Academician (Ukrainian S.S.R.)
P. D. Shvetsov, Corresponding Academician (Ukrainian S.S.R.)

Description:

Much of the research of the Institute is in the field of heat exchange and cooling of gas-turbine engines and small cylindrical bodies. Much work is done also in the field of thermal-energy-apparatus construction. The Institute performed some of the first laboratory experiments in dynamic heating by means of the lithium bromide solution from a reverse-absorption refrigeration machine. The equipment of this institute includes a computer of Type EGDA 6/53.

The Institute grants the Candidate's Degree and it publishes an annual Sbornik Trudov. The programs for the Candidate's Degree are in the utilization of heat in industry, use of fuel in power engineering, turbine construction, atomic power engineering, and thermal-electric power stations.

Name: Institute of Thermophysics
(Institut teplofiziki)

Address: Novosibirsk

Director: I. I. Novikov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences U.S.S.R.
(1961)

Selected Staff Members:

S. S. Kuteladze
A. I. Leont'yev
E. A. Sidorov
P. G. Strelkov, Corresponding Academician (U.S.S.R.)
Ye. P. Trofimov

Description:

The Institute of Thermophysics, established in Novosibirsk in the late 1950's, was assigned problems on the utilization of atomic energy for peaceful purposes and the construction of thermo-electric power stations. Recent studies have been conducted on heat exchange and the thermodynamic and thermophysical properties of materials.

Name: Institute of Volcanology
(Institut vulkanologii)

Address: Kamchatka

Director: V. I. Vlodavets (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

V. V. Aver'yev
G. S. Gorshkov, Candidate
S. I. Naboko
G. A. Pospelova
S. L. Solov'yev
A. Ye. Svyatlovskiy, Candidate

Description:

This institute was formerly the Laboratory of Volcanology and was located in Moscow. It was transferred from Moscow to Kamchatka in order to concentrate the efforts of the volcanologists. In 1962 the Laboratory became an institute. One of its areas of intensive research is the problem of tsunami (storm waves). Problems of volcanological regioning, volcanotectonic structures of southern Kamchatka, and origin of the rivers and magnetization of the igneous rocks of Armenia have also been emphasized. A Trudy is published.

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Name: Institute of Water Problems and Hydro-Engineering
(Institut vodnykh problem i gidrotekhniki)

Address: Tashkent, ulitsa Abdully Takayeva, 1

Director: R. A. Alimov, Corresponding Academician (Uzbek S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1959)

Selected Staff Members: --

Description:

Scientific activities of the Institute of Water Problems and Hydro-Engineering include studies of water intake by various types of soils, problems of the dynamics of subsoil water, diffusion of waters and saline solutions through porous materials, and general ground-water-resource studies. In 1959, in conjunction with the Institute of Nuclear Physics, Academy of Sciences, Uzbek S.S.R., the Institute was working on problems connected with the development of the Hungry Steppe (Golodynaya Step').

The Institute grants the Candidate's Degree.

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Name: Institute Teploproyekt
(Institut teploproyekt)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --Description:

Since about 1957, this institute has been investigating the economic production of glass fiber and mineral wool in collaboration with the Institute of Glass Fibers. New cast-iron-melting installations and new continuous steelmaking furnaces utilizing oxygen have been developed. Engineers of the Institute have designed a microcalorimeter for high-speed measurement of heat losses in industrial instruments.

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Name: Irkutsk Agricultural Institute
(Irkutskiy sel'skokhozyaystvennyy institut)

Address: Irkutsk, ulitsa Timeryazeva, 59

Director: V. V. Nazimov, Docent (1961)

Deputy Director: A. I. Kuznetsova, Professor (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

I. S. Buddo, Professor, Head of Chair
V. P. Revyakin, Docent, Head of Chair
L. F. Volkova

Description:

An Izvestiya has been published here since at least 1954. The reported research of the staff has concerned methods for studying electro-deposited alloys, iron-zinc electroplating for repairing machinery parts, reciprocal reactions in alkali-metal fused-salt mixtures, and the ternary system of lithium and sodium molybdates and tungstates.

Courses are offered in agronomy, animal husbandry (wildlife conservation), and mechanization of agriculture.

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Name: Irkutsk Branch of the All-Union Scientific-Research and Design
Institute of Chemical-Machine Construction
(Irkutskiy filial vsesoyuznogo nauchno-issledovatel'skogo i konstruk-torskogo instituta khimicheskogo mashinostroyeniya)

Address: Irkutsk, ulitsa akademika Kurchatova, 3

Director: --Deputy Director: --Administrative Affiliation: All-Union Scientific-Research and Design Institute of Chemical Machine Construction (1960)Selected Staff Members:

V. K. Cherkasov
 N. P. Chernykh
 A. A. Lebedev
 M. I. Mil, Engineer
 V. D. Molchanova, Engineer
 K. K. Polyakova
 A. S. Stirazhkov
 A. K. Trukhin, Head of Equipment Department

Description:

This institute does scientific research and experimental design work connected with the production of new equipment and machines for the chemical industry and new technological processes for the extraction of resins, fibers, and other material. Examples of its work: design of filters and centrifuges; design and building of an apparatus for testing tubes for strength when exposed to hydrogen, nitrogen, or steam at up to 9,000 psi. It has also experimented with the introduction of tetrafluoroethylene as a packing material for hydraulic piston machines.

It was proposed to increase the automation laboratory's personnel to 80 to 100 men, and to increase personnel for introducing automation into industrial plants to 50 men.

Name: Irkutsk Finance-Economics Institute
(Irkutskiy finansovo-ekonomicheskii institut)Address: Irkutsk, ulitsa Lenina, 11Director: V. N. Dolzhnyye, Docent (1961)Deputy Director: --Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)Selected Staff Members:

M. I. Bakanov, Docent, Head of Chair
 A. R. Pogonets, Docent, Dean

B. S. Sanzhiyev, Docent, Head of Chair
I. G. Starichkov, Professor, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski. It offers courses in finance and credit, accounting, industrial economics, agricultural economics, and economics and organization of mining, automobile, and construction industries.

Name: Irkutsk Institute of Organic Chemistry
(Irkutskiy institut organicheskoy khimii--IOKh SO AN SSSR)

Address: Irkutsk

Director: M. F. Shostakovskiy, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

N. V. Komarov
V. P. Kuznetsova

Description:

This institute was established in late 1958 or early 1959 as a center of organic chemistry research for the Irkutsk region. Problems of petrochemistry and polymer chemistry are being investigated. Also studied are dyes for synthetic fibers, silicon-organic compounds, particularly silicon-containing acetylenic alcohols, copolymers of acrolein with vinyl compounds, and the isolation of aromatic compounds.

Name: Irkutsk State Pedagogical Institute
(Irkutskiy gosudarstvennyy pedagogicheskiy institut)

Address: Irkutsk, ulitsa Zhelyabova, 2

Director: N. G. Prozorovskiy, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Dulov, Professor, Head of Chair
 V. D. Kudryavtsev, Professor
 I. I. Shumilov, Docent, Head of Chair

Description:

Integral-differential-equation theory is studied at this institute, which publishes a Uchenyye Zapiski. The courses of study offered include elementary-school instruction methods, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and pedagogy and psychology.

522

Name: Irkutsk State Scientific-Research Institute of Rare Metals
 (Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut
 redkikh metallov--Irgiredmet)

Address: Irkutsk

Director: I. S. Stakheyev (1958)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. F. Losev
 Ya. D. Raykhbaum

Description:

Irgiredmet is the center of nonferrous metallurgical development in Eastern Siberia. The majority of the Institute's research projects have dealt with the establishment and improvement of concentrating and processing methods for the extraction of tungsten, molybdenum, titanium, aluminum, lithium, beryllium, zirconium, columbium, tantalum, gold, tin, indium, copper, strontium, and diamonds. They have also developed quantitative spectral-analysis methods for controlling the production of rare elements from raw materials. Gallium, germanium, columbium, titanium, zirconium, and indium have been successfully determined by these methods.

The Institute is responsible for the preparation and distribution of standard samples for use by other laboratories in the spectral analysis of steels, cast iron, and iron alloys.

The Mica Synthesis Laboratory's research on the production of synthetic micas of the "metal-crystalline" type has been applied on a semi-industrial scale.

A Sbornik Nauchnykh Trudov is published by the Institute.

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Name: Irkutsk State University imeni A. A. Zhdanov
(Irkutskiy gosudarstvennyy universitet imeni A. A. Zhdanova)

Address: Irkutsk, Vuzovskaya naberezhnaya, 20

Director: V. Ya. Rogov, Docent (1961)

Deputy Directors: N. A. Vlasov, Docent (1961)
B. V. Prokopiyeu (1959)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. P. Bulmasov
N. A. Florenson, Corresponding Academician (U.S.S.R.), Head of Chair
A. V. Kalabina, Docent, Head of Chair
Yu. F. Kharkeyevich, Docent
G. M. Kiryakov, Docent
M. M. Kozhov, Professor, Head of Chair
F. A. Kudryavtsev, Docent, Head of Chair
M. S. Metsik, Docent
I. A. Parfianovich
L. A. Petrov, Docent, Head of Chair
V. M. Polyakov, Docent, Head of Chair
N. A. Reshetnikov, Docent
S. A. Shipitsyn
A. B. Shtykan
Ye. V. Talalayev, Docent, Head of Chair

Description:

Irkutsk State University was founded in 1918. In 1960-1961, it reached an enrollment of about 4,600 students. It confers Candidate's Degrees.

Research interests at the University include studies of alkali halide phosphors, splitting of mica crystals, discharge plasmas in an electric arc, electrical conductivity of diamonds, synthesis of insecto-fungicides from phenols, problems of map projection, and seismic zoning in East Siberia.

The University has a computing center which is using a URAL computer and auxiliary equipment. Computer mathematicians at the University have designed a device for solving three types of problems: integration of graphic functions, integration of ordinary differential equations, and problems involving geometrical constructions and measurements.

The University operates an astronomical observatory which has a zenith telescope. The observatory maintains a time service and participates in observations of artificial earth satellites. The University also operates the Institute of Biogeography and maintains a biological station at Lake Baykal and has a Physical-Chemical Scientific-Research Institute.

The courses of study available at the University include geological surveying and prospecting for mineral deposits, geology and exploration of oil and gas deposits, radiophysics and electronics, soil science and agrochemistry, jurisprudence, Russian language and literature, native language and literature of peoples of the U.S.S.R., history, mathematics, physics, chemistry, botany, zoology, and physical geography.

Name: Ishim State Pedagogical Institute
(Ishimskiy gosudarstvennyy pedagogicheskiy institut)

Address: Ishim, ulitsa Stalina, 1

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

D. K. Gilev, Candidate, Head of Chair
A. M. Zavalishina, Docent, Head of Chair

Description:

This institute publishes a Uchenyye Zapiski. Courses of study include Russian language, literature, and history, mathematics, physics, and elementary-school instruction methods.

Name: Ivanovo Agricultural Institute
(Ivanovskiy sel'skokhozyaystvennyy institut)

Address: Ivanovo, Negorelaya ulitsa, 39/16

Director: A. V. Vatagin, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

N. I. Belonosov, Docent, Head of Chair
I. I. Nikolayevskiy, Professor

Description:

The Institute offers courses in agronomy and animal husbandry.

Name: Ivanovo Chemical Engineering Institute
(Ivanovskiy khimiko-tekhnologicheskiy institut)

Address: Ivanovo, ulitsa Lenina, 5/10

Director: K. N. Belonogov, Docent (1961)

Deputy Director: M. I. Arkhipov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. D. Berezin, Chair of Analytical Chemistry
I. N. Godnev, Professor, Head of Chair
I. P. Kirillov, Professor, Head of Chair of Technology of Inorganic
Substances
V. N. Kisel'nikov
I. N. Kochin, Docent, Head of Chair
L. L. Kuz'min, Professor, Head of Chair
A. A. Spryskov, Head of Chair of Organic Chemistry
K. B. Yatsimirskiy, Corresponding Academician (Ukrainian S.S.R.),
Head of Chair of Analytical Chemistry

Description:

The research projects being conducted at this institute are very extensive and varied in scope. Much work is being carried out in organic chemistry, specifically, on sulfonation reactions. Dyes, high polymers, and polyamide fibers are being synthesized, and structural and chemical studies of these materials are conducted. Phthalozanines and their analogs are being prepared and their stability studied. In ceramics, work is being

done on the preparation and mechanical properties of silicate glasses. Metallurgical studies are restricted to galvanic platings and corrosion studies of steels and metals in various media.

The Institute publishes a scientific periodical, *Khimiya i Khimicheskaya Tekhnologiya* (Chemistry and Chemical Technology), which is one of the series of journals with the general title, *Izvestiya Vysshikh Uchebnykh Zavedeniy* (News of Higher Educational Institutions). This is a bimonthly magazine which was first published in 1958. In addition, this institute publishes a *Trudy* about its own scientific endeavors.

The Institute grants the Candidate's Degree. Its curriculum provides courses in chemical-industry machinery (inorganic and organic processes, silicates, cellulose and wood-pulp processes, liquid and gas fuels), inorganic chemistry, electrochemical processes, silicates (binders and cementitious materials, ceramics and refractories, and glass), dyes and intermediate products, varnishes, paints, and nonmetallic coatings, materials technology for electronic and vacuum equipment, chemical technology of fiber materials, and technology of synthetic fibers.

Name: Ivanovo Power Engineering Institute imeni V. I. Lenin
(Ivanovskiy energeticheskiy institut imeni V. I. Lenina)

Address: Ivanovo, Rabfakovskaya ulitsa, 34

Director: A. P. Bazhenov, Docent (1961)

Deputy Director: A. V. Sklyanin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

P. A. Baklushin, Docent, Head of Chair
I. V. Belyayev, Candidate
V. A. Borisov
L. A. Brovkin, Candidate
V. T. Kondurar²
D. P. Ledyankin, Docent, Head of Chair
P. A. Murav¹ yev
A. S. Rozenkrants, Candidate
A. F. Sorokin, Professor, Head of Chair
Z. S. Stepanova, Docent
Ya. A. Taykov, Candidate
A. M. Usov, Docent, Head of Chair

Description:

The Institute was founded in August, 1918, as the Ivanovo-Voznesensk Polytechnic Institute. The present name was adopted several years later. More than 6,000 engineers and scientific workers have been graduated.

Research on electric power for various industries, including the textile industry, is conducted. Other activities include research and development on electric motors and drives, generators, transformers, lubricating and transformer oils, and cable coatings. It has worked on automatic control systems, and has done basic research in heat and mass transfer, heat conductivity of metals and materials, deformation, and gasdynamics. The Institute has performed mathematical studies that have application to satellite and rocket trajectories and orbits, including two-body problems of translational and rotational motion and motion of a point above a revolving trajectory. It also has done laboratory testing of equipment manufactured elsewhere.

The Institute offers courses in electric power stations, networks, and systems, electrification of industrial enterprises, thermal power installations, technology of water and fuel for electric power stations, industrial thermal power engineering (oven, gas-heat, and heat-transfer installations), electrical machinery and equipment, and automatic, telemechanic, and electrical measuring instruments and systems.

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Name: Ivanovo State Pedagogical Institute
(Ivanovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Ivanovo, ulitsa Yermaka, 37

Director: N. D. Yermelov, Candidate (1961)

Deputy Director: V. F. Avrorov, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

- A. V. Konokatin, Doctor, Head of Chair
- A. V. Shipulina, Docent, Head of Chair
- S. V. Smirnov, Docent, Head of Chair
- A. P. Yudin, Docent, Head of Chair

Description:

Concentrating on research in theoretical physics, this institute specializes in magnetohydrodynamics, nomographability, and ultrasonics. A Uchenyye Zapiski appears frequently.

The Institute offers courses in foreign language (English, French, and German), Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and physical education.

Name: Ivanovo Textile Institute imeni M. V. Frunze
(Ivanovskiy tekstil'nyy institut imeni M. V. Frunze)

Address: Ivanovo, ulitsa Lenina, 15/8

Director: P. V. Belyshev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. I. Finkel'shteyn, Docent, Head of Chair
N. S. Sorokin, Professor, Head of Chair
A. I. Suchkov, Docent
A. M. Taleporovskiy, Docent, Head of Chair

Description:

This institute offers courses in fibrous materials, sewing, textile equipment, automation, and thermal power engineering. In addition, the staff has done research in metallurgy and metal technology.

Name: Izhevsk Agricultural Institute
(Izhevskiy sel'skokhozyaystvennyy institut)

Address: Izhevsk, ulitsa Kirova, 16

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

G. V. Krylov, Professor, Head of Chair
V. F. Trusakov, Docent, Head of Chair

Description:

The Institute's curriculum includes courses in agronomy, animal husbandry, and mechanization of agriculture.

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Name: Izhevsk Mechanical Institute
(Izhevskiy mekhanicheskiy institut)

Address: Izhevsk, ulitsa M. Gor'kogo, 79

Director: V. P. Ostroumov, Docent (1961)

Deputy Director: V. A. Karpunin, Candidate (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

- B. F. Fedorov, Docent, Head of Chair
- V. I. Kazachenko, Docent, Head of Chair
- B. R. Lazarenko, Professor
- A. I. Pluzhnikov, Candidate
- A. I. Semenikhin, Engineer
- Yu. T. Shavrin, Engineer
- N. V. Talantov, Docent, Dean
- G. A. Tarzimanov, Docent, Head of the Chair of Metal-Cutting Machine Tools and Instruments
- N. V. Vorob'yev, Doctor, Head of Chair of Machine Parts
- V. N. Zhuravlev, Docent, Head of the Chair of Technology of Metals and Metallurgical Science
- Z. M. Zinov'yeva, Head of Chair
- V. M. Zveryayev, Docent, Head of the Chair of Strength of Materials

Description:

The Mechanical Institute in Izhevsk has two schools, one for mechanics and one for mechanical technology. The Institute graduates specialists in precision-machine-building technology and the technology of pressure working of metals. Methods of low-waste forging of gears, rims, and rings through preliminary hot shaping were developed at the Institute.

Work has been done to develop noncircular gears for precision machining, lubricants for the finish on worked surfaces during broaching of alloyed steels, and electric-spark methods of machining holes in stainless steels.

The Institute publishes Sbornik Statey and a Trudy. There is a branch of the Institute in Votkinsk.

Machine-building technology, machine tools, equipment and technology of pressure working metals, and higher mathematics are covered by the Institute's curriculum.

Name: Joint Institute for Nuclear Research
(Ob"yedinennyy institut yadernykh issledovaniy--OIYaI)

Address: Dubna

Director: D. I. Blokhintsev, Corresponding Academician (U.S.S.R.) (1962)

Deputy Directors: E. Dzhakov, Professor (1961)
Wang Han-Chan (1961)

Administrative Affiliation: Council of Authorized Representatives of Member Nations (1962)

Selected Staff Members:

B. A. Arbutov, Academician (U.S.S.R.)
N. N. Bogolyubov, Academician (U.S.S.R.), Head of Laboratory for Theoretical Physics
I. V. Chuvilo, Candidate
V. P. Dzhelepov, Doctor, Head of Laboratory for Nuclear Problems
G. N. Flerov, Corresponding Academician (U.S.S.R.), Head of Laboratory for Nuclear Reactions
I. M. Frank, Corresponding Academician (U.S.S.R.), Head of Laboratory for Neutron Physics
Yu. P. Kumeikin
M. Ya. Kuznetsova
A. L. Lyubimov, Candidate
M. A. Markov, Corresponding Academician (U.S.S.R.)
M. G. Meshcheryakov, Corresponding Academician (U.S.S.R.)
S. B. Nurshv
V. A. Petukhov, Doctor
B. M. Pontecorvo, Corresponding Academician (U.S.S.R.)
G. D. Stoletoy
V. I. Veksler, Academician (U.S.S.R.), Head of High-Energy Laboratory

Description:

In March, 1956, by agreement between the U.S.S.R. and 11 satellite nations to collaborate in the field of nuclear physics, the "Joint" Institute was projected for research and development on nonmilitary applications of atomic energy. The final charter was signed in September, 1956.

The Institute functions under the guidance of a council of authorized representatives of its member nations, meeting annually to confirm both administrative and financial structure. At all other times, administration is performed by a directorial staff comprising of a Director, elected for a term of three years, two Vice Directors, elected for terms of two years, and a Scientific Council, which decides upon the research program and issues periodic progress reports. Each member nation contributes financially to the maintenance of the Institute (roughly, U.S.S.R. - 75 per cent; China - 20 per cent; other countries - 5 per cent), and each has equal voice in decision making. Other countries can petition for membership and be elected by vote of the charter group.

The Institute confers the Degrees of Doctor and Candidate. Scientific studies are published in technical journals and reported at meetings; copies of all finished studies are supplied to member nations.

Originally, about 100 scientific collaborators were working at the Institute; by 1959, 420 professional and 1,400 other personnel were employed.

The Institute's development was aided by the U.S.S.R., which donated the following facilities as the technical basis for its growth: (a) The Institute of Nuclear Problems, Academy of Sciences, U.S.S.R. (with a synchrocyclotron producing 680,000,000 electron volts), and (b) the Electro-physical Laboratory, Academy of Sciences, U.S.S.R. (with a proton synchrotron producing 10,000,000 electron volts). Five laboratories were organized and staffed, and two more were projected. In an address commemorating the fifth anniversary of the Institute, the Director summarized laboratories' accomplishments:

- (1) Laboratory for Nuclear Problems. Studies have been concerned primarily with the investigation of pion-nucleon interaction at several 100 Mev.
- (2) High-Energy Laboratory. Among their more important studies was the discovery of the anti-sigma-minus-hyperon ($\bar{\Sigma}^-$ -hyperon), announced in 1960.
- (3) Laboratory for Neutron Physics. This group has taken over the further development and construction of a pulsed fast-neutron reactor designed by the Institute of Physics of the State Committee for Application of Atomic Energy. The reactor is unique in that it operates periodically in a supercritical regime.
- (4) Laboratory for Nuclear Reactions. An accelerator for multi-charged ions has been installed. Investigations have considered the interaction of heavy ions with nuclei; the synthesis of element 102 and the development of its 102^{253} isotope have been accomplished.

(5) Laboratory for Theoretical Physics. This laboratory houses the computer center (with computers of the URAL-1 and KIYEV types) and the technical library. Its staff has engaged primarily in research in the areas of superconductivity and application to nuclear structure, neutrino theory, particle scattering, and dispersion relations.

(6) Laboratory for Radiochemistry. Originally projected; no further mention.

(7) Plant for Physical Instruments. Originally projected; no further mention.

Besides the activities outlined for specific laboratories, other published work of interest describes, (1) apparatus developed to analyze bubble-chamber photographs; (2) a fiber scintillator using ultrafine strands of plastic fiber to transmit light produced by ionizing particles; and (3) a "ring" or "annular" phasotron, constant in time but with reversible-sign magnetic field, for increased charged-particle-beam intensity and acceleration of particles to relativistic energies suggesting theoretical work on a unified-field theory.

In 1961, a branch of the Physics Faculty of Moscow University was opened at the Institute. In addition, there is close cooperation with all scientific institutions throughout the U.S.S.R. and member nations; 125 collaborators from satellite countries were working at the Institute by 1960. Members of the staff regularly attend international conferences and have worked, under exchange agreements, at scientific institutions of Western countries.

Name: Joint Meteorological Computer Center
(Ob'yedinenny meteorologicheskii vychislitel'nyy tsentr)

Address: Moscow

Director: P. K. Yevseyev, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R., and Main Administration of the Hydrometeorological Service (1960)

Selected Staff Members: --

Description:

This center was set up in 1960 for the purpose of developing scientific-research work in numerical methods of weather forecasting, the mechanical analysis of meteorological data, and the use of a modern electronic computing method for weather forecasting.

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Name: Kabardino-Balkarian State University
(Kabardino-Balkarskiy gosudarstvennyy universitet)

Address: Nal'chik, Zatish'ye, ulitsa Chernyshevskogo, 97

Director: Kh. M. Berbekov, Docent (1961)

Deputy Director: B. Kh. Balkarov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Education,
R.S.F.S.R. (1961)

Selected Staff Members:

A. N. Derevenskiy, Docent, Head of Chair
F. I. Frankl', Professor
K. I. Maslyugin, Docent, Head of Chair
S. N. Zadumkin

Description:

In 1957, the Kabardino-Balkarian Pedagogical Institute was expanded into a university. During the 1960-1961 school year, this university enrolled 2,800 students.

Research efforts at the University have included the fields of aerodynamics, higher mathematics, and semiconductors. Aerodynamic studies have considered Lavalle nozzles, models of subsonic and sonic flow, and relativistic flows of gas. Mathematical studies have considered problems of finite groups, differential equations, Fourier series of certain functions, theory of algebraic fields, and boundary-value problems. Considerable study has been done of the surface energy of metals such as sodium, potassium, rubidium, cesium, magnesium, calcium, strontium, and barium. The University publishes a Uchenyye Zapiski.

The University offers courses in industrial and civil construction, agronomy, animal husbandry, Russian language and literature, native language and literature of peoples of the U.S.S.R., Romance and Germanic languages and literature, history, mathematics, physics, and biology.

Name: Kaliningrad State Pedagogical Institute
(Kaliningradskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kaliningrad, ulitsa Chernyshevskogo, 56

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

I. S. Gorichev, Docent, Head of Chair
Ya. L. Pichkurenko, Docent, Head of Chair

Description:

This institute which opened in 1948, in addition to preparing teachers, publishes a Uchenyye Zapiski, describing research in mathematics. Courses are offered in Russian language, literature, and history, English, German, and French, mathematics and drafting, physics and general science, geography and biology, methods of primary-school education, and physical education.

Name: Kaliningrad Technical Institute of the Fishing Industry and Economy
(Kaliningradskiy tekhnicheskiy institut rybnoy promyshlennosti i khozyaystva)

Address: Kaliningrad, Sovetskiy prospekt, 2

Director: A. V. Zasosov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. S. Bogdanov, Docent, Dean
Ye. I. Grabova, Candidate, Head of Chair
P. P. Molchanov, Head of Laboratory
Yu. Yu. Revyakin, Docent, Head of Chair
N. B. Sevast'yanov, Docent, Head of Chair
D. M. Skorniyakov, Dean
A. G. Temkin

Description:

This institute prepares engineers for the fishing industry. Courses are offered in machinery and installations of the food industry, shipbuilding and ship repair, ship power installations, refrigeration and compressor machinery and installations, technology of meat and dairy products, technology of fish products, industrial fisheries, and ichthyology and fish breeding and conservation.

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Name: Kalinin Peat Institute
(Kalininskiy torfyanoy institut)

Address: Kalinin, prospekt Lenina, 25

Director: M. A. Chulyukov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. F. Anisimov, Docent
V. Ya. Antonov, Docent, Head of Chair
N. V. Bulayevskiy, Docent, Head of Chair
A. G. Tsurkan, Docent
K. N. Opokin, Head of Chair
F. A. Sokolov, Docent, Head of Chair

Description:

The Institute has used radioactive isotopes for the determination of the structure of porous media, determination of the bound-water content in peat, and studying the process of mixing peat. An apparatus for the determination of the maximum shearing stress and the coefficients of lateral pressure of plastic materials, including peat, has been developed. The behavior of beams of rectangular, triangular, and I cross section in pure and restrained twisting has been studied. Calculations have been made on asymmetrically loaded circular plates, and the bending of thin round plates has been studied.

A Trudy was published in 1957 and Candidate's Degrees are granted. The courses available at the Institute include exploration of peat deposits, exploitation of peat deposits, machine building, metal-cutting tools, and instruments, peat-mining machinery, fuel technology, and operation and exploitation of railroads.

Name: Kaluga State Pedagogical Institute
(Kaluzhskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kaluga, ulitsa Stalina, 1

Director: M. A. Kasatkin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. I. Pyatetskiy-Shapiro

P. A. Shurkin, Docent, Head of Chair

Description:

This institute founded in 1948, which trains teachers, offers courses in Russian language, literature, and history, mathematics and physics, biology and chemistry, and methods of elementary-school education. Some research is conducted in mathematics.

Name: Kamchatka Geological-Geophysical Observatory
(Kamchatskaya geologo-geofizicheskaya observatoriya)

Address: Kamchatka

Director: B. I. Piyp, Corresponding Academician (U.S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members: --

Description:

This observatory was organized in 1960 to determine the special characteristics of the natural topography of the Kamchatskaya Oblast. Research on questions of geology, volcanos, and geophysics is being or will be conducted. The first task of the Observatory was to make a study of the structure and dynamics of the earth's crust by deep drilling.

Name: Kamchatka State Pedagogical Institute
(Kamchatskiy gosudarstvennyy pedagogicheskiy institut)

Address: Petropavlovsk-na-Kamchatke, Naberezhnaya ulitsa, 26

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: M. K. Chernilovskaya, Docent, Head of Chair

Description:

The Kamchatka Pedagogical Institute was opened in 1958. The courses offered include Russian language, literature, and history, elementary-school teacher training, history and philology, and physics and mathematics. Some work has discussed the range of ballistic, multistage rockets.

Name: Kamenets-Podol'sk Agricultural Institute
(Kamenets-Podol'skiy sel'skokhozyaystvennyy institut)

Address: Kamenets-Podol'sk, ulitsa Shevchenko, 19

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

Ye. Ye. Ocheretenko, Docent, Head of Chair
I. F. Ros', Candidate, Head of Chair
G. Ye. Usik, Docent, Dean
I. A. Zabayrachnyy, Docent, Head of Chair

Description:

Courses in agronomy and animal husbandry are offered by this institute.

Name: Kamenets-Podol'sk Pedagogical Institute
(Kamenets-Podol'skiy pedagogicheskiy institut)

Address: Kamenets-Podol'sk, ulitsa K. Marksa, 10

Director: I. S. Zelenyuk, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

G. S. Razdymakhu, Docent
I. F. Slizkiy, Docent
G. Ye. Usik, Docent, Dean

Description:

The Institute's curriculum includes courses in Ukrainian language, literature, and history, Russian language, literature, and history, mathematics, physics and general science, physical education, and elementary-school teaching methods.

The Institute publishes Naukovi Zapysky.

Name: Karachayevo-Cherkessk Pedagogical Institute
(Karachayevo-Cherkesskiy pedagogicheskiy institut)

Address: Karachayevsk, Stavropol'skogo kraya, ulitsa Lenina, 4

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: A. M. Bayramkulov, Docent

Description:

The Institute offers courses in the Russian, Karachayev, Cherkess, Abazin, and Nogay languages, in Russian literature, and in mathematics and physics.

Name: Karaganda Polytechnic Institute
(Karagandinskiy politekhnicheskiy institut)

Address: Karaganda, bul'var Mira, 7 (1960)

Director: A. Saginov, Professor (1962)

Deputy Directors: S. U. Umbetalin, Docent (1961)
A. F. Kichigin, Docent (1961)

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers, Kazakh
S.S.R.

Selected Staff Members:

S. K. Dosmagambetov, Docent, Head of Chair
E. P. Keller, Head of Chair
Ye. T. Nadirov
M. L. Rudakov, Professor
Ye. I. Shevtsov, Docent, Head of Chair
M. P. Tonkonogov, Docent
M. F. Voznyy

Description:

Originally a mining institute, the Karaganda Polytechnic Institute trains students in the physical, technical, and engineering sciences. Some of the specialties offered at the Institute are theoretical mechanics, ore concentration, hydraulics, physics, chemistry, higher mathematics, descriptive geometry, and graphic sciences. Courses also are offered in mine surveying, mining, mining construction, mining electromechanics, ferrous metallurgy, metalworking (forging, stamping, rolling, and sheathing), mining machinery, industrial and civil construction, and production of concrete and reinforced-concrete structural components and units for prefabricated construction.

Name: Karaganda Scientific-Research Coal Institute
(Karagandinskiy nauchno-issledovatel'skiy ugol'nyy institut--KNIUM)

Address: Karaganda

Director: G. Ye. Ivanchenko, Professor (1962)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute conducts research on coal, its derivatives, and methods of automating its mining and processing to reduce waste. A Trudy is published by the Institute.

Name: Karaganda State Pedagogical Institute
(Karagandinskiy gosudarstvennyy pedagogicheskiy institut)

Address: Karaganda, ulitsa Kirova, 16

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers, Kazakh
S.S.R. (1960)

Selected Staff Members: --

Description:

The Institute's curriculum includes work in Russian language, literature, history, and singing, native language and literature, mathematics and physics, physics and fundamentals of production, and biology, chemistry, and agriculture. Some research in dielectrics has been done here.

Name: Kara-Kalpak State Pedagogical Institute
(Kara-Kalpakskiy gosudarstvennyy pedagogicheskiy institut)

Address: Nukus, ulitsa Kalinina

Director: S. Kamalov, Docent (1961)

Deputy Director: U. Buleshev, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special
Education of the Council of Ministers, Uzbek
S.S.R. (1960)

Selected Staff Members:

K. Berdimuratov, Head of Chair
M. G. Galikeyev, Head of Chair

Description:

This institute trains teachers in the following specialities:
mathematics, natural science, and physics. They publish a Uchenyye Zapiski.

Name: Karelian State Pedagogical Institute
(Karel'skiy gosudarstvennyy pedagogicheskiy institut)

Address: Petrozavodsk, ulitsa Lenina, 79

Director: P. I. Tkhalaynen, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

O. K. Afanas'yeva, Candidate, Head of Chair
N. A. Meshcherskiy, Professor, Head of Chair

Description:

Members of the Institute's staff have performed research in plasma physics and mechanical and physical metallurgy. The Institute publishes a Uchenyye Zapiski. Among the courses it offers are Russian language, and literature, foreign languages, mathematics and drafting, physics and fundamentals of production, and physical education.

Name: Karshi Pedagogical Institute
(Karshinskiy pedagogicheskiy institut)

Address: Karshi, ulitsa Kuchabag, 17

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

M. K. Khadzhiyev, Candidate, Head of Chair
K. Rizayeva, Candidate, Head of Chair
G. S. Yadykhanova, Docent, Head of Chair

Description:

Courses of study for the training of teachers include Russian and native language and literature, mathematics, physics, and physical education.

Name: Kaunas Polytechnic Institute
(Kaunasskiy politekhnicheskiy institut)

Address: Kaunas, ulitsa Donelaychio, 35

Director: K. M. Barshauskas, Academician (Lithuanian S.S.R.) (1961)

Deputy Director: M. A. Martinaytis, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Lithuanian S.S.R. (1960)

Selected Staff Members:

P. Yu. Aksamitas, Docent, Head of Chair
P. A. Baskutis, Professor
V. I. Ilgunas, Docent, Head of Chair
I. P. Indryunas, Professor, Head of Chair
N. V. Milenskis, Docent, Dean
A. Yu. Novodvorskis, Docent, Assistant Dean
A. K. Purenas, Academician (Lithuanian S.S.R.), Head of Chair
A. M. Rozenblyumas, Docent, Head of Chair
S. K. Schesnulyavichus, Docent, Dean
Z. P. Tamutis, Candidate
I. N. Tsiparis
V. V. Vaynauskas, Docent
I. P. Venskyarichus, Docent, Dean
Ch. Z. Yakimavichus, Candidate
A. I. Yuryale, Party Secretary
Yu. P. Zdanis, Docent, Head of Chair

Description:

The Institute was organized around 1951, a result of the splitting up of Kaunas State University. It now enrolls about 7,200 students and is the largest educational establishment in Lithuania.

It trains students and conducts research in areas such as chemistry, physics, electrical engineering, mechanics, and construction.

The Institute has developed an automatic electronic device for recording temperatures in glass-melting furnaces, a two-beam photoelectronic amplifier for studying stress analysis in metals, a vibration sensor for measuring low-frequency vibrations, and a 5,000-kg universal electromagnet.

Candidate's Degrees are granted, and a Trudy is published.

Courses of Study: Exploitation of peat deposits
Electric power stations, networks, and systems (thermal and hydroelectric power stations)
Electrification of industrial enterprises and installations
Industrial thermal power engineering (oven and gas heat thermal engineering, heat-transfer installations)

Machine building, metal-cutting tools, and instruments
Radio engineering
Radio equipment design and manufacture
Inorganic chemistry
Silicates (binders and cementitious materials, ceramics
and refractories, and glass)
Mechanical technology of wood processing
Technology of meat and dairy products
Mechanical technology of fiber materials (cotton, wool,
and bast products; silk technology, weaving, and
knitting)
Technology of synthetic fibers
Technology of manufactured leather goods
Architecture
Industrial and civil construction
River installations and hydroelectric power stations
Agricultural construction
Urban construction and municipal works and service instal-
lations
Water supply and sewerage systems
Geodesy
Automotive transport
Economics and organization of machine-building industry.

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Name: Kazakh Agricultural Institute
(Kazakhskiy sel'skokhozyaystvennyy institut)

Address: Alma-Ata, ulitsa Krasina, 123

Director: --

Deputy Director: I. K. Kipshakbayev, Docent (1961)

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers, Kazakh
S.S.R. (1960)

Selected Staff Members:

A. I. Dorofeyev, Docent, Head of Chair
Ye. I. Dykhman, Docent, Head of Chair
A. I. Fedorov, Professor, Head of Chair
Sh. S. Manevich
M. Ya. Popereka
Yu. A. Skopin
B. A. Yermekova, Docent, Head of Chair

Description:

This institute, organized in 1930, publishes a Trudy and also awards Candidates's Degrees. Published staff writings have considered stress determination in electrolytic coatings, substitution of aluminum-base alloys for Babbitt metal in tractor bearings, iron-chromium alloys, repairing farm machinery by electric-arc welding, physical properties of metals, and flow of lubricants in bearings. Courses are offered in agronomy, mechanization of agriculture, rural electrification, land reclamation, hydro-engineering, and forestry.

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Name: Kazakh Mining-Metallurgical Institute
(Kazakhskiy gornometallurgicheskiy institut)

Address: Alma-Ata, prospekt Lenina, 90

Director: A. O. Baykanurov, Docent (1958)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members:

S. G. Ankinovich
I. I. Bok, Academician (Kazakh S.S.R.)
A. V. Brichkin, Academician (Kazakh S.S.R.)
Ye. A. Buketov
T. K. Chormonov
F. M. Kolomitskiy
L. Kultitskiy, Doctor, Head of Chair of Physics
V. B. Lebedev
V. K. Monich, Professor
A. A. Nepomnyashchikh
V. D. Ponomarev, Corresponding Academician (Kazakh S.S.R.)
A. S. Popov, Academician (Kazakh S.S.R.)
V. S. Sazhin
N. G. Sergiyev, Academician (Kazakh S.S.R.)
Ye. D. Shlygin
K. V. Sushkov, Docent

Description:

The Kazakh Mining-Metallurgical Institute was founded in 1934. In 1957, there were 2,000 students in the three faculties of the Institute.

The teaching staff includes 13 Doctors and 72 Candidates. The Institute's scientists are closely connected with the nonferrous-metals and coal industries of Kazakhstan.

Geological prospecting, hydrogeology, development of mineral deposits, construction, nonferrous metallurgy, and metallurgical equipment are among the courses of study available at the Institute.

A Sbornik Nauchnykh Trudov is published.

Name: Kazakh Pedagogical Institute for Women
(Kazakhskiy zhenskiy pedagogicheskiy institut)

Address: Alma-Ata, ulitsa Gogolya, 23

Director: --

Deputy Director: T. R. Kordabayev, Docent (1961)

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members:

G. A. Abishev, Doctor, Head of Chair
Kh. U. Ishanov, Docent
M. M. Markovich, Professor
T. M. Murzabekova, Docent

Description:

The Institute was formed as the result of a reorganization of the Kazakh State University, which was founded in 1928. Academic training is provided for future teachers of the biological, physical, and social sciences, language and literature, and the arts. Research efforts have been published in mathematics, chemistry, astronomy, and climatology. The Candidate's Degree is granted.

Name: Kazakh Polytechnic Institute
(Kazakhskiy politekhnicheskiy institut)

Address: Alma-Ata, prospekt Lenina, 90

Director: O. A. Baykonurov, Professor (1962)

Deputy Director: K. V. Sushkov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Kazakh, S.S.R. (1961)

Selected Staff Members:

Sh. G. Begaliyeva, Docent, Head of Chair
I. I. Bok, Professor, Head of Chair
A. V. Brichkin, Academician (Kazakh S.S.R.), Head of Chair of Ore Deposit Development
A. S. Geskin, Professor, Head of Chair
B. N. Lebedev, Professor, Head of Chair
V. D. Ponomarev, Professor, Head of Chair
A. S. Popov, Academician (Kazakh S.S.R.), Head of Chair

Description:

The Institute has done research on the ferroelectric changes in crystals upon exposure to ultrasonic fields.

With seeming emphasis on geology and metallurgy, the Institute offers courses in geology and prospecting, geological photography and prospecting, geology and oil and gas prospecting, geophysical methods of prospecting, hydrogeology, development of mineral deposits, development of oil and gas deposits, mine construction, automation of mining operations, civil and industrial engineering, nonferrous metallurgy, ferrous and nonferrous metallurgical equipment, automation of metallurgical processes, economics and organization of metallurgical industry, electric power stations, electrification of industrial enterprises, thermal power installations, mathematical and calculating equipment, and automation of production and distribution of electricity.

Name: Kazakh Scientific-Research Hydrometeorological Institute
(Kazakhskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut)

Address: Alma-Ata

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

Sh. A. Bezverkhniy
R. S. Golubov
Ye. D. Shekhtman

Description:

The Institute has been active in research to perfect long-term weather forecasting. They have diagnosed vertical atmospheric currents to help in forecasting humidity, precipitation, storms, and pressure fields. Investigations of atmospheric turbulence have included studies of their effect on high-altitude aircraft. During the IGY, they measured and studied atmospheric ozone in connection with studies of general atmospheric circulation and the weather. Ozone content and ultraviolet radiation in the atmosphere during solar eclipses have also been investigated. The Institute has cooperated in the design and development of several actinometric devices. A Trudy is periodically published by the Institute.

Name: Kazakh Scientific-Research Institute of Mineral Raw Materials
(Kazakhskiy nauchno-issledovatel'skiy institut mineral'nogo syr'ya--
KazIMS)

Address: Alma-Ata

Director: M. I. Kazantsev (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

G. S. Berger
A. A. Glagolev, Head of the Petrographic and Mineralogical
Laboratory
A. I. Ivankova
D. P. Shcherbov

Description:

The Institute is actively engaged in research on photometric methods of determining small amounts of various elements in ores. These studies have included colorimetric and fluorometric analyses for beryllium, boron, gallium, selenium, and tellurium. They have also developed various devices for improving these methods, such as an automatic device for optical mineral analysis and liquid light filters. The staff is currently working also on improved methods for processing tantalum ores, including dielectric separation and flotation.

The Institute periodically publishes a Trudy.

Name: Kazakh State University imeni S. M. Kirov
(Kazakhskiy gosudarstvennyy universitet imeni S. M. Kirova)

Address: Alma-Ata, ulitsa Kirova, 136

Director: T. B. Darkanbayev, Academician (Kazakh S.S.R.) (1961)

Deputy Director: I. D. Molyukov, Docent (1961)

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members:

M. F. Avazbakiyev, Professor, Head of Chair
 M. B. Balakayev, Professor, Head of Chair
 A. B. Bekturov, Professor
 B. A. Beremzhanov, Docent, Head of Chair
 S. Ya. Bulatov, Professor, Head of Chair
 V. V. Cherdyntsev, Professor, Head of Chair of Experimental Physics
 T. K. Chumbalov, Docent
 Kh. I. Ibrashev, Docent, Head of Chair
 V. P. Kashkarov
 B. K. Kenzhebeyev, Professor, Head of Chair
 N. D. Kosov
 M. T. Kozlovskiy, Professor, Head of Chair of Analytical Chemistry
 L. G. Loytsyanskiy
 I. D. Malyukov, Docent
 K. P. Persidskiy, Professor, Head of Chair
 N. M. Petrova, Docent, Head of Chair
 A. Sh. Sharifkanov, Docent
 L. I. Shmonin, Docent
 D. V. Sokol'skiy, Academician (Kazakh S.S.R.), Head of Chair of Catalysis and Technical Chemistry
 O. A. Songina, Professor, Head of Chair of Chemistry of Rare Elements
 Zh. S. Takibayev, Academician (Kazakh S.S.R.), Head of Chair of Nuclear Physics
 A. B. Tursunbayev, Professor, Head of Chair
 M. I. Usanovich, Corresponding Academician (Kazakh S.S.R.), Head of Chair
 L. A. Wulis, Professor

Description:

Founded in 1934, Kazakh State University reached an enrollment of about 11,650 students during the 1960-1961 school year. The University confers Doctor's and Candidate's Degrees and publishes a Uchenyye Zapiski.

The University is active in a number of fields of research. In chemistry, it is noted for its investigations of catalysis, for example, catalytic reduction of aromatic nitro compounds, catalytic properties of palladium-silver alloys, and catalytic hydrogenation of fats. The Chemistry Department has a Laboratory on Organic Catalysis.

Chemists at the University also were instrumental in developing an amalgam method for producing rare metals of high purity. This method is in industrial use today. Other fields of interest include chemistry of salts and fertilizers, problems of coulometric and amperometric titration, solubility of metals in mercury, theory of solutions, and photoluminescence of copper bromide.

In the fields of physics and mathematics, workers at the University have studied such varied problems as convective heat transfer, heat and mass exchange in drying processes, diffusion of gases in binary mixtures, automatic control systems, gas dynamics, such as flow of gas around a burning flame and high-velocity gas flow, and combustion chambers and furnaces. In the Laboratory for Thermophysical Problems under L. A. Vulis, research is in progress on modeling methods for solving problems in heat conductivity, hydrodynamics, and diffusion theory of neutron transfer. Workers at this laboratory have developed an analog device called a static electrointegrator. Other fields of interest in physics include magnetohydrodynamics, photo-multipliers, transport processes of matter impulses and energy, and theory of relativity. Other investigations include differential equations, simulation of nuclear-reactor criticality, boundary-value problems, and gravitational equations for a system of bodies. The University has a computing center.

The University is quite active in the field of nuclear physics. It has investigated problems such as nuclear fission by cosmic-ray mesons, neutron-density distributions, emission of high-energy alpha particles in nuclear fission by protons, and neutron radiation in the earth's surface. It has studied cosmic rays, particularly the relationship between solar bursts and flares of cosmic rays, and monitored neutrons in cosmic rays. Much of this nuclear research is done by the University's Laboratory for Nuclear Research under the direction of V. V. Cherdyn'tsev. This laboratory recently claimed the discovery of a new, naturally occurring radioactive element.

The courses offered at the University include finance and credit (banking), accounting, economics of the national economy, jurisprudence, Russian language and literature, native language and literature, history, mathematics, physics, chemistry, botany, zoology, physical geography, economic geography, and journalism.

Address: Chimkent, Komsomol'skaya ulitsa, 23

Director: S. Suleymenov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members:

V. P. Gonchar, Docent, Head of Chair
 S. V. Gorbachev, Professor
 I. G. Luginina, Docent, Head of Chair
 N. Mendakov, Docent, Head of Chair
 V. M. Slivko, Docent, Head of Chair

Description:

Most of the research of this institute is in chemistry. Courses are offered in chemical-industry machinery (inorganic and organic chemical processes, silicates, cellulose and wood-pulp processes, liquid and gas fuels), machinery and installations of food industry, refrigeration and compressor machinery and installations, inorganic chemistry, electrochemical processes, silicates (binders and cementitious materials, ceramics and refractories, and glass), plastics, grain processing and storage, technology of meat and dairy products, industrial and civil construction, agricultural construction, production of concrete and reinforced-concrete structural components and units for prefabricated construction, and water supply and sewerage systems.

Name: Kazan' Agricultural Institute imeni M. Gor'kiy
 (Kazanskiy sel'skokhozyaystvennyy institut imeni M. Gor'kogo)

Address: Kazan', ulitsa Karla Marksa, 65

Director: S. V. Goytannikov (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

R. R. Khusainov, Professor, Head of Chair
 S. N. Kon'kov, Docent, Head of Chair
 M. I. Kurkin, Docent, Head of Chair
 S. G. Vinokurov

Description:

Organized in 1922, the Institute publishes a Trudy, and staff writings encompass the fields of pure mathematics, fluid dynamics, theory of elasticity, thermoelasticity and heat exchange, and physical properties of metals. Courses are offered in agronomy and mechanization of agriculture.

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Name: Kazan' Aviation Institute
(Kazanskiy aviatsionnyy institut)

Address: Kazan', ulitsa Karla Marksa, 10

Director: Yu. K. Zastelu, Docent (1961)

Deputy Directors: N. V. Kurshev, Professor (1961)
V. I. Lokay, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

R. Z. Alimov
A. M. Sh. Aminov, Professor, Head of Chair
A. F. Bogoyavlenskiy, Professor, Head of Chair
A. V. Bolgarskiy, Professor, Head of Chair
A. S. Galuillin
M. E. Itkin
P. A. Kuz'min, Professor, Head of Chair
M. I. Lysov, Professor, Head of Chair
R. Sh. Nigmatullin, Docent, Head of Chair
Yu. G. Odínokov, Professor, Head of Chair
I. F. Parkhomenko, Docent
V. I. Poporkin, Docent, Head of Chair
Yu. A. Radtsig, Professor, Head of Chair
T. K. Sirazeldinov
Ye. V. Spiridonova, Docent, Head of Chair
A. V. Talantov
M. B. Vakhitov
G. P. Zhadin, Docent, Head of Chair
G. S. Zhiritskiy, Professor, Head of Chair

Description:

This institute has diverse research interests. In the field of gas flow and aerodynamics, studies have been made in the following areas: supersonic flow, subsonic flow around wings, turbulent flow, drag in a supersonic stream, gas flow around grids, aerodynamic testing in wind tunnels, boundary-layer problems, hypersonic flow past a cone, hydrodynamics,

streamlining a wing in subsonic gas flow, thermal condition of gas in a boundary layer, influence of Reynolds number on jet augmentor, gas-dynamic control of nozzles, and ballistics of unguided rockets.

In the field of aeroengines, the Institute has made studies of flame ignition in aircraft engines, stability of gas-engine turbine-rotor parts, high-temperature gas turbines, ramjet engines, roller bearings in turbojet engines, high-pressure centrifugal compressors, heat exchangers, heat-exchange cooling by evaporation, turbojet engines at subsonic flow, turbine discs, combustion in a turbulent stream restricted by walls, direct-flow combustion engines, turbojet thrust, temperature of blades and gas turbines with air cooling, thermal input of turbine blades, gas flow in turbines, heat transfer of turbine blades, combustion and turbulent flow, internal heat exchange during transpiration cooling through porous metal, heat-production rate during vibrating flame propagation and combustion in gas turbines.

In the area of structural properties, studies have been made of the fatigue and thermal fatigue of metals, plastic deformation, creep, stability of structures, stability of movement, thin-wall structures, thermal stresses in thin-wall structures, stresses in shells, thin-wall beams, vibration analysis, aircraft structural analysis, solution of equations for wing vibrations, determining elastic modulus by resonance techniques, high-pressure tanks and bottles, function of monolithic slabs, wings, and ribs, and landing-gear mechanisms.

Instrumentation of various types has been studied, including micro-motors, gyroscopes, and the stability of gyroscopes, automatic control systems, radiospectroscopic equipment, beta emitters for the elimination of static charges, and storage-cell batteries.

In the area of metallurgy, studies have been made of steel for bolts and connectors, the manufacture of bolts for high-temperature applications, heat treatment of upsetting tools, and ball bearings.

Fabrication studies have considered the cost of unit-assembly operations, shaping of turbine blades for subsonic flow, cold bending, riveting light alloys, structures, bending and stretching of profiled components, milling and machining (e.g., gang milling of sheets), machining of high-strength and heat-resistant alloys, cast iron, and anodizing.

The Institute publishes a Trudy.

Courses of Study: Aircraft design, construction, and mechanics
 Aircraft engines
 Aircraft and aero instruments
 Gyroscopic devices
 Radio equipment
 Mathematics and higher mathematics
 Computers
 Machine tools
 Foundry

Planning and construction of aircraft
 Aeroengine design and theory
 Turboengines, turbomachinery, and gas turbines
 Heat engines
 Aircraft turbines and aircraft engines
 Aerodynamics
 Theory of aircraft structures
 Machine components
 Design and planning of aircraft
 Aircraft propellers and theoretical aviation propulsion
 Structural mechanics
 Descriptive geometry and machine-building drawing
 Air
 Fundamentals of electrical engineering technology and
 electrical machinery
 Machining, machine tools, and cutting tools
 Strength of materials.

Name: Kazan' Chemical Engineering Institute imeni S. M. Kirov
 (Kazanskiy khimiko-tekhnologicheskii institut imeni S. M. Kirova--
 KKhTI)

Address: Kazan', ulitsa Karla Marksa, 68

Director: A. G. Usmanov, Professor (1961)

Deputy Director: A. I. Milyutin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. D. Ado, Professor, Head of Chair
 A. Ye. Arbuzov, Academician (U.S.S.R.)
 V. I. Burmistrov
 A. M. Grigor'yev
 G. Kh. Kamay, Professor, Head of Chair
 S. M. Kochergin, Professor, Head of Chair of Physical Chemistry
 L. M. Kozlov
 Ye. V. Kuznetsov, Docent, Head of Chair
 L. I. Kuznetsov-Fetisov
 R. V. Lindval', Docent, Dean
 K. N. Mochalov, Professor
 I. Ye. Moysak, Professor, Head of Chair
 A. M. Nikolayev, Professor, Head of Chair
 A. D. Nikolayeva, Docent
 A. I. Razumov
 I. G. Teregulov

O. A. Toreykina, Head of Chair
 V. S. Tsvunin
 G. S. Vozdvizhenskiy, Professor, Head of Chair of Inorganic
 Chemistry

Description:

This educational-research institute conducts extensive research in electrochemistry and polymer chemistry. Work has been done on electro-deposition of metals, electrolytic extraction of metals, electrolytic alloys, and electropolishing. Other areas of research are influence of ultrasonics on electrolysis, heat transfer, heat exchangers, gas diffusion, structural mechanics, organophosphorus compounds, nitrocompounds, paraffins, and combustion-resistant polymers based on vinyl and allyl derivatives of phosphorus. A Trudy is published annually, and the Institute grants Candidate's Degrees.

Courses of Study: Chemical-industry machinery
 Refrigeration and compressor machinery and installations
 Control instruments for chemical processes
 Petroleum and natural-gas technology
 Inorganic chemistry
 Organic synthesis and synthetic-rubber manufacture
 Plastics
 Technology of synthetic-leather materials.

Name: Kazan' Construction-Engineering Institute
 (Kazanskiy inzhenerno-stroitel'nyy institut)

Address: Kazan', Zelenaya ulitsa, 1

Director: Ye. F. Kamyshev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1960)

Selected Staff Members:

Yu. Ts. Kim, Docent, Head of Chair
 K. N. Solovarov, Docent, Head of Chair
 V. A. Voskresenskiy, Docent, Head of Chair

Description:

Academic training is provided students following careers in civil engineering, including the oil industry. A Trudy is published, and the research staff has done work in structural analysis, turbulent flow, and

the investigation of polymeric materials. Courses are offered in civil engineering, reinforced-concrete construction, and prefabricated construction.

Name: Kazan' Finance-Economics Institute imeni V. V. Kuybyshev
(Kazanskiy finansovo-ekonomicheskii institut imeni V. V. Kuybysheva)

Address: Kazan', ulitsa Butlerova, 4

Director: P. V. Abramov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members: M. F. Luchinskiy, Docent, Head of Chair

Description:

Courses in finance and credit and accounting are offered here.

Aside from educational activities, staff members of this institute study problems of finance and economics in Russia, both historical and current.

It publishes Uchenyye Zapiski.

Name: Kazan' Institute of Construction Engineering of the Petroleum Industry
(Kazanskiy institut inzhenerno-stroitel'stva neftyanoy promyshlennosti)

Address: Kazan'

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

Students are trained for technical careers in the oil industry. The research staff has complemented academic efforts by investigations in

fluid mechanics, plastics, construction materials, and applied mathematics. A Trudy is published.

Name: Kazan' State Pedagogical Institute
(Kazanskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kazan', Levo-Bulachnaya ulitsa, 44

Director: Yu. A. Tuishev, Docent (1961)

Deputy Director: O. D. Kurmayev, Professor (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

R. A. Dautov
I. I. Nazarov, Docent, Head of Chair
A. M. Remennikov, Docent, Dean
K. A. Valiyev
R. A. Zhitnikov

Description:

Members of the staff of the Institute have published in the fields of mathematics, theoretical physics (nuclear paramagnetic resonance and ferromagnetism), structural mechanics, physical chemistry, and physical metallurgy. The Institute publishes a Uchenyye Zapiski. The Candidate's Degree is granted, and courses are offered in Russian language and literature, English, French, and German, biology and chemistry, history, physics and fundamentals of production, geography and biology, and physical education.

Name: Kazan' State University imeni V. I. Ul'yanov-Lenin
(Kazanskiy gosudarstvennyy universitet imeni V. I. Ul'yanova-Lenina)

Address: Kazan', ulitsa Lenina, 18

Director: M. T. Nuzhin, Professor (1961)

Deputy Director: M. I. Abdrakhmanov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

S. A. Al'tshuler, Professor
 A. Ye. Arbuzov
 B. A. Arbuzov, Academician (U.S.S.R.)
 D. Kh. Bakeyeva, Docent, Head of Chair
 A. T. Bazhanov, Doctor, Head of Chair
 Ye. S. Chichkin
 Yu. A. Dikgof, Docent, Head of Chair
 B. M. Gagayev, Professor, Head of Chair
 V. F. Goryunov, Docent
 Sh. T. Khabibullin, Professor, Head of Chair
 O. M. Kiselev
 N. V. Kolobov, Docent, Head of Chair
 N. G. Koloskova
 U. Kh. Kopvillem
 N. N. Neprimerov, Docent
 A. Z. Petrov, Professor
 A. N. Pudovik, Professor, Head of Chair
 I. M. Romanov, Docent, Head of Chair
 R. B. Salimov
 V. F. Toropova, Professor, Dean
 V. I. Troyepol'skiy, Docent, Head of Chair
 G. G. Tumashev, Professor, Head of Chair
 Kh. U. Usmanov, Docent, Head of Chair

Description:

Kazan' State University was founded in 1804. Today it has a student body of about 6,000. Candidate's and Doctor's Degrees are granted and a Uchenyye Zapiski is published.

One of the most active research groups in the University is the Physics Department. Considerable experimentation has been performed on the nuclear magnetic resonance and paramagnetic resonance of various materials. Workers at the University have designed and constructed devices, such as a nuclear-magnetic relaxometer and a nuclear-magnetic-resonance spectrometer. The nuclear-magnetic relaxometer was developed in the Laboratory of Magnetic Radiospectroscopy. Other fields of investigation include nuclear spin, neutron beams, spark and glow discharge of electrodes, refraction of microwaves, effect of solar flares on cosmic rays, communication systems, and theory of gravitation. Workers in the Department have designed photo-electric equipment for spectrophotometric observation of the moon and planets. The University has played a leading part in designing equipment for automatic control of oil wells and other petroleum-industry equipment.

In mathematics, students and staff at the University have studied nonlinear integrodifferential equations, equations of gravitational fields, topological spaces, conformal mapping, infinite systems of equations, equations in functional derivatives, geometric mapping of Einsteinian space, and boundary-value problems.

In the field of aerodynamics, investigators have studied Laval nozzles, flow problems, and wing-profile problems. Studies in the field of mechanics include theory of bimetallic shells, cavitation flow around a plate, and general studies of stress, strength, and plasticity.

Research in chemistry covers fields such as electrolytes, structure of organic compounds, deformation of polymers, catalytic reduction of aromatic nitro compounds, organic compounds of phosphorus, spectral analysis of alloys, and anodic oxidation of copper. Materials that have been studied include vinyl-tin compounds, acrylic and methacrylic esters, phosphinic acids, and lead complexes. A method for determining thicknesses of galvanic films was developed at the University.

Special research facilities associated with the University are the Scientific-Research Institute of Chemistry imeni A. M. Butlerov and the Astronomical Observatory imeni V. P. Engel'gardt.

The academic program of the University includes courses in geological surveying and prospecting for mineral deposits, geology and exploration of oil and gas deposits, geophysical prospecting, radiophysics and electronics, astrogeodesy, meteorology, soil science and agrochemistry, jurisprudence, Russian language and literature, native language and literature of peoples of the U.S.S.R., history, mathematics, mechanics, physics, chemistry, botany, zoology, and physical geography.

Name: Kemerovo Mining Institute
(Kemerovskiy gornyy institut)

Address: Kemerovo, poselok Standart

Director: P. I. Kokorin, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

R. A. Biryukov, Professor, Head of Chair
M. L. Dinaburg, Docent
A. A. Dmitriyev, Docent, Head of Chair
V. P. Murav'yev, Docent, Head of Chair
R. L. Myuller
O. I. Popova
M. B. Samoylovskiy, Professor, Head of Chair
V. D. Sokolov

Description:

Theoretical studies on compressed-air gear engines have been carried out. The Institute has studied the economic importance of mining in Siberia. Studies also have been made on glass.

The Institute publishes Sbornik Nauchnykh Trudov and offers courses in mining, mining construction, mining electromechanics, mining machinery, chemical-industry machinery (inorganic and organic chemical processes, silicates, cellulose and wood-pulp processes, liquid and gas fuels), organic synthesis and synthetic-rubber manufacture, plastics, technology of synthetic fibers, economics and organization of mining industry, and civil engineering.

Name: Kemerovo State Pedagogical Institute
(Kemerovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kemerovo, poselok Standart

Director: K. F. Bochenkov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. B. Chernobrod, Docent, Head of Chair
Z. G. Karpenko, Docent, Head of Chair
V. S. Postnikov

Description:

Areas of research at Kemerovo State Pedagogical Institute center around physical metallurgy, especially internal friction and plastic deformation. Research is also done in chemistry and mathematics and on the physical properties of plastics. Courses offered include Russian language, literature, and history, mathematics and drafting, physics, electronics, and machine science, and methods of pre-school education. A Uchenyye Zapiski is published.

Name: Khabarovsk Automotive Highway Institute
(Khabarovskiy avtomobil'no-dorozhnyy institut)

Address: Khabarovsk krayevoy

Director: M. P. Danilovskiy, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. A. Karyakin, Docent, Dean
L. M. Nishnevich, Docent, Dean
I. V. Rodin, Professor, Head of Chair

Description:

The Institute offers courses in highways, utilization of automotive transportation, construction and highway-construction equipment, and civil engineering.

Name: Khabarovsk Institute of Railroad-Transportation Engineers
(Khabarovskiy institut inzhenerov zheleznodorozhnogo transporta)

Address: Khabarovsk, Nekrasovskaya ulitsa, 128

Director: V. I. Dmitrenko, Docent (1961)

Deputy Director: G. Ye. Korotkov, Docent (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

E. I. Khait, Docent, Head of Chair
S. A. Kholopov, Docent, Head of Chair
N. Z. Krivoruchko, Docent, Head of Chair
V. P. Novichkov, Docent, Dean
N. A. Rogozin, Docent, Dean
A. D. Soyk, Docent, Head of Chair
I. L. Zimont, Docent, Head of Chair

Description:

The Institute gives academic training in railroad engineering. A Trudy has been published on a fairly regular basis. Research has included studies in structural mechanics and analysis, heat treatment of ferrous products, metal physics, and applied mathematics. Courses are offered in steam locomotives, railroad-car construction, railroad electrification, utilization of railroads, railroad construction, and civil engineering.

Name: Khabarovsk State Pedagogical Institute
(Khabarovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Khabarovsk, ulitsa Karla Marksa, 64

Director: V. M. Mikhaylov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. A. Avdeyeva, Docent, Head of Chair
A. P. Bal'shakov, Docent
V. V. Filippov, Professor, Head of Chair
O. I. Lysenko, Docent, Dean
Ye. Ye. Zheltoukhov, Docent, Head of Chair

Description:

In addition to the preparation of teachers, the Institute's staff does research in mathematics, structural and theoretical mechanics, and physics, including the study of electroluminescence. Courses are offered in foreign languages (English, French, and German), drafting, drawing, and manual training, Russian language, literature, and history, mathematics, physics and fundamentals of production, biology, chemistry, and agriculture, geography, and physical education.

The Institute publishes a Uchenyye Zapiski in physics and mathematics. A special division of the Institute trains teachers of the "nationalities of the North".

Name: Khar'kov Astronomical Observatory
(Khar'kovskaya astronomicheskaya observatoriya)

Address: Khar'kov, Universitetskaya ulitsa, 16

Director: N. P. Barabashov, Academician (Ukrainian S.S.R.) (1960)

Deputy Director: --

Administrative Affiliation: Khar'kov State University imeni A. M. Gor'kiy
(1961)

Selected Staff Members:

G. M. Bazhenov
V. A. Fedorets

V. I. Garazha
 I. K. Koval'
 L. I. Krisenko
 K. N. Kuz'menko
 V. Kh. Pluzhnikov
 V. I. Yezerskiy

Description:

This observatory is soon to be reorganized into a new planetary institute with the task of studying physical conditions on the moon and on planets of the solar system. To accomplish this task, a large planetary telescope will be installed. The reorganization is an outgrowth of the Observatory's extensive studies of the sun, the moon, Mars, and other planets.

The Observatory cooperated in the photography and mapping of the far side of the moon. Studies have long been directed toward determining the surface characteristics of the moon and Mars. Radio emission of the sun, time studies (using electronic-computer apparatus), star-catalogue compilation, problems of the irregularity of the earth's rotation, solar corona, and mathematics (for example, Chebyshev approximations of a continuous function) constitute other areas of interest. The Observatory has instruments for observing artificial earth satellites.

Publications include a Trudy and Tsirkulyar.

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Name: Khar'kov Automotive-Transportation Institute
 (Khar'kovskiy avtomobil'no-dorozhnyy institut)

Address: Khar'kov, Basseynaya ulitsa, 25

Director: B. V. Reshetnikov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

K. F. Abrosimov, Docent, Dean
 A. K. Birulyu, Professor, Head of Chair
 S. L. Golovanenko, Docent, Dean
 S. A. Kanavenko, Docent, Head of Chair
 V. I. Makhovikov
 M. I. Podshchekoldin, Docent, Dean
 I. A. Romanenko, Professor, Head of Chair
 V. M. Smirnov, Docent, Dean

Description:

Students of this institute are trained in civil engineering, with emphasis on highway-construction techniques. Other courses are construction and highway-construction equipment and automotive transportation. The Candidate's Degree is granted.

Research has included work in structural mechanics and analysis, elasticity theory, plastics, thermodynamics, and plastic concretes. Much work has been done in applied mathematics. Results are reported in the Trudy of the Institute.

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Name: Khar'kov Aviation Institute
(Khar'kovskiy aviatsionnyy institut--KhAI)

Address: Khar'kov, Pomerki, 27

Director: D. A. Lyukevich, Docent (1961)

Deputy Directors: N. A. Maslennikov, Docent (1961)
R. V. Pikhtovnikov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

N. N. Aleksandrov, Docent, Head of Chair
N. P. Artemenko, Docent, Dean
A. N. Chukhleb, Candidate
I. P. Goldayev, Docent, Head of Chair
B. L. Golinskiy
N. A. Khizhnyak
L. A. Kolesnikov, Candidate
V. G. Kononenko, Docent
D. I. Kostyuk, Docent, Head of Chair
A. A. Litvinov, Docent, Dean
N. N. Lyulicheva
V. P. Martynov
R. V. Pikhtovnikov, Professor, Head of Chair of Technology of
Metals
Ya. Ye. Tkachenko, Docent, Head of Chair
M. B. Tumarkin, Docent
V. N. Yershov
V. K. Zolotukhin

Description:

This institute publishes a Trudy and offers courses for the education of aviation (or aeronautical) engineers, covering the areas of theory, design (including power-plant design), and flight-support equipment and instrumentation. Emphasis seems to be on training aviation engineers in support functions, including aircraft equipment and design, probably maintenance philosophy and technical services such as would be involved in manufacture or management, and the economics and organization of the aircraft industry.

Some of the departments and chairs of the Institute are:

- (1) Department of Bladed Machines and Applied Gasodynamics
- (2) Department for the Theory of Aircraft Engines
- (3) Department of Aircraft Production
- (4) Chair of Aerodynamics
- (5) Chair of Aerohydrodynamics
- (6) Chair of Aircraft Design
- (7) Chair of the Technology of Metals and the Science of Metals
- (8) Chair of the Strength of Materials
- (9) Chair of Radio Engineering
- (10) Chair of General Chemistry
- (11) Chair of the Organization of Production.

The Institute has a strong staff in fluid dynamics; facilities are available for the environmental testing of airframe and propulsion units, including air-breathing and rocket devices. Research has been done in fuels and propellants, and there are indications of more advanced work, including studies of gas-plasma discharges and perhaps plasma acceleration.

Research also has concerned aircraft materials and materials forming, including explosive forming and low-temperature stamping. Many studies have been made of production processes and quality-control techniques.

The aircraft-instrumentation work at the Institute has included studies of autopilots and navigational aids, radio command systems, and data-processing and communication techniques, as well as conventional mechanical systems.

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Name: Khar'kov Branch of the All-Union Scientific-Research and Design
Institute of Chemical-Machine Construction
(Khar'kovskiy filial vsesoyuznogo nauchno-issledovatel'skogo i
konstruktorskogo instituta khimicheskogo mashinostroyeniya)

Address: Khar'kov

Director: --

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research and Design
Institute of Chemical-Machine Construction
(1960)

Selected Staff Members:

B. A. Ivanov
I. A. Kovalev
Yu. K. Molokanov, Candidate
D. G. Nikitin, Engineer
G. G. Pocheftsova
V. A. Savchenkov, Engineer
V. M. Tamarin

Description:

The Institute has existed at least since 1948. It has conducted work on the corrosion of metals, as well as on the application of ceramic coatings for valves, pumps, and centrifuges. Other work has concerned plastic-pump and heat-exchanger development, metal welding, and the pressing of naphthalene into briquets.

Name: Khar'kov Branch of the All-Union Scientific-Research Institute of
Chemical Reagents
(Khar'kovskiy filial vsesoyuznogo nauchno-issledovatel'skogo instituta
khimicheskikh reaktivov)

Address: Khar'kov

Director: --

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research Institute of
Chemical Reagents (1960)

Selected Staff Members:

A. P. Grekov
A. P. Kilimov
A. M. Ratner
L. M. Soyfer
V. I. Startsev

Description:

The work of this branch institute is much more specialized than that of the parent institute. It has worked almost exclusively in two fields:

- (1) Preparation and study of scintillators and counters
- (2) Crystal structure, growth, and properties.

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Name: Khar'kov Construction-Engineering Institute
(Khar'kovskiy inzhenerno-stroitel'nyy institut)

Address: Khar'kov, Sumska ulitsa, 40

Director: N. M. Chupis, Docent (1961)

Deputy Director: N. N. Sinyavskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

- I. M. Belozovich, Docent, Head of Chair
- B. I. Gerzhulu, Professor, Head of Chair
- P. S. Kolobkov, Professor, Head of Chair
- V. P. Shevchenko, Docent, Head of Chair
- V. A. Shpak, Docent, Head of Chair

Description:

Academic training is provided in civil engineering, with courses including construction, plumbing, and heating and ventilation. Much research has been conducted on the structural mechanics and analysis of building materials. Some work is reported in the field of geodesy. A Trudy of the Institute is published, and Candidate's and Doctor's Degrees are granted.

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Name: Khar'kov Engineering-Economics Institute
(Khar'kovskiy inzhenerno-ekonomicheskyy institut--KhIEI)

Address: Khar'kov, prospekt Lenina, 9

Director: F. F. Teslenko-Ponomarenko, Docent (1961)

Deputy Director: Ye. B. Kostyuchenko, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. V. Kononenko, Docent, Dean
 N. S. Semeykin, Docent, Head of Chair
 K. A. Shtets, Docent, Dean

Description:

A recent project of the Institute was the development of a technique of extended calculation of costs and prices of electrical machinery. The Institute also investigated the rate of speed in duo-reversible blooming mills. A Trudy is published by KhIEI.

The Institute grants the Candidate's Degree and offers course work in the economics and organization of machine-building, chemical, metallurgical, material-technical, and mining industries, as well as in labor economics.

Name: Khar'kov Institute for Mechanization and Electrification of Agriculture
 (Khar'kovskiy institut mekhanizatsii i elektrifikatsii sel'skogo-khozyaystva)

Address: Khar'kov, prospekt Stalina, 45

Director: Ye. P. Vinogradov, Docent (1961)

Deputy Director: F. M. Bulanenko, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1961)

Selected Staff Members:

D. D. Golovin, Docent, Head of Chair
 F. Ya. Iokheles, Candidate
 G. B. Rays
 V. I. Startsev

Description:

The welding of aluminum-alloy machine components, microstresses in annealed steels, thermal etching of zinc crystals under vacuum, and twinning have been studied at this institute. Other investigations have concerned wear resistance of machine components and heat transfer in liquids.

The Institute offers courses on the mechanization and electrification of agricultural production processes.

It publishes a Nauchnyye Zapiski.

Name: Khar'kov Institute of Communal Construction Engineers
(Khar'kovskiy institut inzhenerov kommunal'nogo stroitel'stva)

Address: Khar'kov, ulitsa Revolyutsii, 12

Director: A. F. Mikhaylik, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

N. V. Dreval', Candidate
V. L. Kobalevskiy, Professor, Head of Chair
N. V. Rapp, Docent, Head of Chair
G. S. Sukhov, Docent, Head of Chair
V. I. Tsekov, Candidate
A. F. Volnov, Docent, Head of Chair
P. I. Zemskov, Docent

Description:

The Institute provides training for students interested in urban development. Its courses of study include construction, city planning, municipal electrical transportation, and economics. Some research has been done on bearing plastics, gear metallurgy, and structural analysis. This institute grants the Candidate's Degree.

Name: Khar'kov Institute of Railroad-Transportation Engineers imeni S. M. Kirov
(Khar'kovskiy institut inzhenerov zheleznodorozhnogo transporta imeni S. M. Kirova)

Address: Khar'kov, ploshchad' Feyerbakha, 7

Director: A. F. Ignat'yev, Docent (1961)

Deputy Director: V. N. Orlov, Professor (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

A. M. Dolaberidze, Docent, Head of Chair
 O. P. Mchedlov-Petrosyan, Professor, Head of Chair
 P. P. Petrosyan, Professor
 V. Ya. Selegenev, Docent
 V. V. Vodolazhchenko, Docent, Dean

Description:

This institute provides academic training for students following careers in railway-transportation engineering. Both the Candidate's and Doctor's Degrees are granted, and a Trudy is published. Research studies have been done in electrical engineering and electronics, structural mechanics, applied mathematics, metallography and heat treatment, and physical chemistry. The academic program includes courses in steam locomotives, use of railroads, railroad automation, remote control and communication, railroad construction, and railroad economics and organization.

Name: Khar'kov Jurisprudence Institute imeni L. M. Kaganovich
 (Khar'kovskiy yuridicheskiy institut imeni L. M. Kaganovicha)

Address: Khar'kov, Pushkinskaya ulitsa, 77

Director: --

Deputy Director: A. I. Rogozhin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. A. Barakhtyan, Docent, Head of Chair
 V. F. Maslov, Docent

Description:

This institute studies problems in all aspects of Soviet law. It publishes an Uchenyye Zapiski.

Name: Khar'kov Mining Institute
 (Khar'kovskiy gornyy institut)

Address: Khar'kov, prospekt Lenina, 14

Director: D. S. Yemel'yanov, Professor (1961)

Deputy Directors: G. G. Malevanyy, Docent (1961)
G. Ya. Andreyev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

Ye. Ya. Ivanchenko, Professor, Head of Chair
V. P. Kostyukov, Docent, Dean
V. A. Kremer
G. G. Lukin, Docent, Head of Chair
P. P. Nesterov, Corresponding Academician (Ukrainian S.S.R.), Head
of Chair
A. V. Sazonov, Docent, Head of Chair

Description:

The Institute does work in geodesy, triangulation, graphic analysis, aerial surveying, photogrammetrical instrument studies, as well as in the field of mining machinery, materials for mining machinery, and core-drilling equipment. Work is also done in mineral beneficiation and the flotation of coal. Staff members have presented papers on electrical engineering, mathematics, and foundry techniques.

There has been mentioned that a system of the Institute serves for the continuous manufacture of 80 to 100-mm polyester pipes and for glass fibers.

The Institute publishes a Nauchnyye Trudy and offers courses in mining, beneficiation, mining equipment, automation, and mine construction.

Name: Khar'kov Order of Labor Red Banner Agricultural Institute imeni V. V. Dokuchayev
(Khar'kovskiy ordena Trudovogo Krasnogo Znameni sel'skokhozyaystvennyy institut imeni V. V. Dokuchayeva)

Address: Khar'kov, ulitsa Artema, 44

Director: A. M. Grinchenko, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. T. Bortovyy, Docent
 I. S. Galinker, Professor, Head of Chair
 A. A. Migulin, Professor, Head of Chair
 G. F. Naumov, Docent
 A. I. Petrenko, Professor
 I. M. Rodnyanskiy
 K. G. Teleshek, Professor, Head of Chair

Description:

The Institute publishes a Zapiski. The staff has conducted research on inorganic-salt properties, mathematics, aerial photography, relation of geodesy to industrial construction, and soil conservation.

Candidate's and Doctor's Degrees are granted. Agronomy, vegetation conservation, soil science and agrochemistry, agricultural economics and organization, and bookkeeping are covered in specific courses.

Name: Khar'kov Polytechnic Institute imeni V. I. Lenin
 (Khar'kovskiy politekhnicheskiy institut imeni V. I. Lenina--KhPI)

Address: Khar'kov, ulitsa Frunze, 21

Director: M. F. Semko, Professor (1961)

Deputy Directors: F. I. Akhonin, Docent (1961)
 L. L. Nesterenko, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

I. Ye. Adadurov, Professor
 N. N. Anashenko, Docent, Dean
 F. K. Andryushenko, Head of Chair of Electrochemistry
 V. I. Atroshenko, Professor, Head of Chair of the Technology of
 Inorganic Substances
 I. M. Babakov, Professor, Head of Chair
 K. A. Belov, Professor, Head of Chair of Fuel Technology
 D. V. Bezuglyy, Docent, Head of Department of Analytical Chemistry
 P. P. Budnikov, Head of Department of Silicates
 P. P. Bugay, Docent, Head of Chair of General and Inorganic
 Chemistry
 I. I. Chernyy, Docent, Head of Chair
 S. K. D'yachenko, Docent, Head of Chair

- V. V. Gavranek, Docent, Head of Chair
 N. M. Glagolev, Professor, Head of Chair
 G. K. Goncharenko, Docent, Dean of Department of General Chemical Processes and Apparatus
 G. N. Gulinov, Professor
 P. P. Karpukhin, Corresponding Academician (Ukrainian S.S.R.), Professor, Dean of Chair of the Technology of Organic Compounds, Head of Chair of Dyes and Intermediate Products
 B. L. Kashcheyev, Docent, Head of Chair
 I. S. Kaynarskiy, Professor
 Ye. I. Kim, Professor, Head of Chair of Higher Mathematics
 V. A. Klemina-Sharonov, Docent, Head of Chair
 G. V. Kokulev, Professor, Head of Chair of Ceramics, Glass, Heat-Resisting Materials, and Glazing
 F. K. Korolev, Head of Chair
 M. I. Korsunskiy, Professor, Head of Chair of Physics, Head of Semiconductor Problem Laboratory
 K. V. Kovalev, Docent, Head of Chair
 S. M. Kutsenko, Professor, Head of Chair
 M. I. Kuznetsov, Professor, Head of Chair of Combustible Materials
 A. Ye. Lutskiy, Professor
 A. F. Mits, Docent, Head of Chair
 I. N. Mukhin, Docent, Head of Chair of Chemical Plant Equipment
 B. A. Noskov, Professor, Head of Chair of Casting Methods and Machinery
 I. Ye. Orlov, Dean of Chemical Faculty, Head of Department of Technology of Mineral Substances
 L. S. Palatnik, Professor, Head of Chair
 G. I. Pavlovskiy, Dean of the Faculty of Power-Machine Building
 I. S. Rogachev, Docent, Head of Chair
 A. N. Shchukarev, Professor, Head of Chair of Physical Chemistry
 P. I. Solomatin, Docent, Head of Chair
 P. T. Stefanovskiy, Docent, Head of Chair
 O. N. Suyetin, Docent, Head of Chair
 A. N. Sysoyev, Professor, Head of Chair of Technology of Electrochemical Products
 B. N. Tyutyunnikov, Professor, Head of Chair of the Technology of Fats
 S. S. Urazovetskiy, Corresponding Academician (Ukrainian S.S.R.), Professor, Head of Chair of Physical Chemistry
 Ye. I. Ved', Docent, Head of Chair of Technology of Bonding Materials
 A. A. Yevdokimov, Docent, Head of Chair
 G. L. Yukhnovskiy, Professor, Head of Chair of Lacquers and Paint
 M. D. Zuyev, Head of Chair of General Chemistry

Description:

The Khar'kov Polytechnic Institute was founded in 1950. Through 1961, about 7,400 chemical engineers had been graduated.

Research in many technologies has been conducted at this educational institute, but emphasis has been on chemical engineering. Some areas of investigation have been organic chemistry and synthesis, semiconductors, metallurgy, foundry problems, structural mechanics, and industrial gas turbines. Radar studies of stellar mechanics also have been made.

The Institute developed and operates a 7,600,000-volt generator. In 1959, working with the Khar'kov Electric Machinery Plant, the Institute participated in developing the first Soviet system using a digital program to control a heavy lathe. The Institute also designed a new unipolar pulse generator for ENIMS (Experimental Scientific-Research Institute of Metal-Cutting Machine Tools). During the IGY, it built its first ionosphere station. It publishes a Trudy.

The Ukrainian Correspondence Polytechnic Institute, in Khar'kov, is a branch of the Polytechnic Institute.

Name: Khar'kov State Institute of Measures and Measuring Instruments
(Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov--KhGIMIP)

Address: Khar'kov

Director: --

Deputy Director: V. N. Bortsov (1958)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Standards, Measures, and Measuring Instruments (1958)

Selected Staff Members:

L. D. Bryzzhev
V. V. Kandyha, Head of Department of Heat Measurements
P. B. Kenter
L. M. Korsunskiy
A. Ye. Leykin
I. V. Lukin
Ye. D. Novgorodov
M. D. Sapel'nikov

Description:

The Institute was created in 1932 to replace the former Ukrainian Main Board of Measures and Weights. Among its laboratories are manometric, thermometric, mass, caliper, electric measurement, high-frequency, and sensitometric laboratories.

This institute has developed instruments such as a radio interferometer for measuring large lengths, a microcalorimeter for SHF power measurements, a prototype electromagnetic flow meter, a molecular frequency generator, an electromagnetic flow meter with square channel, device for measuring flame temperature, a spark chronoscope, an electronic optical pyrometer, a millivoltmeter, and an astronomic pendulum clock. The enthalpy and specific heats of silicon, beryllium, molybdenum, and boron oxide have been determined. The Institute also has studied the frequency deviation of frequency-modulated oscillations, the thermal-electromotive-force effects of temperature on telescopes, the instability of quartz-generator frequencies, the coupling of rectangular waveguides, measurement of tooth profile of reduction gears and of elements of worm gears, the frequency of a maser (using a quartz standard), the movement of quartz clocks, and microwave power measurement with a microcalorimeter.

Name: Khar'kov State University imeni A. M. Gor'kiy
(Khar'kovskiy gosudarstvennyy universitet imeni A. M. Gor'kogo)

Address: Khar'kov, Universitetskaya ulitsa, 16

Director: --

Deputy Directors: V. I. Makhin'ko, Docent (1961)
A. I. Tereshchenko, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

M. A. Abzel'
N. I. Akhiyezer, Corresponding Academician (Ukrainian S.S.R.),
Head of Chair
I. T. Balauku, Docent, Head of Chair
N. P. Barbashev, Professor, Head of Chair
Ya. P. Blank, Professor
N. F. Bogatov, Docent, Dean
Ya. S. Borovik
Yu. F. Bukhalov, Docent, Head of Chair
V. P. Demutskiy
G. P. Dubinskiy, Docent, Dean
Ya. B. Faynberg
Ya. M. Fogel'
Ya. Ye. Geguzin
V. L. German
D. Z. Gordevskiy, Docent, Dean
N. A. Izmaylov, Professor, Head of Chair
E. A. Kaner
N. A. Khizhnyak

V. I. Khotkevich, Professor, Dean
 L. A. Khristeva
 B. V. Kondrat'yev
 S. M. Korolivskiy, Docent, Head of Chair
 N. M. Kovtun
 I. M. Lifshits, Corresponding Academician (U.S.S.R.), Head of
 Chair of Theoretical Physics
 A. P. Mamaluya, Docent, Head of Chair
 F. F. Medvedev, Docent, Head of Chair
 A. S. Mil'ner
 V. N. Nikitin, Professor, Head of Chair
 L. S. Palatnik
 B. Ya. Pines, Professor
 A. V. Pogorelov
 G. K. Samokhvalov, Professor, Head of Chair
 V. P. Shestopalov
 A. K. Val'ter, Professor
 M. P. Volovik, Docent, Head of Chair
 A. A. Voskresenskiy, Docent, Head of Chair
 K. P. Yatsuk

Description:

Founded in 1805, Khar'kov University is one of the oldest educational institutions in the U.S.S.R. In 1960-1961, enrollment in the day, night, and correspondence schools was about 8,300.

Faculty and students at this university engage in varied research pursuits. In chemistry, for example, studies have been made of solid organic compounds, reactions of organic compounds with metal ions, and measurement of diffusion coefficient of nickel in liquid oxygen. New pigments and pyridine dyes have been investigated. In the field of electrochemistry, investigations have been made of the effects of solvents in electrolytes and electrolytic deposition of zinc and cadmium powders.

Considerable metals research takes place at the University, such as studies of internal friction, creep, and crystallography. Other investigations include determination of optical constants of metals in the infrared region, condensation mechanism of metals and alloys in a vacuum, healing of microporosity in crystals, metals with open Fermi surfaces, cyclotron resonance in metals, and expansion of porous zone of metals when heated. Various properties of ferromagnetic alloys, manganese ferrite, austenite, magnetite, cobalt ferrite, and copper crystals have been studied.

Areas of interest in physics include high-energy physics, plasma physics, solid-state physics, magnetohydrodynamics, and radiophysics. Extensive work has been done on waveguides. Considerable ion-acceleration and -bombardment work has been noted, such as studies of collisions of ions with gaseous molecules. Other studies considered the conversion of electromagnetic superhigh-frequency field energy into kinetic energy, atoms in a plasma, plasma fluctuations, steady-state processes in an electron plasma,

propagation of surface waves and electromagnetic waves, galvanomagnetic phenomena in semiconductors, ponderomotive power measuring devices, ponderomotive forces of electromagnetic waves, and antennas.

Other research areas range from lubrication theory and deformation of convex shells to differential equations.

The University grants Candidate's and Doctor's Degrees. It publishes a Uchenyye Zapiski and Trudy of several faculties.

Affiliated with the University is a computer center and the Institute of Technical Physics. Other affiliates, the Scientific-Research Institute of Chemistry and the Khar'kov Astronomical Observatory, are described elsewhere.

The academic program of the University provides courses of study in history, Russian language and literature, native language and literature of peoples of U.S.S.R., mathematics, mechanics, astronomy, physics, chemistry, biology, physical geography, electronics, and engineering exploitation of aircraft electronic equipment.

Name: Kherson Agricultural Institute imeni A. D. Tsyurupa
(Khersonskiy sel'skokhozyaystvennyy institut imeni A. D. Tsyurupy)

Address: Kherson, Aleksandrovskaya ploshchad', 2

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. K. Ivanov, Professor, Head of Chair
G. A. Kodinets, Professor, Head of Chair
D. G. Shaposhnikov, Professor, Head of Chair

Description:

Courses in agronomy and animal husbandry are available at this institute.

Name: Kherson Pedagogical Institute imeni N. K. Krupskaya
(Khersonskiy pedagogicheskiy institut imeni N. K. Krupskoy)

Address: Kherson, ulitsa Pestelya, 3 (1960)

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

S. N. L'vov, Docent, Head of Chair
D. F. Markovskiy, Professor

Description:

Physical chemistry, organic chemistry, and some metallurgical studies are conducted at this institute. This work involves the studies of the electrical properties of borides, nitrides, silicides, and carbides.

Courses are offered in Russian language, literature, and singing, native language, literature, and singing, mathematics and drafting, physics and fundamentals of production, and biology, chemistry, and agriculture.

Name: Khorezm Pedagogical Institute imeni V. I. Lenin
(Khorezmskiy pedagogicheskiy institut imeni V. I. Lenina)

Address: Urgench, ulitsa Gor'kogo, 13

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary
Special Education of the Council of Ministers,
Uzbek S.S.R. (1960)

Selected Staff Members: Kh. Siddykov, Head of Chair

Description:

This institute trains teachers. It offers courses in Russian and Uzbek language and literature, elementary-school instruction methods, mathematics, and physics.

Name: Kirgiz Agricultural Institute imeni K. I. Skryabin
(Kirgizskiy sel'skokhozyaystvennyy institut imeni K. I. Skryabina)

Address: Frunze, Aktyubinskaya, 34

Director: D. K. Khudaybergenov (1961)

Deputy Director: S. I. Ivanov, Professor (1961)

Administrative Affiliation: Ministry of Agriculture, Kirghiz S.S.R. (1960)

Selected Staff Members:

S. N. Anastas'yan, Professor, Head of Chair
 V. F. Denisov, Professor, Head of Chair
 Kh. D. Dzhalilov, Candidate
 Ye. N. Petrashevskaya, Docent

Description:

This institute provides training in general agricultural techniques and agricultural engineering. In addition to agricultural research, investigations have been made in the X-ray analysis of materials, geodesy, metal physics, and stress analysis. A Trudy is published. Candidate's Degrees are granted. Courses are offered in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

Name: Kirghiz Pedagogical Institute for Women imeni V. V. Mayakovskiy
 (Kirgizskiy zhenskiy pedagogicheskiy institut imeni V. V.
 Mayakovskogo)

Address: Frunze, Pervomayskaya ulitsa, 51

Director: --

Deputy Director: D. Salamatov, Candidate (1961)

Administrative Affiliation: Ministry of Education, Kirghiz S.S.R. (1960)

Selected Staff Members:

U. K. Botbayeva
 A. K. Ishbulatov, Docent
 A. I. Narynbayev, Docent, Head of Chair
 G. Sh. Sayfulin, Head of Chair

Description:

Members of the staff have conducted research on the structure of atoms over wide temperature ranges, on various condenser-electrode materials, and in colloidal chemistry. The Institute publishes a Uchenyye Zapiski.

Russian language and literature, foreign language (English, French, and German), native language, literature, and history, mathematics and physics, physics and fundamentals of production, and biology, chemistry, and agriculture are among the courses offered.

Name: Kirghiz State University
(Kirgizskiy gosudarstvennyy universitet)

Address: Frunze, Zapadnaya ulitsa, 72

Director: S. Tabyshaliyev, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Kirghiz S.S.R. (1960)

Selected Staff Members:

S. Arbayev, Docent, Dean
Ya. V. Bykov, Docent
M. S. Dzhunusov, Professor, Head of Chair
F. I. Frankl'
B. A. Lunin, Docent, Head of Chair
L. A. Spektorov, Docent
D. P. Stepanenko, Docent, Head of Chair
F. A. Turdakov, Professor
L. V. Tuzov
A. G. Yakhontov, Docent
Z. F. Yefimov
B. M. Yunusaliyev

Description:

Kirghiz State University opened in 1951. During the 1960-1961 school year, its student enrollment was about 5,000. Candidate's Degrees are granted.

Scientific-research work at the University focuses on mathematics, metallurgy, and physics. Mechanical properties of stainless steel and aluminum have been investigated extensively. Other studies have concerned the recrystallization of plastically deformed aluminum, the effect of cyclic strain on the microstructure of nonferrous metals, surface effects of grinding, distribution of alloying elements in metals, and the constitution of alloys in the fatigue-fracture zone. Other fields of interest are gas dynamics, fluid flow, hypersonic flow around wings, carbon electrodes, and thermoelectric effect in thin films of antimony and bismuth. Mathematical studies have concerned Lagrange series problems, differential equations, and boundary-value problems.

The university publishes a Sbornik Nauchnykh Rabot Studentov and a Uchenyye Zapiski in physics and mathematics.

The varied curricula of the University cover economics of the national economy, jurisprudence, Russian language and literature, native language and literature of peoples of the U.S.S.R., history, mathematics, physics, chemistry, botany, zoology, physical geography, journalism, and foreign languages (English, French, and German).

Name: Kirovabad Pedagogical Institut imeni G. B. Zardabi
(Kirovabadskiy pedagogicheskiy institut imeni G. B. Zardabi)

Address: Kirovabad, ulitsa 28 Aprelya, 25

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Azerbaydzhan S.S.R. (1960)

Selected Staff Members:

A. Z. A. Atayev, Docent, Head of Chair
I. M. Karaveliyev, Docent, Head of Chair

Description:

In addition to the training of teachers, this institute offers courses of study in mathematics, physics, biology, chemistry, and agriculture.

Name: Kirov Agricultural Institute
(Kirovskiy sel'skokhozyaystvennyy institut)

Address: Kirov, Oktyabr'skaya ulitsa, 73

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

A. V. Navalikhin, Head of Chair
 A. P. Onegov, Professor, Head of Chair
 V. G. Smirnov, Docent, Head of Chair
 A. N. Tiunov, Professor, Head of Chair
 V. I. Tiunov, Docent, Head of Chair

Description:

The Institute publishes a Trudy and offers courses in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

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Name: Kirovograd Pedagogical Institute imeni A. S. Pushkin
 (Kirovogradskiy pedagogicheskiy institut imeni A. S. Pushkina)

Address: Kirovograd, ulitsa Shevchenko, 1

Director: F. I. Ovcharenko (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. T. Goru, Candidate, Head of Chair
 M. M. Lepskiy, Candidate
 G. A. Samarin, Candidate, Head of Chair

Description:

This institute trains teachers. Astronomical phenomena have been studied by staff members. Courses of study include Russian and Ukrainian language and literature, foreign languages, mathematics, drafting, physics, fundamentals of production, and physical education.

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Name: Kirov State Pedagogical Institute imeni V. I. Lenin
 (Kirovskiy gosudarstvennyy pedagogicheskiy institut imeni
 V. I. Lenina)

Address: Kirov, ulitsa Lenina, 111

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. S. Arutyunyan, Docent, Head of Chair
 I. I. Berezina
 V. B. Milin
 P. S. Shapiro, Candidate
 S. L. Shchekleyn, Professor
 A. I. Shernin, Docent, Head of Chair
 I. M. Smetanin, Docent, Head of Chair
 A. I. Zhavoronkov, Dean

Description:

Research at the Kirov State Pedagogical Institute, founded in 1918, centers around geophysics, especially measurements of ionization, electrical fields in the atmosphere, and turbulence ratio. In metallurgy, chromatography and microhardness work has been done. Work in mathematics and chemistry is also carried on. They publish a Uchenyye Zapiski. Devoted to the training of teachers, the Institute offers courses in Russian language, literature, and history, English, German, and French, mathematics and drafting, physics and chemistry, geography and biology, physical education, general science, and methods of elementary-school education.

Name: Kishinev Agricultural Institute imeni M. V. Frunze
 (Kishinevskiy sel'skokhozyaystvennyy institut imeni M. V. Frunze)

Address: Kishinev, Sadovaya ulitsa, 121

Director: M. I. Sidorov, Docent (1961)

Deputy Director: A. G. Timoshenko, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, Moldavian S.S.R.
 (1960)

Selected Staff Members:

S. S. Grushko, Docent, Head of Chair
 I. Ye. Legas', Docent, Head of Chair
 Ye. I. Malyshev, Professor, Head of Chair
 V. N. Milyakh, Docent, Dean
 A. A. Mosyak, Docent, Head of Chair
 A. S. Subbotin, Docent, Party Secretary
 D. T. Ursul, Docent, Head of Chair

Description:

This institute was organized in 1940. Training is given in general agriculture and related sciences, and considerable research has been done in inorganic chemistry, hydraulics, and mechanics. Some specific courses offered include agronomy, viticulture, animal husbandry, and mechanization of agriculture. A Trudy of the Institute is published.

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Name: Kishinev State University
(Kishinevskiy gosudarstvenny universitet)

Address: Kishinev, ulitsa Pirogova, 65

Director: V. S. Chepurnov, Docent (1961)

Deputy Directors: V. G. Klimenko, Professor (1961)
I. P. Rakul, Docent (1961)

Administrative Affiliation: Ministry of Education, Moldavian S.S.R. (1961)

Selected Staff Members:

A. V. Ablov
V. N. Andreyev, Professor, Head of Chair
A. T. Borshch, Docent, Head of Chair
M. V. Kot, Docent
B. Ye. Mel'nik, Docent, Dean
Yu. Ye. Perlin
Ye. P. Pokatilov
N. A. Polotebnoa, Docent, Dean
V. I. Rykov
D. Ye. Shemyakov, Docent, Head of Chair
A. M. Shur
V. A. Sidorov, Docent, Head of Chair
V. P. Sychev
V. V. Vitia, Party Secretary

Description:

Founded in 1945, Kishinev University is one of the most important educational centers in the Moldavian Republic. Enrollment for the 1960-1961 school year was 6,600. The University grants Candidate's Degrees.

Staff and students at the University have performed considerable research on the physical properties of semiconductor materials. In the Laboratory for Semiconductors, a new measuring thermoelement has recently been developed. Among the materials investigated are zinc selenide, zinc telluride, indium selenide, aluminum selenide, gallium arsenide, cadmium

telluride, cadmium selenide, cadmium antimonide, antimony selenide, cadmium selenide, magnesium antimonide, wurtzite-type semiconductors, and systems of aluminum-antimony, copper-antimony, aluminum-antimony-cadmium, and aluminum-tellurium. Ultrasonic absorption by semiconductors has been studied. Single crystals of zinc-antimony, cadmium-antimony, and sodium chloride have been investigated. Other crystal investigations include impurity fluorescence in crystals, kinetic phenomena in anisotropic crystals, impurity centers in crystals, and alkali halide crystals. Other research interests in physics include scattering of electrons by acoustic vibrations, calculations of fission of heavy nuclei, electromagnetic prospecting, and interactions between particles and quantum field. A method of testing coaxial cable with radioisotopes has been developed at the University.

In chemistry, personnel at the University have studied absorption processes, analysis of gaseous mixtures, problems in X-ray structural analysis, and equipment for polarographic analysis. Chemical research projects include kinetics of CO_2 absorption in sodium carbonate solutions, physical properties of polymers, anticorrosion coatings for aluminum, polymeric cobalt compounds, nickel and cadmium complex compounds, and polymerization of divinyl and diallyl adipates.

Other studies at the University include heat of evaporation of droplets and nonassociated liquids, surface-layer studies of solids and nonassociated liquids, fluid flow, and various mathematical studies, such as of topological spaces, diffusion equations, and integrals.

The University publishes a Uchenyye Zapiski. Its curricula provide for courses of study in chemical technology, soil science and agrochemistry, finance and credit, economics of the national economy, Russian language and literature, native language and literature of peoples of the U.S.S.R., history, mathematics, physics, chemistry, botany, and zoology.

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Name: Kitab International Latitude Station imeni Ulugbek
(Kitabskaya mezhdunarodnaya shirotnaya stantsiya imeni Ulugbeka)

Address: (About 400 km from Tashkent and 3 km from Kitab, in the Kashka Dar'inskaya oblast')

Director: A. M. Kalmykov (1960)

Deputy Director: --

Administrative Affiliation: Tashkent Astronomical Observatory (1959)

Selected Staff Members:

D. I. Kravtsev
V. S. Obraztsov

Description:

The Kitab International Latitude Station imeni Ulugbek was organized in 1930 and has been administered by the Tashkent Astronomical Observatory since 1941. The Station is one of five international stations located on parallel 39°08' north latitude.

During its existence, the Station has made thousands of latitude determinations, and has carried out many studies of human, instrumental, and other systematic errors that occur in latitude determinations with a zenith telescope.

Name: Kiyev Automotive-Transportation Institute
(Kiyevskiy avtomobil'no-dorozhnyy institut)

Address: Kiyev, ulitsa Suvorova, 1

Director: Ye. P. Verizhenko, Docent (1961)

Deputy Directors: I. K. Datsenko, Docent (1961)
Ya. V. Khomyak, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

P. I. Andrusenko, Professor
G. B. Bezborodova, Docent
A. V. Dudku, Docent, Dean
B. V. Krukovskiy, Professor, Head of Chair
K. A. Stasovskaya, Docent, Dean
K. S. Terenetskiy, Professor, Head of Chair

Description:

The Institute, established in 1944, provides academic training for students of civil engineering specializing in highway-construction techniques and automotive transportation. Specific courses of study include the economics and organization of automotive transportation. Research work has included investigations relating to carburization, bearing wear resistance, combustion engine fuels, structural analysis, and mechanical properties of materials. A Trudy of the Institute is published.

Name: Kiyev Construction-Engineering Institute
(Kiyevskiy inzhenerno-stroitel'nyy institut)

Address: Kiyev, bul'var Tarasa Shevchenko, 86

Director: Yu. A. Vetrov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

M. S. Budnikov, Professor, Head of Chair
Yu. F. Chubuk, Docent, Dean
S. M. Kolotov, Professor, Head of Chair
Ya. U. Liniychuk, Docent, Head of Chair
R. V. Shchekin, Docent, Dean
A. G. Sheveler, Docent, Head of Chair
Ya. A. Shteynberg, Professor
I. Ya. Slobodyanik, Docent, Head of Chair
I. P. Sytnik, Docent, Head of Chair
D. V. Vaynberg, Professor, Head of Department of Structural
Mechanics
V. N. Yarin, Professor, Head of Chair
N. D. Zhudin, Professor, Head of Chair

Description:

The Institute, opened in 1930, offers training in civil engineering. Courses are offered in architecture, construction, reinforced-concrete structures, prefabricated construction, city planning, and engineering geodesy. Research work has included investigations in hydraulics, geodesy, building materials, and structural mechanics. The Candidate's Degree is granted.

Name: Kiyev Engineering Institute of the Food Industry imeni A. I. Mikoyan
(Kiyevskiy tekhnologicheskyy institut pishchevoy promyshlennosti
imeni A. I. Mikoyana)

Address: Kiyev, Vladimirskaya ulitsa, 68

Director: P. D. Fedorov, Docent (1961)

Deputy Director: V. N. Stabnikov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

P. V. Golovin, Corresponding Academician (Ukrainian S.S.R.)
 V. K. Lazarenko
 P. M. Mal'tsev, Professor, Head of Chair
 P. N. Osipov
 V. D. Popov, Doctor
 G. A. Preys
 P. D. Shvetsov, Professor, Head of Chair
 A. N. Stadnik, Docent, Head of Chair

Description:

This institute prepares specialists in various aspects of the food industry. Some areas of research have been organic chemistry, mechanical engineering, structural mechanics, motor calculus, heat transfer, and wear of iron and steel.

The Institute publishes a Trudy and grants the Candidate's and Doctor's Degrees. It offers courses in industrial thermal power engineering (oven and gas heat thermal engineering and heat-transfer installations), machinery and installations of food industry, bakery goods, macaroni, and related products, sugar and sugar products, and brewing industry.

Name: Kiyev Institute of the Civil Air Fleet
 (Kiyevskiy institut grazhdanskogo vozdušnogo flota--KIGVF)

Address: Kiyev, Polevaya ulitsa, 103-6

Director: N. L. Golego, Docent (1962)

Deputy Director: --

Administrative Affiliation: Main Administration of the Civil Air Fleet of the Council of Ministers, U.S.S.R. (1961)

Selected Staff Members:

M. P. Arbuzov
 T. M. Bashta
 V. Brykalov
 P. V. Dneprovskiy, Docent, Head of Chair
 B. I. Kostetskiy, Professor, Head of Chair
 A. I. Kukhtenko, Professor, Head of Chair
 A. Matriyenko, Candidate
 A. L. Naumov
 G. A. Nikitin
 A. M. Pen'kov, Corresponding Academician (Ukrainian S.S.R.), Head of Chair

D. S. Plishko
G. Ye. Pukhov, Professor
V. M. Samus'
N. A. Sologub
V. I. Usynin

Description:

This institute trains mechanical engineers to operate aircraft and aircraft engines, and electrical engineers specialized in aircraft and airfield equipment. Graduates are usually sent to aircraft-repair depots at civilian airports.

Much of the Institute's research has been spent on increasing the strength and reliability of civilian aircraft through studies of materials and structures, and on problems of communication.

The Institute publishes a Trudy.

Name: Kiyev Institute of the National Economy
(Kiyevskiy institut narodnogo khozyaystva)

Address: Kiyev, Brest-Litovskoye shosse, 116-a

Director: P. V. Krivn', Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. A. Golobutskiy, Professor, Head of Chair
N. P. Khotenko, Docent, Dean
P. P. Nemchinov, Docent, Dean
V. Ye. Vlasenko, Docent, Head of Chair

Description:

The Institute publishes a Nauchnyye Zapiski. It offers courses in industrial economics, economic planning, mechanization of accounting and computer operations, agricultural economics, finance and credit, statistics, and accounting.

Name: Kiyev Order of Lenin Polytechnic Institute
(Kiyevskiy ordena Lenina politekhnicheskiiy institut--KPI)

Address: Kiyev, Brest-Litovskoye shosse, 39

Director: A. S. Plygunov, Docent (1961)

Deputy Directors: I. M. Chizhenko, Docent (1961)
V. I. Gnatovskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

N. A. Agarkova, Docent, Head of Chair
A. A. Alent'yev, Professor, Head of Chair
I. K. Fedchenko, Doctor
V. N. Gridnev, Corresponding Academician (Ukrainian S.S.R.)
S. I. Kalenchuk, Head of Chair
M. I. Karnovskiy, Professor, Head of Chair
S. A. Kartavov, Docent, Dean
K. K. Khrenov, Corresponding Academician (U.S.S.R.)
M. A. Kondak, Professor, Head of Chair
N. S. Korol', Docent, Head of Chair
O. K. Kudru, Professor, Head of Chair
Yu. Ye. Lukach, Docent, Dean
B. S. Lysin, Academician (Ukrainian S.S.R.)
B. F. Natarov, Docent, Dean
M. M. Nekrasov, Docent, Head of Chair
P. P. Ornatskiy, Docent, Head of Chair
V. M. Pavlov, Docent, Assistant Dean
V. G. Permyakov, Professor, Head of Chair
K. G. Samofalov, Docent, Head of Chair
A. A. Smirnov, Corresponding Academician (Ukrainian S.S.R.)
S. V. Svechnikov
V. N. Svechnikov, Academician (Ukrainian S.S.R.)
V. P. Taranenko, Docent, Head of Chair
V. I. Tolubinskiy, Corresponding Academician (Ukrainian S.S.R.)
K. I. Vashchenko, Professor, Head of Chair
V. N. Vinoslavskiy, Docent, Dean
A. I. Vishnevskiy, Docent, Head of Chair
N. F. Vollerner, Professor, Head of Chair
A. I. Vituzov, Docent, Dean

Description:

Founded in 1898, the Kiyev Polytechnic Institute offers undergraduate training in mechanical engineering, electrical engineering, heat engineering, metallurgy, and chemical technology. Graduate training includes studies in casting technology, strength of materials, electro-chemical engineering, theoretical thermodynamics, theoretical mechanics, physical chemistry, and industrial electronics.

The Degrees of Doctor and Candidate are awarded. The Degree of Candidate of Technical Sciences is awarded in areas such as casting technology, power engineering, electrical instruments and measuring devices, and electronics. The Degrees of Doctor and Candidate of Technical Sciences are awarded in areas such as the theory of elasticity, strength of materials, metallurgy, metallography, foundry technology, and hydraulics.

In 1959, the nine departments of the Institute had a total enrollment of about 11,500 students.

Publications of the Institute are Izvestiya Kiyevskogo Politekhnikeskogo Instituta and Sbornik Nauchnykh Trudov Aspirantov Kiyevskogo Politekhnikeskogo Instituta.

Courses of Study: Mining

Electric power stations, networks, and systems (thermal and hydroelectric power stations)
 Electrification of industrial enterprises and installations
 Mining electromechanics
 Thermal power installations (boilers and turbines)
 Industrial thermal power engineering (oven and gas heat engineering; heat-transfer installations)
 Ferrous metallurgy
 Casting of ferrous and nonferrous metals
 Physics of metals
 Thermal processing of metals (metallography, equipment, and technology)
 Machine building, metal-cutting tools, and instruments
 Processing of metals under pressure
 Welding
 Chemical industry machinery and installation (inorganic and organic processes--silicates, cellulose and wood pulp, liquid and gas fuels)
 Electrical machinery and equipment
 Dielectrics and semiconductors
 Automatic, telemechanical, and electric measuring instruments and systems
 Computers and guidance devices
 Electronic instruments
 Industrial electronics
 Acoustic engineering
 Radio engineering
 Radio equipment
 Boiler construction
 Turbine construction
 Inorganic chemistry
 Electrochemical processes
 Silicates (including binders and cementitious materials, ceramics, refractories, and glass)
 Organic synthesis and synthetic-rubber manufacturing
 Cellulose and paper technology.

Name: Kiyev Pedagogical Institute imeni A. M. Gor'kiy
(Kiyevskiy pedagogicheskiy institut imeni A. M. Gor'kogo)

Address: Kiyev, bul'var Tarasa Shevchenko, 22/24

Director: --

Deputy Director: V. K. Mityurev, Docent (1961)

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

T. F. Bugayko, Professor, Head of Chair
M. F. Kazanskiy
A. P. Leshchenko, Docent
A. F. Pavelko, Head of Chair
D. Ya. Shelukhin, Docent, Dean

Description:

The Kiyev Pedagogical Institute prepares secondary-school teachers, with emphasis on the preparation of physics teachers. Research published in the Nauchnyye Zapiski of the Institute is primarily in theoretical mathematics. The Institute also conducts some research on heat transfer and the motion of moisture in the fabrication of clay products. The Candidate's Degree is granted. Courses of study at the Institute include mathematics, drafting, physics, fundamentals of production, pedagogy, psychology, and Russian and Ukrainian language, literature and singing.

Name: Kiyev State University imeni T. G. Shevchenko
(Kiyevskiy gosudarstvennyy universitet imeni T. G. Shevchenko)

Address: Kiyev, Vladimirska ulitsa, 60

Director: I. T. Shvets (1960)

Deputy Directors: V. V. Tsvetkov, Docent (1961)
A. Z. Zhmudskiy, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1961)

Selected Staff Members:

A. K. Babko, Academician (Ukrainian S.S.R.)
Yu. Ya. Belan, Docent, Head of Chair
P. S. Bondarenko
A. A. Borodin, Professor, Head of Chair

Yu. K. Delimarskiy, Academician (Ukrainian S.S.R.)
 I. A. Deryugin, Docent, Head of Chair
 K. K. Dubinu, Docent
 V. M. Glushkov, Professor
 A. Z. Golik, Professor, Dean
 V. N. Golovtsyn, Professor, Head of Chair of Mineral Prospecting
 Methods
 A. M. Golub
 I. S. Gorban'
 P. D. Indychenko, Docent, Head of Chair
 A. A. Ishchuk, Docent, Head of Chair
 A. S. Kharchenko, Professor
 P. D. Kharchenko, Professor, Dean
 K. K. Khrenov
 M. O. Kil'chevskiy
 A. I. Kiprianov, Academician (Ukrainian S.S.R.)
 I. I. Kondilenko, Docent, Head of Chair
 P. V. Kopnin, Professor, Head of Chair
 P. P. Kuz'menko
 P. A. Lavrov, Professor, Head of Chair
 A. M. Marinich, Docent, Dean
 N. D. Morgulis, Corresponding Academician (Ukrainian S.S.R.)
 N. G. Nakhodkin
 A. A. Nazarov
 P. Ye. Nedbaylo, Professor, Head of Chair
 B. G. Novikov, Professor, Head of Chair
 P. M. Ovcharenko, Docent, Dean
 A. T. Pilipenko, Professor, Dean
 P. P. Plyushch, Professor, Head of Chair
 G. N. Polozhiy, Professor, Head of Chair
 D. F. Protsenko, Professor, Head of Chair
 V. I. Putyata, Docent, Dean
 F. A. Rudenko, Professor, Dean
 A. A. Shishlovskiy
 M. M. Sidlyar, Docent, Head of Chair
 G. N. Tsvetkov, Docent, Dean
 I. A. Uskov
 S. K. Vsekhsvyatskiy, Professor, Head of Chair
 V. P. Zakharov, Academician (Kazakh S.S.R.)
 P. P. Zavorot'ko, Docent, Dean

Description:

Kiyev University is the third largest university in the Soviet Union. During the 1960-1961 school year, 10,500 students were enrolled. Candidate's and Doctor's Degrees are granted.

As a center for research and development, the University has been responsible for bringing many technical innovations to the Ukraine. Chemists at the University have worked in the fields of high polymers, pure and rare-earth metals, dyes, electrical insulation materials, and corrosion protection

of alloys, particularly cathodic protection. Particular projects have included synthesis and study of copolymers for photographic emulsions, study of active fillers for nylon, surface tension and other properties of siloxanes, copper selenocyanates, and cyanine dyes. In metallurgical research, scientists at the University have studied the strengthening of manganese steels by heat treatment and deformation, mobility of antimony, iron, and cobalt in solid copper, surface tension of the copper-aluminum system, grain boundaries of aluminum-copper-nickel alloys, diffusion of zinc in aluminum by means of zinc radioisotopes, dislocations during deformation of Armco iron and magnesium, and pulverization of metals by deuterium ions. In welding research, problems of arc stability and gas-shielded welding have been studied.

Large-scale research is carried out on semiconductors and semiconductor theory. Projects have included electron migration phenomena in metals and alloys, Hall effect and photoconductivity in a magnetic field, excess carriers in a magnetic field, thermionic emission of semiconductor cathodes, and electrical properties of thin films. Specific semiconducting materials whose properties have been studied are copper oxide, germanium, alkali halide crystals, antimony selenide, telluride, and sulfide single crystals, and tellurium.

In physics generally, research investigations have included studies of cathodes, plasma, spectral lens structure of X-rays, optical examinations of solutions, light absorption and dispersion in crystals, abnormal dispersion of solutions, molecular beams of metals, microwave and arc discharge, secondary-emission theory, propagation velocity in ultrasonics, quantum field theory of deuteron luminescence, and thermionic energy conversion.

In mechanics, research projects have been carried out in the fields of strength and plasticity of metals and alloys, theory of elasticity, theory of plates and shells, shock waves, and hypersonic flow.

Mathematics studies at the University cover boundary-value problems, stochastic equations, differential equations, Markov chains, and biharmonic equations. In 1957, the University established a computer center equipped with a differential analyzer. The center has a universal computer of the URAL type.

In biology, scientists have studied the effects of frost and drought on plants. Associated with the University is the Institute of Physiology of Man and Animals. This institute has established methods of investigating higher nervous activity, conditioned reflexes, and physiology of digestion.

Also associated with the University is the Nuclear-Research Laboratory, which has built a charged-particle accelerator for the production of neutrons. The University has an astronomical observatory. Under the direction of K. K. Dubinu, Docent, is the Institute for Improving the Qualifications of Social-Science Teachers.

The University publishes a Vestnik in seven series: Mathematics, Mechanics, and Astronomy; Physics and Chemistry; Geology and Geography; Biology; History and Philosophy; Economics and Law; and Philology and Journalism.

The curricula of the University include courses in geological surveying and prospecting for mineral deposits, hydrogeology and engineering geology, electronics, engineering exploitation of aircraft electronic equipment, jurisprudence, Russian language and literature, native language and literature of peoples of the U.S.S.R., Romance and Germanic languages and literature, history, political economy, philosophy, psychology, mathematics, mechanics, physics, astronomy, chemistry, biology, and physical geography.

Name: Kiyev Technological Institute of Light Industry
(Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti)

Address: Kiyev, Klovskaya ulitsa, 16

Director: I. V. Orlov, Docent (1961)

Deputy Directors: A. A. Afanas'yev, Docent (1961)
F. A. Moysenkeno, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1961)

Selected Staff Members:

G. A. Bobrovnikov, Docent
N. I. Chechenev, Docent, Dean
L. F. Chuprina
Yu. M. Glazman, Doctor
L. P. Ignatova, Docent, Head of Chair
M. P. Kotov, Professor, Head of Chair
I. I. Leonov, Candidate
A. I. Pavlov, Docent
E. A. Rozovskaya
V. P. Vel'min, Professor, Head of Chair

Description:

Founded in 1930, this educational-research institute has Departments of Engineering Graphics, Science of Materials, Physics, Technology of Metals, Electrical Engineering and Electrical Equipment, and Leather and Furs.

The metals department is interested in the corrosion and wear resistance of brass and steel components and stress concentration in steel parts under torsion. Tempering studies of carbon steels and studies of

dimensional changes in hardened steels after the gamma-alpha transformation have been made. The Institute conducts research on the synthesis of organics and studies the properties of high polymers. Applications for molybdenum disulfide greases in light industry have been studied. Other studies have concerned the coagulation of lyophobic sols, the viscosity of concentrated gelatin, and chromium chloride complexes. The Institute publishes a Trudy.

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Name: Kokand Pedagogical Institute imeni Mukimi
(Kokandskiy pedagogicheskiy institut imeni Mukimi)

Address: Kokand, ulitsa Karla Marksa, 63

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members: L. L. Khnygin, Head of Chair

Description:

This institute trains teachers. The courses of study include Russian and Uzbek language and literature, history, and elementary school instruction methods.

611

Name: Kolomna Pedagogical Institute
(Kolomenskiy pedagogicheskiy institut)

Address: Kolomna, ulitsa Zaytseva, 11

Director: D. Ye. Aksenov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Belyayev, Docent
V. A. Rokhlin
B. A. Rozenfel'd

Description:

The Institute, which publishes a Uchenyye Zapiski, offers courses in the Russian language and literature, foreign languages, mathematics and drafting, physics, and the fundamentals of production. In addition to its interests in mathematics, the Institute's staff has conducted research in colloidal chemistry.

Name: Komi State Pedagogical Institute
(Komi gosudarstvennyy pedagogicheskiy institut)

Address: Syktyvkar, Kommunisticheskaya ulitsa, 21

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. A. Tashlykov, Docent, Head of Chair
M. A. Vyborov, Dean

Description:

The Institute publishes Uchenyye Zapiski and offers courses in Russian language and literature, mathematics and physics, biology and chemistry, and methods of elementary-school education.

Name: Komsomol'sk-on-the-Amur Evening Polytechnic Institute
(Komsomol'skiy-na-Amure vecherniy politekhnicheskiy institut)

Address: Komsomol'sk-na-Amure, prospekt Lenina, 27

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. R. Abel's
A. D. Abramov

Description:

The Institute has interests in theoretical mechanics, thermal treatment of metals, theory of mechanisms and machines, machine parts, general electronics, physics, higher mathematics, and magnetic materials. Courses are offered in dialectic and historical materialism, Marxism-Leninism, higher mathematics, physics, and metallurgy, machine building, shipbuilding and civil engineering.

Name: Komsomol'sk-on-the-Amur State Pedagogical Institute
(Komsomol'skiy-na-Amure gosudarstvennyy pedagogicheskiy institut)

Address: Komsomol'sk-on-the-Amur, Pionerskaya ulitsa, 18

Director: A. M. Losev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. A. Rostovtsev, Docent, Head of Chair

N. I. Smirnov, Docent, Head of Chair

Description:

Mathematics is one of the Institute's areas of research. The courses offered include Russian language, literature, and history, and mathematics and physics.

Name: Kostroma Agricultural Institute "Karavayevo"
(Kostromskoy sel'skokhozyaystvennyy institut "Karavayevo")

Address: Kostroma, ulitsa 1 Maya, 14

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members: V. A. Shaumyan, Professor, Head of Chair

Description:

The Institute publishes a Trudy and offers course work in agronomy, animal husbandry, and mechanization of agriculture.

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Name: Kostroma State Pedagogical Institute imeni N. A. Nekrasov
(Kostromskoy gosudarstvennyy pedagogicheskiy institut imeni N. A. Nekrasova)

Address: Kostroma, Pyatnitskaya ulitsa, 2

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. F. Rubilov, Docent, Head of Chair
M. I. Toropova, Docent, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski and offers courses in biology and chemistry, Russian language, literature, and history, and mathematics and physics.

617

Name: Kostroma Textile Institute
(Kostromskoy tekstil'nyy institut)

Address: Kostroma, ulitsa Dzerzhinskogo, 17

Director: P. A. Osipov, Docent (1961)

Deputy Director: V. N. Anosov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. I. Khudykh, Professor, Dean
V. M. Kupchikova, Docent, Dean
P. P. Trykov, Professor, Head of Chair of Mechanical Technology of Fibrous Materials

Description:

The Institute's research includes work in physical and organic chemistry, mechanics, and metallurgy. A Trudy of the Institute is published. The academic program of the Institute includes courses in technology of fibrous materials, sewing, woodpulp, textile equipment, automation, fibrous materials, machine building, and machine tools.

618

Name: Krasnodar Institute of the Food Industry
(Krasnodarskiy institut pishchevoy promyshlennosti)

Address: Krasnodar, ulitsa Krasnaya, 135

Director: I. M. Anoshin, Docent (1961)

Deputy Director: G. V. Strel'nikov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. M. Danilyuk, Docent, Head of Chair
S. I. Gusakov, Head of Chair
V. M. Lozu, Docent
Ya. I. Pugachev
S. I. Shevtsov, Candidate
G. T. Tuman'yan, Docent
P. S. Yerygin, Professor, Head of Chair
M. G. Zagoruyko, Candidate
N. S. Zhizhin, Docent, Head of Chair

Description:

The Institute conducts basic research on problems affecting the food industry, working in areas such as chemistry, physics, machine technology, and mathematics. It publishes a Trudy and grants Candidate's Degrees.

The curriculum of the Institute includes courses in machinery and installations of food industry, plastics, grain processing and storage, sugar and sugar products, brewing, wine making, vegetable fats, preserved and canned goods (including refrigeration technology), and subtropical agriculture (tobacco, citrus fruit, tea, and spices).

Name: Krasnodar Pedagogical Institute imeni the 15th Anniversary of VLKSM
(Krasnodarskiy pedagogicheskiy institut imeni 15-letiya VLKSM)

Address: Krasnodar, ulitsa Sedina, 4

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. Ye. Ampilogov, Docent, Head of Chair
V. V. Gurbanov, Docent, Head of Chair
G. P. Ivanov, Docent, Dean
P. P. Izmaylov, Docent, Head of Chair
A. N. Kharin
M. P. Pyatnitskiy, Professor, Head of Chair

Description:

Krasnodar Pedagogical Institute was opened in 1920 to prepare secondary school teachers. This institute has done research on the kinetics of the adsorption of acids on charcoal.

The Institute grants the Candidate's Degree. It offers courses in Russian language, literature, and history, mathematics and drafting, physics and general science, biology and chemistry, English and German, physical education, and music and singing.

Name: Krasnoyarsk Agricultural Institute
(Krasnoyarskiy sel'skokhozyaystvennyy institut)

Address: Krasnoyarsk, prospekt Stalina, 88

Director: P. P. Ipatov, Professor (1961)

Deputy Director: N. S. Simakov, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

I. A. Fel'dman, Head of Chair
R. B. Kondrat'yev, Docent, Head of Chair
N. V. Sklyadnev, Docent, Dean

Description:

This institute publishes a Trudy. It offers courses in agronomy, animal husbandry, mechanization of agriculture.

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Name: Krasnoyarsk Institute of Nonferrous Metals imeni M. I. Kalinin
(Krasnoyarskiy institut tsvetnykh metallov imeni M. I. Kalinina)

Address: Krasnoyarsk, Krayevoy

Director: T. P. Glek, Docent (1961)

Deputy Directors: S. F. Kuz'kin, Professor (1961)
Ye. M. Lozitskiy (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

- A. I. Belyayev, Corresponding Academician (U.S.S.R.), Professor,
Head of Chair of Metallurgy of Light Metals
- M. D. Ivanovskiy, Docent, Dean
- N. V. Korovin, Head of Chair of Electrochemistry and Corrosion
- A. N. Krestovnikov, Professor, Head of Chair of Physical and
Colloid Chemistry
- S. F. Kuz'kin, Professor, Head of Chair of Enrichment of Rare
and Radioactive Metals
- D. I. Lisovskiy, Professor, Head of Chair of Heavy Metals
- M. V. Mal'tsev, Professor
- G. A. Meyerson, Professor, Head of Chair of Metallurgy of Rare Metals
- I. L. Perlin, Professor, Head of Chair of Pressure Forming of Metals
- I. N. Plaksin, Corresponding Academician (U.S.S.R.)
- S. K. Savenko, Docent, Dean
- V. N. Vigdorovich, Candidate
- A. N. Vol'skiy, Academician (U.S.S.R.), Head of Chair of Theory of
Metallurgical Processes
- N. I. Vtyurin, Docent, Head of Chair
- M. V. Zakharov, Professor

Description:

Until 1959, this institute was situated in Moscow and was known as the Moscow Institute of Nonferrous Metals and Gold imeni M. I. Kalinin. Currently, it operates a branch in the city of Noril'sk.

For an educational institution, this institute conducts an unusually large amount of research. Its staff has investigated aluminum, magnesium, and titanium alloys, thin ferromagnetic films, welding-electrode alloys,

electrolytic refining of light alloys, high-purity lead, high-purity aluminum (99.99999 per cent), the automation of zinc production, molybdenum disulfide, purification of thallium, thermoelectric properties, carbothermic reduction of refractory oxides, die design, pressure forming of metals, electrodeposition of metals, powder metallurgy, separation of rare-earth metals, semiconductors, wire drawing, metal rolling and the chlorination of metals.

In 1957-1958, while the Institute was still in Moscow, an Experimental Laboratory of Pure Metals, Metallic Compounds, and Semiconductor Materials was founded. The Laboratory is equipped with vacuum, induction, and arc furnaces, installations for monocrystal pulling, electron-optical equipment, X-ray and radiographic spectral equipment, and equipment for zone melting and the study of electrical resistance. It has studied the extraction of metal compounds with organic solvents, fractional distillation of volatile metals, and the technology of preparing pure germanium.

The research of its staff is published in the Trudy of the Institute, which appears irregularly, and in the various Soviet metallurgical journals.

Name: Krasnoyarsk Polytechnic Institute
(Krasnoyarskiy politekhnicheskiy institut)

Address: Krasnoyarsk, prospekt Stalina, 49 (1960)

Director: V. N. Borisov, Docent (1961)

Deputy Director: I. F. Afonskiy, Doctor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

- V. V. Artamonov, Candidate
- G. A. Belousov, Docent
- G. I. Chistyakov, Docent, Dean
- D. B. Grushu, Docent, Head of Chair
- P. D. Kim
- G. M. Rodichev
- N. I. Vtyurin, Docent, Head of Chair

Description:

The curriculum of the Krasnoyarsk Polytechnic Institute includes studies in physics, machine-construction technology, metallurgy, electrical engineering, electrification of industrial enterprises and installations, machine building, metal-cutting tools, and instruments, industrial and civil construction, production of concrete and reinforced-concrete structural components and units for prefabricated construction, automobile roads, and automotive transport. The Institute publishes a Uchenyye Zapiski.

Name: Krasnoyarsk State Pedagogical Institute
(Krasnoyarskiy gosudarstvennyy pedagogicheskiy institut)

Address: Krasnoyarsk, prospekt Stalina, 83

Director: Ye. M. Teterev, Docent (1961)

Deputy Director: Ye. I. Noskova (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. F. Golosov, Professor, Head of Chair
V. F. Ivlev, Docent, Head of Chair
L. V. Kirenskiy, Professor, Head of Chair
V. P. Safronov, Docent, Head of Chair

Description:

Krasnoyarsk Pedagogical Institute was founded in 1932.

This institute conducts research on ferromagnetic phenomena, especially with regard to magnetic-temperature hysteresis. This work is directed toward development of thin ferromagnetic films. The Institute publishes a Uchenyye Zapiski frequently.

The Institute offers a variety of courses directed toward the training of secondary school teachers, including Russian language, literature, and history, mathematics and drafting, physics and chemistry, geography and biology, English and French, physical education, drawing, general science, manual training, and methods of pre-school education.

Name: Kremenets State Pedagogical Institute
(Kremenetskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kremenets, ulitsa Krupskoy, 2 (1960)

Director: N. L. Briginets, Docent (1961)

Deputy Director: G. N. Lysenko (1961)

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: N. I. Gontar', Candidate, Head of Chair

Description:

Mathematics and drafting, physics and fundamentals of production, and biology, chemistry, and agriculture are included in this institute's curriculum.

625

Name: Krivoy Rog Mining-Ore Institute
(Krivorozhskiy gornorudnyy institut)

Address: Krivoy Rog, Pushkinskaya ulitsa, 37

Director: G. M. Malakhov, Professor (1961)

Deputy Directors: S. I. Lugovskiy, Professor (1961)
G. A. Koval', Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

F. N. Belash, Professor, Head of Chair
M. V. Guminskiy, Docent, Head of Chair
Ya. A. Kamenev, Docent, Head of Chair
P. I. Kudryashev, Docent
V. V. Osmolovskiy, Docent, Head of Chair
A. S. Povarennykh
N. I. Starikov
V. S. Vylomov, Docent

Description:

Research interests of this institute include the antifriction properties of chromium, the determination of free quartz in ore dust, the power rating of an electric motor, correlation between geometrical dimensions of frame sections of thin tubing, relationship of mineral hardness to chemical bonding, industrial concentration tests of iron ores, methods of obtaining high-quality iron from lean magnetite ores, reagents for flotation of iron ores, phase transformations and decomposition of solid solutions in Fe-Mn alloys, and property changes of ferrite during annealing of Fe-Mn alloys.

The Institute publishes a Trudy.

The curriculum of the Institute includes courses in geology and exploration of mineral deposits, mine surveying, mining, mining construction, minerals beneficiation and ore treatment, electrification of industrial enterprises and installations, mining electromechanics, and industrial and civil construction.

Name: Krivoy Rog Pedagogical Institute
(Krivorozhskiy pedagogicheskiy institut)

Address: Krivoy Rog, ploshchad' Stalina, 2

Director: F. A. Mazur, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. A. Kirichenko, Head of Chair
V. G. Tarnopol'skiy
P. L. Vargatyuk, Docent, Head of Chair

Description:

The Institute's curriculum includes courses in mathematics and drawing, physics and general science, and elementary-school teaching methods.

Name: Kuban Agricultural Institute
(Kubanskiy sel'skokhozyaystvennyy institut)

Address: Krasnodar, ulitsa Druzhby, 107

Director: --

Deputy Directors: I. A. Mitrakov, Docent (1961)
V. G. Ustinov, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

A. G. Bergman
V. F. Boyko
V. V. Derevenko, Docent, Head of Chair
Ya. V. Gubanov, Docent, Dean
I. S. Kosenko, Professor, Head of Chair
N. P. Lushpay
Yu. A. Lysenko
O. A. Osipov
Ye. B. Velichko, Professor, Head of Chair

Description:

The available published work from this institute reflects primarily studies of molten-salt systems, e.g., exchange-decomposition reactions of the alkali metal salts of sulfur, tungsten, and molybdenum. Some work has been done on synthesizing organic acids and in the field of analytical chemistry. More pertinent to its interests in agriculture are the courses offered in agronomy, viniculture, animal husbandry, and mechanization of agriculture.

The Institute publishes a Trudy.

628

Name: Kulyab Pedagogical Institute
(Kulyabskiy pedagogicheskiy institut)

Address: Kulyab, ulitsa Karla Marksa, 2

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, Tadzhik S.S.R. (1960)

Selected Staff Members: --

Description:

This institute publishes a Uchenyye Zapiski and offers courses in Russian and Tadzhik language and literature, elementary-school instruction methods, mathematics, and physics.

629

Name: Kurgan Agricultural Institute
(Kurganskiy sel'skokhozyaystvennyy institut)

Address: Kurgan oblast', ulitsa Kuybysheva, 55

Director: N. F. Bugayev, Professor (1961)

Deputy Director: M. P. Beletkov, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

V. Ye. Kvitko, Docent, Head of Chair
A. K. Vershinin, Professor, Head of Chair

Description:

This institute publishes a Sbornik Nauchnykh Rabot. It offers courses in agronomy and animal husbandry.

630

Name: Kurgan State Pedagogical Institute
(Kurganskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kurgan, Sovetskaya ulitsa, 63

Director: A. A. Kondrashenkov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. I. Krutogin, Party Secretary
M. D. Yanko, Docent, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski and offers courses in physics and chemistry, drafting, drawing, and manual training, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and physical education.

631

Name: Kursk Agricultural Institute
(Kurskiy sel'skokhozyaystvennyy institut)

Address: Kursk oblastnoy, ulitsa K. Marksa, 74

Director: G. M. Barsukov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

A. A. Sysoyev, Docent, Chief of Regional Agricultural Administration
S. K. Tsygankov, Docent, Head of Chair

Description:

Agronomy and animal husbandry are studied at this institute.

632

Name: Kursk State Pedagogical Institute
(Kurskiy gosudarstvennyy pedagogicheskiy institut)

Address: Kursk, ulitsa Radishcheva, 33

Director: A. N. Litvinenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. V. Akulov, Dean
A. G. Apollov, Docent, Head of Chair

Description:

This institute does research on ultrasonics and on azo dyes. It publishes a Uchenyye Zapiski. It offers courses in foreign literature (English, French, and German), physics and chemistry, Russian language, literature, and history, mathematics and drafting, and physics and fundamentals of production.

633

Name: Kustanay Pedagogical Institute imeni Amengel'da
(Kustanayskiy pedagogicheskiy institut imeni Amengel'dy)

Address: Kustanay, ulitsa Pushkina, 93

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Georgian S.S.R. (1960)

Selected Staff Members: --Description:

The Institute offers courses in Russian language, literature, and history, mathematics and physics, and methods of primary-school education.

634

Name: Kuybyshev Agricultural Institute
(Kuybyshevskiy sel'skokhozyaystvennyy institut)

Address: Kinel', poselok Sovety

Director: N. S. Shchibrayev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

V. I. Sazanov, Professor, Head of Chair
M. I. Sobolev, Professor, Head of Chair
G. A. Zak, Docent, Head of Chair

Description:

This institute publishes an Izvestiya. The courses available at this institute include agronomy, animal husbandry, and mechanization of agriculture.

635

Name: Kuybyshev Aviation Institute
(Kuybyshevskiy aviatsionnyy institut--KAI)

Address: Kuybyshev, Molodogvardeyskaya ulitsa, 151

Director: V. P. Lukachev, Docent (1961)

Deputy Director: A. F. Bochkarev, Candidate (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. A. Bredikhina, Docent, Head of Chair
N. G. Chovnyk

V. M. Dorofeyev, Docent, Head of Chair
 V. M. Golovin
 I. A. Ivashchenko, Docent, Dean
 Ya. M. Kogan
 L. I. Kudryashev
 V. Ya. Levina, Docent, Chief of Scientific-Research Sector
 S. M. Makarov
 A. P. Merkulov, Docent
 V. I. Metenin
 A. S. Natalevich
 N. N. Ogorodnikov
 N. I. Reznikov
 M. D. Rudman
 M. I. Shibanov, Professor, Head of Chair
 M. F. Shirokov
 A. M. Soyfer
 N. M. Starobinskiy, Docent, Head of Chair
 I. G. Starostin, Candidate, Dean
 F. P. Uryvskiy, Docent, Party Secretary

Description:

The Institute's research work is centered around various phases of aircraft technology. Papers of the Institute have also covered several phases of aviation economics, such as training engineers to think in terms of economics, analysis of costs of manufacturing in a factory, and planning and modernization of plants.

In the field of mathematics, gas dynamics, and thermodynamics, work has been done on boundary-layer theory, jet flow around bodies, laminar flow of viscous fluids between flat and parallel walls and tubes of circular cross section, heat conduction, heat-transfer problems, refrigeration systems, and cooling effects on heat-resistant alloys in liquid and gaseous media.

In the field of aircraft structures, work includes over-all aircraft structural design, study of the stability of high-speed aircraft, investigations of blade and component vibration and damping, thin-wall spar design, wing studies at subsonic flow, and oscillation studies of thin-wall shells.

In the field of aircraft-engine technology, both gas-turbine and internal-combustion engines have been studied. Some of this work considered the thermodynamics of piston engines, flow through nozzles, influence of nozzle construction, reliability of aircraft gas turbines, and aircraft-engine design and maintenance.

The metallurgical work of the Institute covers transformations in tempering and annealing, sintered alloys of the Fe-Si system, powders in metal-powder rolling, rolling compact bonds of nickel powder, microhardness of gray iron, effect of cold work on heat-resistant alloys, dimensional accuracy of castings and forgings, molten-salt electrolytes, and gas corrosion of molybdenum. Work also has been done on determining drawing coefficients and rough forming with rubber dies at high pressures.

Machining, supercharging of throttle cycles, vibrational problems of aeroengines, hydrodynamic lubrication, and rolling friction have been studied at the Institute.

In the area of aircraft instrumentation, studies have been made of gas flow, thermocouples, gas discharges, gas temperatures, electromagnetic valves for gas sampling, and special thermostats.

Aircraft fabrication studies include work in welding, metallurgy, machining, and the pressure working of metals. The welding work covers projection and spot welding and structural hysteresis analysis of welded parts. Other studies cover electrospark machining of heat-resistant alloys, milling heat-resistant steels, high-speed machining, machining of titanium, heat-resistant alloys, and zinc alloys, and quality control of machining operations.

In the nonmetallic field, some work has been done on synthetic glues for aircraft structures and organic glass. The Institute occasionally publishes a Trudy.

Courses of Study: Design and production technology of radio equipment
 Aircraft engines
 Pressure working of metals
 Aircraft construction and design
 Aircraft production
 Aircraft-engine combustion and design
 Aerodynamics
 Aerohydrodynamics
 Physics and engineering
 Electrical engineering
 Social studies
 Mathematics and mechanics
 Mechanical engineering
 Thermodynamics
 Metallurgy.

Name: Kuybyshev Construction-Engineering Institute imeni A. I. Mikoyan
 (Kuybyshevskiy inzhenerno-stroitel'nyy institut imeni A. I. Mikoyana)

Address: Kuybyshev, Molodogvardeyskaya ulitsa, 194

Director: O. G. Denisov, Docent (1961)

Deputy Director: S. V. Zhirkovich, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1960)

Selected Staff Members:

O. Ya. Babitskaya, Librarian
 N. D. Mumortsev, Docent, Party Secretary
 A. A. Novopashin, Docent, Head of Chair
 V. N. Tret'yakov, Docent, Dean
 B. V. Yakubovskiy, Professor, Head of Chair

Description:

The Institute trains students for careers in civil engineering, with emphasis on the building industry. The Trudy of the Institute indicates work in structural analysis, ferrous metallurgy, fluid mechanics, and "standardization" of mechanical properties for materials. The Institute offers courses in construction, reinforced-concrete structures, prefabricated construction, plumbing, and heating and ventilation.

Name: Kuybyshev Electrical Engineering Institute of Communications
 (Kuybyshevskiy elektrotekhnicheskii institut svyazi)

Address: Kuybyshev, ulitsa L'va Tolstogo, 23

Director: S. L. Sluginov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

P. D. Berestnev, Candidate, Head of Chair
 G. F. Katkov, Docent, Head of Chair
 I. I. Seleznev, Professor

Description:

This institute was established in 1956, and at that time, about 200 students were admitted. Courses are offered in radio communications and telephone and telegraph communications.

Name: Kuybyshev Industrial Institute imeni V. V. Kuybyshev
 (Kuybyshevskiy industrial'nyy institut imeni V. V. Kuybysheva)

Address: Kuybyshev, ulitsa Kuybysheva, 153

Director: V. S. Kozlov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

D. N. Andriyevskiy, Docent, Head of Chair
B. M. Bredkhin, Candidate, Head of Chair
K. I. Gaas, Head of Chair
M. K. Klebanov, Docent
L. I. Kudryashev, Professor
L. F. Kulikovskiy, Professor, Head of Chair
G. M. Ladygin, Head of Chair
V. A. Petrosyan, Docent, Head of Chair
K. V. Polyakov, Professor, Head of Chair
S. P. Pul'kin, Doctor, Head of Chair
A. N. Reznikov, Doctor, Head of Chair
A. G. Sarkisov
Ye. I. Skripnik, Docent, Head of Chair
L. K. Sporysheva, Candidate
V. I. Tarasevich, Docent, Head of Chair
V. P. Zotov, Docent, Head of Chair

Description:

The Kuybyshev Industrial Institute, founded in 1933, offers a varied undergraduate and graduate educational program that includes the fields of metallurgy, higher mathematics, industrial and mechanical engineering, electrical engineering, and aeronautical engineering.

Research reports by the staff and advanced-degree students of the Institute appear in its own publication, Sbornik Nauchnykh Trudov Kuybyshevskogo Industrial'nogo Instituta, and in various Soviet technical journals.

Name: Kuybyshev Planning Institute
(Kuybyshevskiy planovyy institut)

Address: Kuybyshev, Molodogvardeyskaya ulitsa, 194

Director: V. A. Aref'yev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ya. P. Ageyev, Docent, Head of Chair
L. I. Fominykh, Docent, Head of Chair

Description:

This economic-planning institute offers courses in agricultural economics, industrial economics, and economics and planning of material-technical supply. It publishes a Uchenyye Zapiski.

640

Name: Kuybyshev Scientific-Research Institute of the Petroleum Industry
(Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti)

Address: Kuybyshev

Director: V. A. Lobov, Doctor (1958)

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research Institute for Petroleum Gas (1960)

Selected Staff Members: --

Description:

The Institute, which began functioning in June, 1958, has separate divisions of geology, geochemistry, geophysics, drilling automation, telemechanics, fuel, and lubricating oils, as well as a designer's division and an industrial division. Each division has its own laboratories. The geological division includes five laboratories and deals with stratigraphy, tectonics, oilfield structure, oil-reserve estimates, prospecting, and hydrogeology. The geochemical division has three laboratories, one for the study of Paleozoic deposits, one for the study of petroleum and gas, and a microbiological laboratory.

641

Name: Kuznets Scientific-Research Institute
(Kuznetskiy nauchno-issledovatel'skiy institut--KuzNII)

Address: Kuznets

Director: --

Deputy Director: --

641 (Continued)

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute was established to carry out research on problems of mining systems, drilling-blasting operations, ventilation and accident prevention, mining mechanics, electromechanics, mining surveying, and concentration of mineral resources.

642

Name: Kyzyl-Orda Pedagogical Institute
(Kyzylskiy-Ordinskiy pedagogicheskiy institut)

Address: Kyzyl, ulitsa Lenina, 4

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. P. Bazhutin, Head of Chair
T. N. Metlyayev, Head of Chair
K. A. Smirnova, Docent

Description:

The Institute publishes a Uchenyye Zapiski. Research in mathematics is a field of interest of the Staff. Courses are offered in Russian and native language and literature, history, and mathematics and physics.

643

Name: Laboratory of Aeromethods
(Laboratoriya aerometodov)

Address: Leningrad, Birzhevoy proyezd, 6

Director: A. B. Vistelius (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

N. G. Kell', Corresponding Academician (U.S.S.R.)
 K. S. Lyalikov, Doctor
 V. I. Pavlov, Candidate
 V. P. Rengarten, Corresponding Academician (U.S.S.R.)
 Yu. D. Sharikov
 S. S. Shul'ts
 A. Ya. Smirnov
 I. A. Volkov

Description:

This institute is engaged in aerial-photographic research. Examples are the determination of the characteristics of surface currents of the sea and the spectral brightness of the landscape. Members of this institute have also been involved in preparing a new map showing previously known and presently active tectonic changes in the U.S.S.R. A Trudy is published by this institute.

Name: Laboratory of Cosmic Rays
 (Laboratoriya kosmicheskikh luchey)

Address: Tbilisi

Director: --

Deputy Director: --

Administrative Affiliation: Geophysics Institute, Academy of Sciences,
 Georgian S.S.R. (1960)

Selected Staff Members:

I. Chkhetiya
 T. Shakarishvili

Description:

Since October 1, 1957, variations in the intensity of cosmic rays were studied in the ionization chamber of the Tbilisi Cosmic-Ray Laboratory. The Laboratory also possesses a cubic telescope and a neutron monitor. The influence of temperature on the layers of the atmosphere, atmospheric pressure, the earth's magnetic field, and the influence of solar perturbations on the intensity of cosmic rays have been studied.

Name: Laboratory of Cosmic Rays
(Laboratoriya kosmicheskikh luchey)

Address: Yakutsk

Director: Yu. G. Shafer, Candidate (1957)

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1961)

Selected Staff Members:

D. D. Krasil'nikov
A. I. Kuz'min
N. N. Yefimov

Description:

In the late 1940's and early 1950's, Yu. G. Shafer constructed, at the Laboratory of Cosmic Rays in Yakutsk, the ASK-I ionization chamber which automatically and continuously records the intensity of the flow of cosmic rays. Another installation, designed by D. D. Krasil'nikov, registers showers of cosmic rays. A workshop of the Laboratory is located at a depth of 35 meters, in the thick of the permafrost. Here, with an instrument made by A. I. Kuz'min, continuous investigations on changes in the flow of underground cosmic rays are conducted.

Name: Laboratory of Electric Modeling
(Laboratoriya elektromodelirovaniya)

Address: Moscow, 2-y Bab'yegorodskiy pereulok, 18

Director: L. I. Gutenmakher, Professor (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

M. L. Aurukh
V. S. Gavrilov
N. V. Korol'kov
A. A. Kosarev
A. V. Kuznetsov
Yu. A. Makhmudov

L. L. Mokhel'
 E. V. Paducheva
 A. L. Shumilina

Description:

This institute has performed considerable research on theoretical and practical problems of machine translation and mechanized information searching. Its projects have included a punch-card program for medical diagnoses, a mechanical language for geometry, and an electromodel of the temperature field of a blast-furnace-hearth bottom and foundation. Experiments have been performed on various types of computer memory devices, particularly ferrite cores.

647

Name: Laboratory of Electric Welding Machines
 (Laboratoriya elektricheskikh svarochnykh mashin)

Address: Lyublino, Shosseynaya ulitsa, 92

Director: V. P. Nikitin, Academician (U.S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1958)

Selected Staff Members:

I. Ya. Rabinovich, Candidate
 Ye. I. Slepushkin

Description:

The primary interest of this institute, founded in 1955 as an independent laboratory, has been the study of automatic, semi-automatic, and manual welding in protective atmospheres of argon, helium and carbon dioxide. They have also studied and developed electrical switches for turning off welding transformers and control circuits for automatic welding machines.

648

Name: Laboratory of Electron Microscopy
 (Laboratoriya elektronnoy mikroskopii)

Address: Moscow, Leninskiy prospekt, 33

Director: A. Ye. Kriss (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1959)

Selected Staff Members:

Ye. M. Belavtseva
V. I. Biryuzova
K. I. Draganov
V. P. Gilev
V. A. Smirnova
S. B. Stefanov
A. S. Tikhonenko
I. B. Tokin

Description:

The Laboratory was organized shortly after 1946. It acts as consultant to the Academy of Medical Sciences, U.S.S.R. Over 50 per cent of all U.S.S.R. electron-microscopic work is done at the Laboratory. It does much of its work in cooperation with the biological institutes of the Academy. The purification of biological preparations has been a focus of study. Examination of crystals, viruses, chlorophyll, oceanic micro-organisms, bacteriophages, and the ultrastructure of muscle tissue are some of its specialties. It has the UEM-100 electron microscope and the EG-100 electrograph.

Name: Laboratory of Hydraulic Machines
(Laboratoriya gidravlicheskih mashin)

Address: Khar'kov, ulitsa Chervonoprapornaya, 4

Director: A. P. Filippov, Corresponding Academician (Ukrainian S.S.R.)
(1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

V. N. Bulgakov
V. V. Butkovskiy
Yu. M. Dedusenko, Candidate
M. I. Korsunskiy
V. I. Zelenskiy

Description:

Prior to 1957, the Laboratory of Hydraulic Machines was referred to as the Laboratory of High-Speed Machines and Mechanisms. The majority

of research is on steam, gas, and hydroturbine installations. Other research interests of the Laboratory include vibration dampening and stabilization of machine rotors, hydrodynamic coupling, hydrodynamic flow, centrifugal and axial compressors, and gas-turbine installations with regenerative exhaust-gas heat.

In 1960, the Laboratory was equipped with a URAL digital computer. The Candidate's Degree is offered, and papers and writings of the staff and students are published in the Trudy of the Laboratory.

Name: Laboratory of Hydrogeological Problems imeni F. P. Savarenskiy
(Laboratoriya gidrogeologicheskikh problem imeni F. P. Savarenskogo)

Address: Moscow, Staromonetnyy pereulok, 35

Director: I. V. Popov (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

T. P. Afanas'yev, Doctor
I. M. Gor'kovo
F. V. Kotlov

Description:

Organized in 1944, the Laboratory conducts research in theoretical hydrogeology and engineering geology. This research includes studies of subterranean waters and physical and mechanical properties of rock formations; the interconnection between subterranean waters and surface flow; the zonation of mineral waters in the U.S.S.R.; the influence of the saline complex of rocks on the origin of subterranean waters; the theory of the origin of subterranean waters in various regions; the physical-technical characteristics of alluvial deposits; and the processes of karst formation. The Institute publishes a Trudy.

Name: Laboratory of Limnology
(Laboratoriya ozerovedeniya)

Address: Leningrad, naberezhnaya Makarova, 2

Director: S. V. Kalesnik, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. F. Izotova
 T. A. Ogneva
 N. I. Semenovich
 A. V. Shnitnikov, Doctor
 N. P. Smirnova

Description:

This laboratory, sometimes called the Laboratory of Lake Sciences, was founded in 1945. Its research includes studies of the lakes in the Soviet Union and problems of the location and utilization of accumulated geological ores. It publishes a Trudy.

Name: Laboratory of Machine and Computer Mathematics
 (Laboratoriya mashinnoy i vychislitel'noy matematiki)

Address: Alma-Ata, Shevchenko ulitsa, 28

Director: M. V. Pentkovskiy, Academician (Kazakh S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1961)

Selected Staff Members: M. T. Kozhayev, Senior Engineer

Description:

This laboratory is engaged in the application of computing machines to the mechanization of data computation on natural resources. The Laboratory acquired Calculators EV-80-3 and IPT-5 in 1958. In 1961, the Laboratory obtained a URAL universal computer.

Name: Laboratory of Motors
 (Laboratoriya dvigateley)

Address: Moscow, Krasnoproletarskaya ulitsa, 32

Director: B. S. Stechkin, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

M. D. Apashev, Doctor
 N. R. Briling, Corresponding Academician (U.S.S.R.), Head of
 Internal-Combustion-Engine Department
 A. I. Mikhaglov, Professor
 A. A. Mikulin, Academician (U.S.S.R.)
 Yu. B. Suiridou, Candidate
 N. N. Zagryazkin, Candidate

Description:

This laboratory, which does fundamental studies of new and promising motors and installations, is composed of two Departments, Gas Turbines and Internal-Combustion Engines. One of their principal contributions is their work on fuel and its distribution during combustion. The Laboratory publishes a Trudy.

Name: Laboratory of Physical Chemistry of Silicates
 (Laboratoriya fizicheskoy khimii silikatov)

Address: --

Director: M. A. Bezborodov, Academician (Belorussian S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1961)

Selected Staff Members: --

Description:

Most of the Laboratory's research is on various multicomponent glass systems.

Name: Laboratory of Precambrian Geology
 (Laboratoriya geologii dokembriya)

Address: Leningrad, naberezhnaya Makarova, 2

Director: A. A. Polkanov, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1960)

Selected Staff Members:

L. I. Afanas'yeva
 E. K. Gerling
 L. K. Levskiy
 Yu. A. Shukolyukov
 N. A. Yeliseyev, Corresponding Academician (U.S.S.R.)

Description:

This laboratory is very active in research on methods of determining the absolute age of geological formations. It is particularly noted for its work on the development of the potassium-argon dating method. The Laboratory has also studied the cosmic age of meteorites, absorption of cosmic radiation in iron meteorites, and cosmogenic isotopes of meteorites. There is strong emphasis on cosmic rays, high-energy protons, and studies of planetary bodies and their environment.

Name: Latvian Agricultural Academy
 (Latviyskaya sel'skokhozyaystvennaya akademiya)

Address: Riga, ulitsa Auseklya, 5

Director: --

Deputy Director: A. D. Burmistrov, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Latvian S.S.R. (1960)

Selected Staff Members:

Ya. M. Verzinya, Professor, Head of Chair
 Ya. P. Gaross, Docent, Dean
 E. R. Grapmanis, Docent, Dean
 O. G. Ozols, Docent, Head of Chair
 A. A. Tsekulina, Professor, Head of Chair
 P. Ya. Zarin'sh, Docent, Dean

Description:

Academic training is given in general agriculture and related sciences. Specific courses include agronomy, animal husbandry, hydro-melioration, forestry, veterinary medicine, logging, woodpulp, and soil science. The Candidate's Degree is offered, and a Trudy is published.

Research work has involved agricultural instruments, hydraulics, packaged foods, and applied mathematics.

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Name: Latvian State University imeni Petr Stuchki
(Latviyskiy gosudarstvennyy universitet imeni Petra Stuchki)

Address: Riga, bul'var Raynisa, 19

Director: --

Deputy Director: A. Ya. Ozol, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Latvian S.S.R. (1960)

Selected Staff Members:

E. Arin', Candidate, Director of Computer Center (1961)
Ya. L. Engel'son
Yu. Ya. Eyduk
E. Zh. Freydenfel'd
A. P. Grigulis, Docent, Head of Chair
O. P. Grinberg, Docent, Head of Chair
E. Yu. Gudrinietse
A. F. Iyevin'sh, Professor
L. Lepin', Academician (Latvian S.S.R.)
L. Osipov
E. Ya. Riyekstynsh, Docent, Head of Chair of General Mathematics
I. M. Shirkov, Professor, Head of Chair
G. Ya. Vanag, Professor

Description:

Latvian State University was opened in 1919. Its enrollment was about 5,000 for the 1960-1961 school year. The University grants Candidate's Degrees.

Research interests at the University are largely dominated by chemistry and ceramics. Studies have been performed on the depolymerization of polycaprolactam, sulfonation of aromatic and hydroaromatic compounds, polycyclic heterocyclic compounds, decomposition of ammonia, luminescent

spectroscopy, quantitative analysis of organic compounds, and alkylation of naphthalene, biphenyl, toluene, and benzene. Physicochemical properties of ceramic and refractory materials, such as oxides of calcium, barium, and titanium and titanates of lead, strontium, and bismuth, have been studied. Other materials that have been investigated are decaborates of zinc and other metals, potassium chloride crystals, and calcium carbonate. Extensive studies have been made of ceramic glazes, particularly enamels for metals.

Other areas of interest at the University are machine translation, particularly Russian into Latvian; mathematical studies, for example, non-linear equations, topological spaces, and propositional calculus; vibration analysis; and growing of single crystals. The staff is credited for developing a device for measuring optical and electric properties of semiconductor materials. With access to the Latvian Research Reactor available to University faculty and students, an interest in nuclear physics and radioisotopes has been stimulated.

An astronomical observatory is affiliated with the University. A Uchenyye Zapiski is published.

The curricula of the University covers Russian language and literature, native language and literature of peoples of the U.S.S.R., history, jurisprudence, mathematics, physics, chemistry, botany, zoology, physical geography, geological surveying and prospecting for mineral deposits, geology and exploration of oil and gas deposits, radiophysics and electronics, and soil science and agrochemistry.

Name: Leninabad State Pedagogical Institute imeni S. M. Kirov
(Leninabadskiy gosudarstvennyy pedagogicheskiy institut imeni
S. M. Kirova)

Address: Leninabad, ulitsa Ordzhonikidze, 158

Director: --

Deputy Director: K. T. Tagirova, Docent (1961)

Administrative Affiliation: Ministry of Education, Tadzhik S.S.R. (1960)

Selected Staff Members:

- A. A. Atayev, Head of Chair
- A. Ya. Kabilov, Docent, Head of Chair
- T. Kh. Khamidov, Head of Chair
- G. Khaydarov, Docent, Head of Chair

Description:

The Institute trains technicians and teachers for secondary schools. Among the courses offered are Tadjik language, literature, and history, Uzbek language, literature, and history, Russian language and literature, English, mathematics and drafting, physics, biology and fundamentals of agriculture, geography, and methods of elementary-school education. An Uchenyye Zapiski is published.

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Name: Leninakan State Pedagogical Institute imeni M. Nalbandyan
(Leninakanskiy gosudarstvennyy pedagogicheskiy institut imeni M. Nalbandyana)

Address: Leninakan, Pushkinskaya ulitsa, 1

Director: --

Deputy Director: --

Administrative Affiliation: Committee of the Council of Ministers of the Armenian S.S.R. on Higher and Secondary Special Education (1960)

Selected Staff Members: --

Description:

Native language, literature, and history and mathematics and drafting are taught here.

660

Name: Leningrad Agricultural Institute
(Leningradskiy sel'skokhozyaystvennyy institut)

Address: Pushkin, Leningradskoy oblasti, Komsomol'skaya ulitsa, 14

Director: K. N. Kaporulin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

L. N. Aleksandrova, Professor, Head of Chair
G. Ya. Bey-Biyenko, Professor, Head of Chair
A. P. Dmitrochenko, Professor, Head of Chair

S. A. Iofinov, Professor, Head of Chair
A. L. Kartuzhanskiy
V. I. Kazartsev, Professor, Head of Chair
M. M. Lebedev, Professor, Head of Chair
I. F. Makarov, Professor, Head of Chair
V. I. Tsvetnikov, Docent, Dean
P. P. Zayev, Professor, Head of Chair
N. G. Zhuchkov, Professor, Head of Chair

Description:

This institute is engaged in work in electrical engineering, metallurgical engineering, the organic chemistry of insecticides and pesticides, the development of photographic materials for autoradiography, astronomy, and maintenance and repair of farm equipment. Zapiski is published, probably each month, and Candidate's Degrees are awarded. The courses of study offered by the Institute include agronomy, viticulture, vegetation conservation, animal husbandry, agricultural economics and organization, mechanization of agriculture, rural electrification, and bookkeeping.

The Institute was organized in 1922.

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Name: Leningrad Branch of the All-Union Scientific-Research and Design
Institute of Chemical-Machine Construction
(Leningradskiy filial vsesoyuznogo nauchno-issledovatel'skogo i
konstruktorskogo instituta khimicheskogo mashinostroyeniya)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research and Design
Institute of Chemical-Machine Construction (1961)

Selected Staff Members: M. I. Frenkel', Candidate

Description:

This institute has been instrumental in developing the technological equipment necessary for the production of low-pressure polyethylene. It has also developed special valves for piston compressors for gas.

Name: Leningrad Branch of the Institute of Terrestrial Magnetism, Ionosphere,
and Radio-Wave Propagation
(Leningradskoye otdeleniye instituta zemnogo magnetizma, ionosfery
i rasprostraneniya radiovoln)

Address: Leningrad

Director: V. I. Pochtarev (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members: --

Description:

In July of 1961, this institute sent an expedition to Kamchatka to study geomagnetic changes prompted by volcanic action. In 1959, the Institute compiled a world magnetic-declination map based on data obtained by expeditions on the Soviet nonmagnetic ship, Zarya. This ship not only collects data on terrestrial magnetism, but also on the ionosphere and cosmic rays. It publishes a Trudy, and Kosmicheskiye Dannyye (Cosmic Data), monthly.

Name: Leningrad Computer Center
(Leningradskiy vychislitel'nyy tsentr)

Address: Leningrad

Director: M. N. Posnov, Candidate (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members: --

Description:

This center was organized in 1959 under the Mathematics Institute. Theoretical studies on computational techniques, as well as actual calculations, are performed at this center. The EV 80-3 electronic calculator is used for this work.

Name: Leningrad Electrical Engineering Institute imeni V. I. Ul'yanov
(Leningradskiy elektrotekhnicheskiy institut imeni V. I. Ul'yanova--
LETI)

Address: Leningrad, ulitsa professora Popova, 5 (1960)

Director: N. P. Bogoroditskiy, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Anisimov, Docent
A. V. Basharin, Professor, Head of Chair
A. V. Fateyev, Professor, Head of Chair
V. I. Ivanov, Professor
Yu. M. Kazarinov, Head of Chair
B. P. Kozyrev, Professor, Head of Chair
P. N. Matkhanov, Docent
Ya. I. Panov, Candidate
V. V. Pasynkov, Professor
A. N. Shchukin, Academician (U.S.S.R.)
V. B. Smolov, Docent, Head of Chair
D. V. Vasil'yev, Professor, Dean
Yu. Ya. Yurov, Head of Chair

Description:

LETI, which was founded in 1898, is one of the oldest institutions of higher technical education in the U.S.S.R. Its student body numbers about 6,000. Courses are offered in five major electrical engineering areas: power, communications, electronics, solid-state physics, and automatics. The automatics area stresses mathematical treatment of control theory, electronic-circuit design, the use of computers and relay systems for control, electrical methods of measurement, and several other similar subjects.

Specific courses of study include radio engineering, automation and remote control, electrical measuring technology, gyroscopes, mathematical machines and computers, electrical engineering, electrothermal installations, electronics, electroacoustics, and dielectrics and semiconductors.

Students of the Institute, also do development work under the direction of a research professor and in cooperation with an industry-assigned engineer.

An Izvestiya is published.

Name: Leningrad Electrical Engineering Institute of Communications imeni
M. A. Bonch-Bruyevich
(Leningradskiy elektrotekhnicheskiiy institut svyazi imeni M. A.
Bonch-Bruyevicha--LEIS)

Address: Leningrad, Naberezhnaya reki Moyki, 61

Director: K. Kh. Murav'yev, Docent (1961)

Deputy Director: K. N. Lebedev, Docent (1961)

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

V. L. Borovskiy, Assistant Dean
N. P. Dmitriyev, Head of Laboratory
M. P. Dolukhanov, Professor, Head of Chair
K. P. Fedorov
A. F. Gavrilov, Head of Chair of Mathematics
N. I. Ivanov, Docent
N. S. Koksharskiy, Professor, Head of Chair of Economics
and Organization of Communications
A. G. Kondrateyev, Docent
S. A. Nacharyan, Docent
V. V. Palshkov, Docent, Head of Chair
P. Ya. Shiniberov, Docent, Head of Chair
P. V. Shmakov
B. G. Zhebel', Docent, Project Leader for Color TV

Description:

This institute offers undergraduate training in the fields of communication engineering, broadcasting engineering, and cable-communication engineering. Advanced engineering degrees (Candidate's and Doctor's) are also awarded in radio-receiving equipment, radio-transmitting equipment, theoretical electrical engineering, TV, telephony, and photoelectric communication systems and equipment.

The Institute has done outstanding research and development in a number of areas, notably stereoscopic color TV and computer design and construction. One of the earliest and most elaborate automatic panoramic ionospheric stations in the U.S.S.R. was designed and developed here. Specialized equipment built by the Institute includes a TV microscope operating in both the visible and invisible spectra, a high-speed storage device using condensers and semiconductors, a phototelevision unit for submarine and subterranean observations, and an apparatus for direct transmission of phototelegrams. The Institute has been collaborating in the mechanization of production processes for various Leningrad enterprises. A Trudy is published by the Institute.

Name: Leningrad Engineering-Economics Institute
(Leningradskiy inzhenerno-ekonomicheskii institut)

Address: Leningrad, ulitsa Marata, 27

Director: A. A. Matalin, Professor (1961)

Deputy Director: V. A. Petrov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. A. Blyumberg, Candidate
Ye. V. Bryzgalova, Candidate
N. A. Klyukvin
A. S. Lebedev, Candidate
V. V. Novozhilov, Professor, Head of Chair
P. A. Pakidov, Candidate
A. I. Savinov
V. D. Sergeeva
Yu. S. Terminasov, Corresponding Academician (Kirgiz S.S.R.)
M. A. Volkov, Docent, Dean

Description:

One of the main interests of the Department of Physics is the X-ray investigation of ferrous and nonferrous metal crystals. The Institute has an X-ray laboratory. The Department of Chemistry has studied processing methods for Baltic oil shales. Finishing methods in machining have been studied from the economic standpoint, as well as from the viewpoint of the effect of precision finishing on wear resistance of components. Studies to automate mechanical machining have been made. A capacitive sensing instrument has been designed at the Institute, and lathes with hydraulic carriages have been studied.

The Candidate's Degree is granted by the Institute, and a Trudy is published. Courses are offered in economics and organization of the machine-building, automotive-transportation, chemical, and power industries, economics and organization of the city economy, and labor economics.

Name: Leningrad Finance-Economics Institute
(Leningradskiy finansovo-ekonomicheskii institut)

Address: Leningrad, kanal Grebayedova, 30/32

Director: I. M. Grechko, Docent (1961)

Deputy Director: P. R. Syromyatnikov, Candidate (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. M. Aleksandrov, Professor, Head of Chair
L. F. Karamysheva, Docent, Head of Chair
P. M. Pavlov, Professor, Head of Chair

Description:

The Institute publishes a Trudy and offers courses in finance and credit, industrial economics, statistics, and accounting. The Institute publishes Nauchnyye Zapiski annually.

Name: Leningrad Higher Engineering Naval Academy imeni Admiral S. O. Makarov
(Leningradskoye vyssheye inzhenernoye morskoye uchilishche imeni admiral S. O. Makarova)

Address: Leningrad, Vasil'yevskiy ostrov, Kosaya Liniya, 15A

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of the Merchant Marine (1960)

Selected Staff Members:

P. P. Akimov, Docent, Head of a Chair
O. B. Bron, Doctor, Professor
S. V. Denisov, Director, Laboratory of Aids to Navigation, Department of Navigation
N. O. Dobroshkevich, Docent, Head of Chair
A. A. Fersman, Docent
V. Yu. Goryainov, Professor
L. A. Ivanov, Docent, Department Head
A. A. Khozhaynov, Candidate, Head of Laboratory of Marine Electrical Devices
B. Kh. Konik, Docent
N. A. Man'kov, Docent, Head of a Chair
B. I. Nikiforov, Professor, Head of a Chair
B. I. Nornevskiy, Candidate, Docent
A. P. Yushchenko, Doctor, Head of Chair of Navigation

Description:

In 1956, the Ministry of the Merchant Marine (Maritime Fleet) assigned development work in the following areas to this academy: new methods of radio and electric navigation, modern maritime power machinery, fleet technical operations, hydrographic security for Arctic navigation, and testing and development of marine power plants. At that time, the school had nine Doctors of Sciences on its staff.

The Academy includes Departments of Navigation and Radio Navigation Instruments, and Chairs of Theoretical Fundamentals of Electrical Engineering, Meteorology, Hydrology, and Physics. It has a Laboratory of Marine Electric Drives, and its Laboratory of Scientific Research of Navigation was planned as the center of such research in the field. It has an "Arctic Faculty".

Studies at the Academy have included jet pumps, injection nozzles, depth finders, antennas and radio receiving systems, hydrodynamics, cryogenics, flow metering, heat exchange in boilers, and gyrocompasses. The staff also has studied ocean currents, dynamic meteorology, and the electric field of the atmosphere.

Name: Leningrad Higher Party School
(Leningradskaya vyshyaya partiynaya shkola)

Address: Leningrad

Director: K. A. Larionov, Professor

Deputy Director: --

Administrative Affiliation: Central Committee of the Communist Party of the Soviet Union (1961)

Selected Staff Members:

V. K. Ivankin, Professor, Head of Chair
N. S. Kuzhelev, Docent, Head of Chair
A. F. Kuz'min, Docent, Head of Chair
F. V. Nosov, Professor, Head of Chair

Description:

Staff members of the Chair of Social Sciences conduct studies of Communist Party history in Russia and abroad, workers' movements, and theoretical problems of Marxism-Leninism. The historical studies concentrate on pre-1917 events; however, theoretical studies are contemporary. The school publishes Sbornik Statey Kafedr Obshchestvennykh Nauk (Collection of Articles of the Chair of Social Sciences) and Sbornik Statey po Ekonomicheskim Voprosam (Collection of Articles on Economic Problems).

Name: Leningrad Hydrometeorological Institute
(Leningradskiy gidrometeorologicheskiy institut--LGMI)

Address: Leningrad, Malo-Okhtinskiy prospekt, 98

Director: P. N. Morozov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960), and Main Administration of the Hydrometeorological Service (1960)

Selected Staff Members:

V. N. Ge, Docent, Head of Chair
L. G. Kachurin
D. M. Kudritskiy
K. I. Kudryavaya, Professor, Head of Chair of Higher Mathematics
V. I. Poltavtsev, Docent, Head of Chair
V. M. Shapayev, Professor
A. S. Zverev, Professor, Head of Chair

Description:

The Institute was established in 1930 on the basis of the Geophysics Division of Moscow State University. It has prepared many specialists in hydrology, meteorology, climatology, and oceanology. Research has been conducted in photogrammetry, mathematics, theoretical mechanics, thermal irradiation of the atmosphere, magnetism, and magnetic properties of organic compounds. Staff members participate in many expeditions, for example, in Antarctica and the Karakum Desert. A Trudy is published frequently.

The Institute grants the Candidate's Degree and offers courses in hydrology of land, oceanography, and meteorology.

Name: Leningrad Institute of Aviation Instrument Building
(Leningradskiy institut aviatsionnogo priborostroyeniya--LIAP)

Address: Leningrad, ulitsa Gastello, 9 (1960)

Director: A. A. Kapustin, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

E. A. Al'ftan
 A. G. Bessonov, Candidate, Head of Chair of Theoretical Mechanics
 G. K. Borkhvardt, Docent, Dean
 B. V. Frolov, Docent, Head of Chair of Electrical Engineering
 Theory
 S. I. Makarikhin
 V. S. Mes'kin, Professor, Head of Chair
 V. A. Pavlov, Professor, Head of Chair
 A. V. Povalyayev, Docent, Dean
 K. I. Ryzhov, Docent, Dean
 Ye. V. Voronovskaya, Professor, Head of Chair of Mathematics

Description:

The Leningrad Institute of Aviation Instrument Building offers graduate training in automation, remote control, gyroscopic instruments, technology of instrument building, electrical equipment for aircraft, aircraft instrumentation, television, radio receiving and transmitting equipment, radar, ultrasonic treatment of metals, aircraft design, structural engineering, flame propagation and combustible liquids, metallurgy, etc.

The research of its staff and students is published annually in Trudy.

Name: Leningrad Institute of Motion-Picture Engineers
 (Leningradskiy institut kinoinzhenerov--LIKI)

Address: Leningrad, ulitsa Pravdy, 13

Director: S. M. Provornov, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Culture, R.S.F.S.R. (1960)

Selected Staff Members:

P. G. Fedoseyev, Head of Chair
 A. L. Livshits, Candidate, Director of Laboratory for Electrical
 Methods of Machining
 A. S. Zingerman, Docent, Head of Chair of Electrical Engineering

Description:

This institute, founded in 1930, does considerable work on the development of photography and photographic devices, including high-speed photographic techniques which are used to investigate metal deformation,

electrical erosion of metal electrodes, etc. Candidate's Degrees are granted, and courses are offered in electrical engineering, sound engineering, motion-picture equipment, and motion-picture materials.

Name: Leningrad Institute of Precision Mechanics and Optics
(Leningradskiy institut tochnoy mekhaniki i optiki--LITMO)

Address: Leningrad, Demidov pereulok, 10

Director: --

Deputy Directors: G. K. Sheremet (1961)
V. P. Delyulin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

G. N. Dul'nev, Professor, Head of Chair of Thermal Instruments
V. N. Churilovskiy, Professor, Head of Chair
V. N. Drozdovich, Candidate
Yu. M. Kagan
N. F. Pashkovskiy, Head of Chair, Party Secretary
M. M. Rusinov, Professor, Head of Chair
B. S. Tarnovskiy
V. A. Tartakovskiy, Professor, Head of Chair
S. T. Tsukkerman, Professor
K. S. Ukhov, Professor, Head of Chair of Optical Instrument Theory

Description:

This institute, founded in 1930, publishes a Sbornik Statey and grants degrees. Research is conducted in the following areas: optical instruments, automation and remote control, quality-control instrumentation, gyroscopic and navigational instruments, electrical machinery, properties of metals and plastics, servo systems, semiconductors, metal working and machine tools, high-speed motion-picture cameras (up to 500,000 frames per second), and heat-measuring devices.

Name: Leningrad Institute of Soviet Trade imeni F. Engels
(Leningradskiy institut sovetskoy torgovli imeni F. Engel'sa)

Address: Leningrad, Kuznechnyy pereulok, 9

Director: A. I. Abaturov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Trade, R.S.F.S.R. (1960)

Selected Staff Members:

P. P. Bogdashev, Docent, Dean
 A. I. Bukovetskiy, Professor, Head of Chair
 A. L. Kartuzhanskiy
 M. Ya. Lukashev, Docent, Head of Chair
 P. V. Mezentsev, Professor, Head of Chair
 L. I. Shur
 N. I. Yegorkin, Professor, Head of Chair

Description:

This institute conducts research in areas such as materials and product testing. It publishes a Sbornik Nauchnykh Rabot. The courses offered here include trade economics, accounting, grocery trade, industrial trade, and food-industry equipment.

Name: Leningrad Institute of Water Transportation Engineers
 (Leningradskiy institut inzhenerov vodnogo transporta--LIIVT)

Address: Leningrad, Dvinskaya ulitsa, 5/7

Director: B. P. Aref'yev, Docent (1961)

Deputy Director: N. Ye. Nesterov (1961)

Administrative Affiliation: Ministry of the River Fleet, R.S.F.S.R. (1961)

Selected Staff Members:

Yu. G. Artyukhin, Party Secretary
 N. K. Dormidontov, Professor, Head of Chair
 N. I. Gulyayeva, Docent
 A. P. Irkhin, Docent, Head of Chair
 I. M. Konovalov, Professor, Head of Chair
 N. K. Organov, Docent, Head of Chair

Description:

In March 1959 LIIVT was merged with TsNIIRF (Central Scientific Research Institute of The River Fleet). The combined staff of the Institute consists of 456 scientific workers.

Research is being conducted in the general areas of fleet modernization, automation of power plants, and better use of fuel and lubricants.

Developmental work is being done on gas turbine engines for vessels with underwater stabilizers, ships traveling on air cushions, and new hydromechanical devices to increase the speed of ships.

Other research of the Institute has been in ferrous metallurgy, welding and torch-cutting, ultrasonic welding, the use of epoxy resins and other plastic compounds as welding substitutes, radioactive isotope investigation of metal wear and isotope quality control systems, thermodynamics and heat transfer problems, metal deposition mechanisms, hydrodynamics, and corrosion protection.

The Institute publishes a Trudy and confers the Candidate's and Doctor's Degrees. Works of the student scientific-technical society are also published irregularly.

The courses of study include the following: construction of waterways and ports, ship machines, industrial electrification, cranes, elevators, etc., and water-transportation economics and organization.

Name: Leningrad Military-Mechanical Institute
(Leningradskiy voyenno-mekhanicheskiy institut--LWMI)

Address: Leningrad, Pervaya Krasnoarmeyskaya ulitsa, 1

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. P. Ageyev, Candidate
V. N. Kudryavtsev, Professor
P. G. Maslov
G. A. Smirnov-Alyayev, Professor, Head of Department for Pressure Working of Metals
K. P. Strashinina

Description:

This institute has published research in the following fields: pressure working of metals and their plastic deformation resulting from forming, thermodynamic properties of organic compounds and alkali-metal inorganic compounds, satellite orbital mechanics and projectile trajectories, and aerodynamics. In collaboration with the Leningrad "Vibrator" Plant, an improved optical system for precision reading of electrical readings has been developed under the supervision of the Chair of Descriptive Drawing and Geometry. A Trudy is published each month.

Name: Leningrad Order of Labor Red Banner Construction-Engineering Institute
(Leningradskiy ordena Trudovogo Krasnogo Znameni inzhenerno-stroitel'nyy institut)

Address: Leningrad, Moskovskiy prospekt, 29

Director: Ye. N. Kvasnikov, Docent (1961)

Deputy Directors: K. N. Dubnetskiy, Docent (1961)
G. A. Aleskerov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. F. Fedorov, Professor, Head of Chair
G. G. Karpov
N. N. Maslov, Professor
N. I. Osipov, Head of a Laboratory
O. S. Raynua
A. V. Rot, Docent, Head of Chair
S. M. Shifrin, Professor, Head of Chair
V. A. Sil'vestrov, Candidate
N. A. Smirnov, Professor, Head of Chair
N. T. Valishev, Candidate, Party Secretary

Description:

The Institute, founded in 1842, offers training in civil engineering at the undergraduate and graduate levels. Courses of study include architecture, construction, reinforced-concrete structures, prefabricated construction, city planning, plumbing, heating and ventilation, construction equipment, and highway construction.

Research has been conducted on steel and aluminum alloys, including studies concerned with metal grinding, casting, welding, and mechanical properties. Some work has been done in structural analysis. Also, some investigations on semiconductors have been published.

The Candidate's and Doctor's Degrees are granted. The Institute publishes Nauchnyye Trudy and Nauchnyye Raboty Studentov.

Name: Leningrad Order of Labor Red Banner Mechanics Institute
(Leningradskiy ordena Trudovogo Krasnogo Znameni mekhanicheskiy institut)

Address: Leningrad, 1-ya Krasnoarmeyskaya ulitsa, 1

Director: V. A. Teterin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. F. Berezyuk, Head of Chair
 M. A. Minkov, Docent, Head of Chair
 I. N. Mirolyubov, Docent, Head of Chair
 G. G. Shelukhin, Docent, Head of Chair
 V. P. Tsybasov, Professor, Head of Chair

Description:

Formerly the Leningrad Military Mechanical Engineering Institute, this institute is concerned primarily with machines and metallurgy; however, its activities are not restricted to this area. A considerable amount of work is done in electronics, especially as it applies to control mechanisms and cybernetics. There evidently is also a considerable amount of work in the areas of physics, chemistry, and mathematics. Candidate's and Doctor's Degrees are granted.

The Institute offers courses in engine design, physics, technology of machine building, chemistry, mathematics, planning and production of special apparatus, machines, equipment technology, theoretical and general electrical engineering, technology of metals, and theory of mechanisms and machines.

Name: Leningrad Order of Labor Red Banner Technological Institute imeni Lensovet
 (Leningradskiy ordena Trudovogo Krasnogo Znameni tekhnologicheskii institut imeni Lensoveta--LTIL)

Address: Leningrad, Zagorodnyy prospekt, 49

Director: K. S. Yevstrop'yev, Professor (1961)

Deputy Directors: P. G. Romankov, Professor (1961)
 F. Ya. Kul'ba, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. B. Aleskovskiy, Professor, Head of Chair
 A. I. Avgustinik, Head of Chair of Ceramics
 L. I. Bagal, Professor, Head of Chair
 S. N. Danilov, Corresponding Academician (U.S.S.R.)
 F. A. Dymarchuk, Docent, Dean
 N. P. Fedot'yev
 A. A. Grinberg, Academician (U.S.S.R.), Head of Chair
 L. A. Gromov, Docent, Dean
 B. V. Il'in, Docent, Party Secretary
 N. N. Kachalov, Corresponding Academician (U.S.S.R.)
 I. A. Kuzin, Docent, Head of Chair
 A. A. Petrov
 T. G. Plachenov, Professor, Head of Chair
 N. I. Smirnov, Professor, Head of Chair
 Ye. G. Sochilin, Professor, Dean
 S. N. Ushakov, Corresponding Academician (U.S.S.R.), Head of Chair
 V. V. Vargin, Professor, Head of Chair
 Ya. I. Zil'berman, Professor

Description:

This educational-research institute, founded in 1828, is very active in research on glass, rubber, and polymers. Research is also conducted on coatings for aluminum alloys, the electrodeposition of metals, high-speed photography, and powder metallurgy.

Among its laboratories are the Laboratory of the Technology of Organic Dyestuffs imeni A. Ye. Poray-Koshits and the Experimental Laboratory of Microcells and High Purity. The latter laboratory is active in research on high-purity, high-molecular substances containing microcells and inorganic polymers. It publishes a Trudy.

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Name: Leningrad Order of Lenin and Order of Labor Red Banner Mining
 Institute imeni G. V. Plekhanov
 (Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni
 gornyy institut imeni G. V. Plekhanova)

Address: Leningrad, Vasil'yevskiy ostrov, 21-ya liniya, 2

Director: P. I. Mustel', Professor (1961)

Deputy Directors: L. N. Kell', Professor (1961)
 B. V. Bokiy, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1961)

Selected Staff Members:

D. A. Diomidovskiy, Professor
 N. Greyver, Doctor, Chief of Metallurgy Group
 V. M. Gus'kov, Professor, Head of Department of Metallurgy of Light and Rare Metals
 V. N. Kozhevnikova
 I. N. Maslenskii, Professor, Doctor
 Yu. M. Misnik, Docent, Dean
 D. V. Nalivkin, Academician (U.S.S.R.), Head of Chair of Historical Geology
 I. N. Piskunov, Professor
 M. P. Pyatnitskaya, Candidate
 T. Ya. Radionov, Head of Research
 I. I. Shafranovskiy, Professor, Head of Chair of Crystallography
 N. K. Smirnov, Docent, Dean
 P. M. Tatarinov, Corresponding Academician (U.S.S.R.), Head of Chair
 I. P. Tolstunov, Party Secretary
 A. A. Utyuzhkina, Docent, Head of Chair
 V. G. Zhdanovich
 A. M. Zhuravskiy, Professor, Head of Chair

Description:

The Leningrad Mining Institute, founded in 1773, is the oldest higher technical school in the U.S.S.R. It concentrates on producing engineers and specialists rather than teachers and researchers. The Institute's eight faculties train students in fourteen branches of science.

Each year the staff carries out approximately 800 experiments of scientific and practical interest. Research projects and investigations conducted have included X-ray and spectral analysis of rocks and minerals, measurement of stresses, and studies of the gravitational and magnetic anomalies of the earth's crust.

The Chemical Laboratory has conducted research on the physical and electrical properties of platinum alloys. New methods of geophysical surveying, especially the use of aerial photography for compiling large-scale topographical maps, have been studied and developed by the Chair of Geophysics. They have also applied electrical and radio engineering and electronics principles and techniques in geophysical prospecting.

The Chair of Crystallography has done considerable work on the morphology of crystals and minerals. Investigations of phenomena in solid-state physics, hydrodynamics and hydrokinetics, nonferrous-metallurgy furnaces, and production methods for selenium and tellurium have been conducted.

In addition to numerous chairs and laboratories (Petroleum Prospecting, Metallurgy of Heavy Nonferrous and Precious Metals, Geology, Hydrology, Higher Mathematics, Concentration of Useful Minerals, etc.), a mining museum is located at the Institute.

Besides the many textbooks and scientific tracts prepared by the staff, the Institute publishes a Zapiski.

The Candidate's and Doctor's Degrees are awarded by the Institute, which offers courses in geology, prospecting, hydrogeology, development of mineral deposits, mining, mine construction, mining economics, geophysics, mining equipment, nonferrous metallurgy, beneficiation, metallurgical economics, hydraulics, crystallography, geophysical prospecting, light and rare metals, mathematics, electrical engineering, radio engineering and electronics, exploration of mineral deposits, engineering geology, techniques of exploring mineral deposits, mine surveying, minerals beneficiation and ore treatment, mining electromechanics, metallurgy of nonferrous metals, mining machinery, economics and organization of mining industry, and economics and organization of metallurgical industry.

Name: Leningrad Order of Lenin Forestry Academy imeni S. M. Kirov
(Leningradskaya ordena Lenina lesotekhnicheskaya akademiya imeni
S. M. Kirova)

Address: Leningrad, Institutskiy pereulok, 5

Director: V. M. Nikitin, Professor (1961)

Deputy Directors: S. F. Orlov, Professor (1961)
K. P. Boytsov, Docent (1961)
A. M. Ivanov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. L. Bogdanov, Professor, Head of Chair
G. P. Bystrov, Professor, Head of Chair
N. N. Maslov, Professor
V. V. Ogiyevskiy, Professor, Head of Chair
I. S. Prokhorchuk, Professor, Head of Chair
V. I. Sharkov
N. I. Sherdakov, Docent, Head of Chair
L. N. Ter-Mkrtich'yan, Professor, Head of Chair
D. V. Tishchenko, Professor, Head of Chair
A. M. Toporkov, Docent, Head of Chair

Description:

The Institute has developed and produced electric-spark equipment and developed test methods for glass-filled plastics. During the last decade, the Institute has also produced 24 educational training films. The Institute publishes a Trudy and Tekhnicheskaya Informatsiya po Itogam Nauchno-Issledovatel'skikh Rabot.

The Institute, which grants advanced degrees, offers courses in forestry, logging, logging equipment, automation, chemistry of woodpulp, cellulose-paper production, economics and organization of lumber industry, forest entomology and biology of forest animals and birds, general chemistry, inorganic and analytical chemistry, and machine components.

Name: Leningrad Order of Lenin Institute of Railroad-Transportation
Engineers imeni Academician V. N. Obratsov
(Leningradskiy ordena Lenina institut inzhenerov zheleznodorozhnogo
transporta imeni akademika V. N. Obratsova--LIIZhT')

Address: Leningrad, Moskovskiy prospekt, 9

Director: K. G. Protasov, Professor (1961)

Deputy Director: S. V. Amelin, Professor (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

P. V. Bartenev, Professor, Head of Chair
V. G. Berezantsev
A. A. Eyler, Docent, Head of Chair
S. M. Grishukov, Docent, Head of Chair
V. K. Kachurin, Professor
N. A. Sapogov, Professor, Head of Chair
A. V. Satalkin, Professor, Head of Chair
Ye. N. Sokolova, Head of Chair
A. A. Surin, Professor, Head of Chair
A. A. Yablonskiy, Professor, Head of Chair

Description:

This institute prepares students for technical careers in the railroad-transportation industry. The curriculum is extensive, ranging from the basic sciences through civil, mechanical, industrial, and electrical engineering. Steam locomotives, railroad-car construction, construction equipment, railroad electrification, railroad automation, remote control, and communications, utilization of railroads, railroad construction, water supply, and bridges and tunnels are covered in specific courses. The technical staff has done research in areas such as welding, nondestructive testing, metal physics, structural mechanics, electronic communications, and nuclear science. The Scientific-Research Institute of Bridges, which is attached to LIIZhT, has published research on welding, particularly the use of ultrasonics for quality control, investigations of mechanical properties of weld joints, and low-temperature-strength studies. Both the Candidate's and Doctor's degrees are granted by LIIZhT. A Trudy and a collection of works of the Student Scientific Society are published.

Name: Leningrad Order of Lenin State University imeni A. A. Zhdanov
(Leningradskiy ordena Lenina gosudarstvennyy universitet imeni
A. A. Zhdanova--IGU)

Address: Leningrad, Universitetskaya naberezhnaya, 7/9

Director: A. D. Aleksandrov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: G. V. Yefimov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. N. Arsenyeva-Geyl
R. G. Barantsev
A. F. Berezhnnyy, Docent, Head of Chair
D. A. Berezin
P. N. Berkov, Corresponding Academician (U.S.S.R.)
A. N. Boldyrev, Professor, Head of Chair
A. K. Borovkov, Corresponding Academician (U.S.S.R.)
V. Kh. Buynitskiy, Professor, Head of Chair
B. A. Chagin, Corresponding Academician (U.S.S.R.)
V. M. Chetyrkin, Professor, Head of Chair
L. K. Davydov, Professor
Yu. N. Demkov
Ya. G. Dorfman, Professor
Ya. V. Durdin, Professor, Head of Chair
I. A. D'yakonov, Doctor, Head of Chair
V. A. Fok, Academician (U.S.S.R.), Head of Chair
S. E. Frish, Corresponding Academician (U.S.S.R.)
I. P. Ginzburg, Professor
G. V. Golodnikov
Ye. F. Gross, Corresponding Academician (U.S.S.R.)
A. V. Ivanov
I. P. Ivanova, Professor, Head of Chair
S. V. Kalesnik, Head of Chair, Corresponding Academician (U.S.S.R.)
N. I. Kaliteyevskiy, Professor
L. V. Kantorovich, Head of Chair of Computer Mathematics, Corresponding Academician (U.S.S.R.)
K. M. Kolobov, Professor, Head of Chair
N. G. Kolosov, Corresponding Academician (U.S.S.R.)
K. Ya. Kondrat'yev, Professor, Head of Chair
A. N. Kononov, Head of Chair, Corresponding Academician (U.S.S.R.)
A. A. Korchagin, Professor
A. I. Korolev, Docent, Dean
A. A. Kovtun
V. I. Kravtsov
A. I. Kuznetsov

- O. A. Ladyzhenskaya, Professor
B. A. Larin, Professor, Head of Chair
A. A. Lebedev, Academician (U.S.S.R.)
Ye. M. Lin'kov
Yu. V. Linnik, Corresponding Academician (U.S.S.R.)
M. Ye. Lobashev, Professor, Head of Chair
B. G. Lur'ye
G. I. Makarov, Docent, Head of Chair
V. V. Mavrodin, Professor, Head of Chair
S. G. Mikhlin, Professor
I. A. Molotkov
Yu. V. Morachevskiy
A. N. Murin, Doctor
R. L. Myullev, Professor
B. P. Nikol'skiy, Corresponding Academician (U.S.S.R.)
G. I. Novikov
V. V. Novozhilov, Corresponding Academician (U.S.S.R.)
G. A. Ostroumov, Professor
P. P. Pavinskiy, Professor
M. I. Petrashen
G. I. Petrov, Professor, Head of Chair
I. P. Petrushevskiy, Professor, Head of Chair
V. A. Pliss, Docent
G. I. Polyanskiy, Professor, Head of Chair
I. A. Popova
V. Ya. Propp, Professor
B. G. Reyzov, Professor, Head of Chair
V. P. Rozhin, Professor, Dean
M. A. Rumsh, Doctor
B. N. Semeniskiy, Professor
A. S. Semenov, Professor, Head of Chair
M. D. Shargorodskiy, Professor, Head of Chair
V. V. Sharonov
S. A. Shchukarev, Professor, Head of Chair
L. A. Shilov, Director of Science Library
S. S. Shul'ts, Professor
V. N. Simakov, Professor, Head of Chair
F. I. Skripov, Docent, Head of Laboratory of Radiospectroscopy
N. V. Smirnov
V. I. Smirnov, Academician (U.S.S.R.), Head of Chair
V. P. Smirnov
V. V. Sobolev, Corresponding Academician (U.S.S.R.), Head of Chair
I. L. Sokol'skaya
N. G. Sudovikov, Professor, Head of Chair
A. N. Terenin, Academician (U.S.S.R.)
V. P. Tugarinov, Professor, Head of Chair
S. V. Vallender, Professor, Head of Chair, Director of Scientific-
Research Institute for Mathematics and Mechanics
M. G. Veselov, Professor, Head of Chair
V. A. Vorotilov, Docent, Dean
S. N. Zhurkov, Corresponding Academician (U.S.S.R.)

Description:

Leningrad State University, founded in 1819, is the second largest university in the Soviet Union. There were about 13,700 students enrolled for the 1960-1961 school year. The University publishes two series of periodicals, one with the over-all title of Uchenyye Zapiski Leningradskogo Gosudarstvennogo Universiteta, and the other with the over-all title of Vestnik Leningradskogo Universiteta. The University also operates a publishing house.

Examples of student and faculty research activities in chemistry are studies of ion exchange, metal-organic compounds, surface phenomena, phase diagrams, organic compounds, polymer chemistry, and radio-chemistry. There have been projects on adhesives (development of polyethylene-to-metal adhesives) and glass (development of a microsieve). Studies have been made of uranyl compounds, alkali metals, and rare-earth metals.

Fields of study in physics, geophysics, mathematics, and mechanics include semiconductor physics, wave propagation and wave equations, low-temperature physics, X-ray structural analysis, quantum mechanics and quantum theory of fields, crystallography, optics, luminescence, acoustics, ultrasonics, atmospheric physics, astrophysics (the University operates an astrophysics observatory), and meteorology. There have been studies of single crystals, bimetals, pickling of semiconducting metals, ion-energy distribution, nuclear magnetic resonance and spin echo, radio waves, propagation of pulse signals, radar mapping, ice bergs, antennas, and diffraction theory. In mechanics, fields of interest range from plasticity and elasticity to gas dynamics, aerodynamics, and hydrodynamics. For example, studies include supersonic flow around wings, boundary-layer problems, and hydraulic shock in pipes.

Geophysical work has included studies of telluric currents, magneto-electronic seismography and other seismographic studies, and soundings by electromagnetic waves. Mathematics work has concentrated on information theory, game theory, and computer mathematics. The University's computing center has punch-card and analog devices, plus a recently installed URAL-I computer.

LGU has a number of affiliated research institutes: the Biological Institute, which has recently investigated automatic growth of chlorella and other single-cell plants in its algae culture laboratory, the Institute of Crystallography, the Scientific-Research Institute of Physics, the Laboratory of Aerodynamics, the Laboratory of Gas Dynamics, the Laboratory of Optical Analysis of Material Strain and Stress, the Institute of Physical Instrument Construction, the Cyclotron Laboratory, the Laboratory of Spectroscopy, the Laboratory of Nuclear Spectroscopy, the Laboratory of Gas Dynamics of Stress and Strain, the Laboratory of Optics, the Laboratory of Ultrasonics, the Laboratory of Photocatalysis, the Laboratory of Magnetic Radiospectroscopy, the Radiobiology Laboratory, the X-Ray Laboratory, the Laboratory of Semiconductor Problems, which has studied radiation effects on semiconducting materials, and the Laboratory of Industrial Psychology, which

studies design of machines to particular aspects of human behavior. Facilities described elsewhere in the Directory are the Experimental Laboratory of Machine Translation, the Astronomical Observatory, the Scientific-Research Institute of Mathematics and Mechanics, and the Scientific-Research Institute of Chemistry.

The University grants Candidate's and Doctor's Degrees.

Courses of Study: Geological surveying and prospecting for mineral deposits
 Geophysical prospecting
 Geochemistry
 Hydrogeology and engineering geology
 Meteorology
 Soil science and agrochemistry
 Jurisprudence
 Russian language and literature
 Slavic languages and literature
 Romance and Germanic languages and literature
 Eastern languages and literature
 Hungarian language and literature
 Albanian language and literature
 Classical philology
 History
 Political economy
 Philosophy
 Psychology
 Mechanics
 Astronomy
 Physics
 Geophysics
 Chemistry
 Botany
 Zoology
 Plant physiology
 Human and animal physiology
 Physical geography
 Economic geography
 Journalism

Name: Leningrad Physical-Technical Institute imeni A. F. Ioffe
 (Leningradskiy fiziko-tekhnicheskii institut imeni A. F. Ioffe--LFTI)

Address: Leningrad, Sosnovka, 2

Director: B. P. Konstantinov, Academician (U.S.S.R.) (1961)

Deputy Director: N. V. Fedorenko, Professor (1960)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

A. N. Arsenyeva-Geyl
 N. N. Davidenkov, Academician (Ukrainian S.S.R.), Head of a
 Laboratory
 L. N. Dobretsov, Professor
 A. Z. Dolginov
 V. N. Gribov
 A. P. Grinberg, Professor
 G. A. Grinberg, Corresponding Academician (U.S.S.R.)
 Ye. F. Gross, Corresponding Academician (U.S.S.R.), Head of
 Laboratory
 D. M. Kaminker, Doctor
 V. M. Kel'man, Professor, Head of Laboratory of Nuclear Spectroscopy
 A. P. Komar, Academician (Ukrainian S.S.R.)
 L. A. Kul'chitskiy, Doctor
 A. A. Lebedev, Academician (U.S.S.R.)
 I. Kh. Lemberg
 D. N. Nasledov, Head of Laboratory
 P. P. Pavinskiy, Professor
 N. M. Reynov, Head of Cryogenics Laboratory
 M. N. Rumsh
 L. I. Rusinov, Professor
 S. M. Ryvkin, Doctor
 I. M. Shmushkevich, Professor
 A. V. Stepanov, Head of Laboratory
 V. M. Tuchkevich, Professor
 B. P. Zakharchenya
 S. N. Zhurkov, Corresponding Academician (U.S.S.R.)

Description:

This institute was founded in 1917 by A. F. Ioffe and N. N. Semenov. LFTI has the first cyclotron built in the U.S.S.R. and a 100-Mev electron synchrotron. Its primary fields of research are solid-state physics (electrical and physical properties of solids; strength of materials), electronics (thermionic emission and gas discharges), and nuclear physics.

The Institute conducts research on high-energy nuclear reactions, and has been involved in the study of controlled thermonuclear reactions and plasma physics. The Institute's nuclear reactor has been used to study the effects of radiation on materials. Many of these studies have also been concerned with semiconductors. In 1950, it began systematic work on the physical-chemical analysis of germanium, silicon, and other semiconductors. It has also worked on the theory of impurity levels and electronic properties of semiconductors. Some work on magnetohydrodynamics is under way here, and another recent project was concerned with the direct conversion of thermal into electrical energy. A silicon counter was developed at LFTI for use in nuclear spectrometry. The Institute also has a Mathematical-Physics Division.

Name: Leningrad Polytechnic Institute imeni M. I. Kalinin
(Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina--LPI)

Address: Leningrad, Doroga v Sosnovku, 1/3

Director: V. S. Smirnov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Directors: B. P. Bel'tikhin (1961)
I. I. Naryshkin (1960)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. F. Alabyshev, Professor
L. N. Dobretsov, Professor
B. B. Gulyayev
A. P. Komar, Academician (Ukrainian S.S.R.)
B. P. Konstantinov, Academician (U.S.S.R.)
M. P. Kostenko, Academician (U.S.S.R.), Head of Chair of Electrical
Machines
A. I. Lur'ye, Corresponding Academician (U.S.S.R.), Head of Chair
M. M. Mikhaylov
Z. I. Model', Professor, Head of Chair of Radio Engineering
D. N. Nasledov, Professor, Head of a Physics Department
Yu. A. Nekhendzi, Professor
L. R. Neyman, Corresponding Academician (U.S.S.R.), Head of Chair
N. O. Okerblom, Doctor
I. L. Povkh, Professor
V. T. Renne, Professor, Head of Chair of Electrical Insulation and
Cable Technology
N. N. Shchedrin, Corresponding Academician (Uzbek S.S.R.)
M. Kh. Shorshorov
Ye. G. Shramkov, Professor, Head of Chair of Electrical Measurement
Technique
T. N. Sokolov, Professor, Head of Mathematical and Computing Devices
and Installations
S. V. Starodubtsev, Academician (Uzbek S.S.R.)
M. A. Yeremeyev, Professor

Description:

One of the largest (11,000 to 12,000 students) and most outstanding technical schools in the Soviet Union, the Institute consists of eight departments and several laboratories, two of which are the High-Voltage Laboratory imeni A. A. Gorev and the Laboratory of Experimental Nuclear Physics. The Departments are:

- (1) Physics and Metallurgy
- (2) Mechanical Engineering
- (3) Electrical Engineering
- (4) Metal Physics

- (5) Hydroengineering
- (6) Industrial Engineering (Engineering Economics)
- (7) Radio Engineering
- (8) Power Engineering.

Research is conducted and courses taught in the following specialties: ferrous and nonferrous metallurgy, heat treatment of metals, foundry practices, welding and welding equipment, metalworking, metallurgical furnaces, metal physics, thermal physics, machine building, machine tools, aerohydrodynamics, automation of production processes, electrical equipment, electrical power systems, electrification, electromeasuring technology, dielectrics and semiconductors, computers, radiophysics, gas and hydraulic turbines, internal combustion engines, hydroelectric power technology, and nuclear physics and use of isotopes. This research is reported irregularly in its Trudy, in a scientific-technical information bulletin, and in various Soviet scientific and technical publications.

Name: Leningrad Scientific-Research Institute
(Leningradskiy nauchno-issledovatel'skiy institut--LenNI)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

- S. N. Aleksandrov
- A. V. Babushkin, Chief of the Design Office
- L. A. Fomenko, Chief Designer
- A. Z. Karpov
- M. G. Kuznetsov, Chief Engineer
- A. I. Levin
- D. M. Mayorov
- Ya. E. Shmulyakovskiy

Description:

This institute has been concerned generally with work on petroleum products and the hydrogenation of unsaturated compounds to alcohols. Also under investigation have been complex esters and raw materials (e.g., isopentane) for the synthetic-rubber industry. In conjunction with the Shebekino Combine, a process for the preparation of fatty acids by oxidation of solid paraffins was developed. Some work has been reported on the engineering of high-pressure vessels.

Name: Leningrad Shipbuilding Institute
(Leningradskiy korablestroitel'nyy institut)

Address: Leningrad, Lotsmanskaya ulitsa, 3

Director: Ye. V. Tovstyk, Docent (1961)

Deputy Directors: A. A. Moiseyev, Professor (1961)
V. D. Matskevich, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. A. Bel'chuk, Candidate
V. A. Bykov
V. K. Danilov
P. A. Doroshenko, Docent, Dean
F. A. Frolov
D. Ya. Gluskin, Candidate
A. N. Karaulov, Docent, Head of Chair of Descriptive Geometry and
Geophysics
A. A. Kurdyumov, Professor, Head of Chair
Yu. I. Mityushkin
V. F. Nesteruk
A. V. Noskin
Ye. S. Reynberg
A. I. Shevelo, Professor, Head of Chair
M. Z. Solomyak
A. M. Topunov
G. K. Ul'yanov
K. N. Vinogradov
Ya. I. Voytkunskiy
G. N. Vsevolodov

Description:

This institute is studying the deformation, fatigue, and brittle properties of structural steels and the endurance of titanium alloys. Plastic materials have been considered for ship design. The arc welding of aluminum alloys and steels and properties of welds are of interest to the Institute. Methods of quality control have been developed. Ultrasonic quality-control methods have been used for turbine parts. The theoretical study of turbine stages and of fluid flow within turbines also has been undertaken. The resistivity characteristics and the exhaust pressure of two-cycle supercharged engines have been studied. A screw-type compressor and bearings and rotors with antifricition bearings were designed at the Institute.

Among the departments of the Institute are the Department of Hydromechanics and the Department of Chemistry. A Trudy is published by the Institute, which as an academic institute also offers courses in shipbuilding, ship repair, marine power installations, designing, turbines, internal-combustion engines, and boiler construction.

Name: Leningrad State Pedagogical Institute imeni A. I. Herzen
(Leningradskiy gosudarstvennyy pedagogicheskiy institut imeni
A. I. Gertsena)

Address: Leningrad, Naberezhnaya reki Moyki, 48

Director: A. I. Shcherbakov, Docent (1957)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. I. Borovitskiy, Professor, Head of Chair
A. V. Darinskiy, Docent, Head of Chair
S. V. Gerd, Professor, Head of Chair
T. V. Kopel'man, Head of Chair
L. V. Latmanizova, Professor, Head of Chair
G. N. Nikulin, Division Head
V. V. Perekalin, Professor, Head of Chair
N. N. Petukhov, Docent, Head of Chair
A. G. Rudnev, Professor, Head of Chair
V. I. Tsintsius, Professor, Head of Chair
P. A. Znamenskiy, Professor, Head of Chair

Description:

This institute is engaged in scientific research in addition to its teaching function. Many theoretical studies have been made in mathematics, chemistry, and physics, and experimental or applied research has been done in general physics, mathematics, and physical, organic, and inorganic chemistry.

The curriculum of the Institute covers mathematics, chemistry, physics, and physical geography. A Uchenyye Zapiski is published.

Name: Leningrad Technological Institute of the Refrigeration Industry
(Leningradskiy tekhnologicheskii instutut kholodil'noy promyshlennosti--
LTIKhP)

Address: Leningrad, ulitsa Lomonsova, 9

Director: V. N. Filatkin, Docent (1961)

Deputy Director: G. B. Chizhov, Professor (1961)
F. M. Tarasov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. G. Alyamovskiy
N. A. Golovkin, Professor, Head of Chair
Ye. S. Gurevich
I. K. Kondryakov, Docent, Head of Chair
G. A. Kuk, Professor, Head of Chair
P. S. Maksimov
N. V. Novotel'nov
L. I. Pershina
L. M. Rozenfel'd, Professor, Head of Chair
O. S. Shagan
V. N. Shuvalov, Docent, Dean
E. R. Stavrova

Description:

Formerly the Leningrad Institute of the Refrigeration and Dairy Industry, LPTKhP is an institute specializing in training engineers for the refrigeration industry. Research has been done on compressors, sorption processes, semiconductor cooling devices, hydrodynamic flow, low-temperature behavior of metals, and physical metallurgy. The Institute publishes a Trudy and grants the Candidate's and Doctor's Degrees. Courses are offered in machinery and installations of the food industry, refrigeration and compressor machinery and installations, and technology of meat and dairy products.

Name: Leningrad Textile Institute imeni S. M. Kirov
(Leningradskiy tekstil'nyy institut imeni S. M. Kirova)

Address: Leningrad, ulitsa Gertsena, 18

Director: G. I. Aref'yev, Docent (1961)

Deputy Director: I. P. Lyubimov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

N. A. Aksenova, Library Director
 I. V. Budnikov, Professor, Head of Chair
 V. A. Gavrilenko, Professor
 A. I. Meos, Professor, Head of Chair

Description:

Undergraduate and graduate training is available for students following careers in the textile field. Work on plastics is emphasized, and much research has been done in general polymer chemistry, particularly the dyeing of synthetic fibers. Recent work has included investigations related to flameproof and bacteriostatic materials. Research interest also has involved the polyvinyl alcohols, nitrofurans compounds, polyamides, and polyacrylonitriles. A Trudy is published by the staff. The Candidate's Degree is granted, and specific courses of instruction include the technology of fibrous materials, sewing, textile equipment, automation, chemistry of fibrous materials, synthetic fibers, and consumer economics and organization.

Name: Lithuanian Agricultural Academy
 (Litovskaya sel'skokhozyaystvennaya akademiya)

Address: Kaunas, ulitsa Kestuchio, 15

Director: --

Deputy Director: P. Ts. Skleryus, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Lithuanian S.S.R. (1960)

Selected Staff Members:

I. I. Dromantas, Dean
 N. V. Lukinas, Docent, Head of Chair
 A. A. Oransas, Docent, Head of Chair

Description:

The Academy was established in 1924 to train students in agriculture and related sciences. It offers courses in agronomy, mechanization of agriculture, hydromelioration, agricultural economics and organization, forestry, bookkeeping, and home economics. In addition to work in mechanics, metallurgy, and applied mathematics, research has been done in textiles and soils. The Candidate's Degree is granted.

Name: Lugansk Agricultural Institute
(Luganskiy sel'skokhozyaystvennyy institut)

Address: Lugansk, Opytnoye Pol'ye

Director: N. K. Bovka, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

L. A. Dolgikh, Docent, Head of Chair
N. P. Lubovskiy, Professor, Head of Chair
S. F. Negrutskiy
N. A. Savchenko, Candidate
V. G. Skorokhod, Professor, Head of Chair
A. A. Strel'tsov, Docent, Head of Chair
D. G. Val'yanov, Docent, Head of Chair

Description:

This institute has done work in agricultural chemistry relative to plant growth and plant diseases. It has studied the electrical heating of hotbeds. The Institute offers courses in agronomy and bookkeeping.

Name: Lugansk Pedagogical Institute imeni T. G. Shevchenko
(Luganskiy pedagogicheskiy institut imeni T. G. Shevchenko)

Address: Lugansk, Novosvetlovskaya ulitsa, 1

Director: V. G. Pichugin, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

L. M. Belogub, Docent, Head of Chair
N. G. Goncharenko, Docent, Head of Chair
F. M. Goncharuk, Docent, Head of Chair
V. I. Kalashnikov, Docent
V. A. Kazantsev
Ye. D. Postnikova, Docent, Dean

Description:

This institute prepares teachers. Its curriculum includes courses in native language, literature, and singing, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, biology, chemistry, and agriculture, geography and biology, and physical education.

In addition, it has published research on the spectral analysis of absorption spectra of several alloys and in inorganic chemistry.

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Name: Lutsk Pedagogical Institute imeni Lesa Ukrainka
(Lutskiy pedagogicheskiy institut imeni Lesi Ukrainki)

Address: Lutsk, ulitsa Krasnoy Armii, 60

Director: D. N. Tsimbalyuk, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. F. Kochkina, Docent, Head of Chair
V. S. Krivshich, Docent, Head of Chair
S. I. Zukhovitskiy

Description:

This institute trains teachers. Mathematical studies are conducted. The curriculum of the Institute includes elementary-school instruction methods, mathematics, physics, and Russian and native language, literature, and history. A Naukovi Zapysky is published.

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Name: L'vov Agricultural Institute
(L'vovskiy sel'skokhozyaystvennyy institut)

Address: L'vov, ploshchad' Bogdana Khmel'nitskogo, 1

Director: M. T. Gonchar, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

S. Yu. Keller, Candidate, Dean
 G. S. Kiyak, Professor, Head of Chair
 V. I. Woloshchenko, Docent

Description:

The Institute, founded in 1946, publishes irregular collections of research reports of its staff. These research reports have been primarily on analytical chemistry, mathematics, metallurgy, meteorology, and the repair and maintenance of agricultural machinery. Some courses offered by the Institute are agronomy, mechanization of agriculture, soil science, agricultural economics and organization, and bookkeeping.

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Name: L'vov Forestry Institute
 (L'vovskiy lesotekhnicheskii institut)

Address: L'vov, Pushkinskaya ulitsa, 103

Director: A. I. Yatsyuk, Candidate (1961)

Deputy Director: N. I. Kaluzhskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

N. M. Gorshenin, Professor, Head of Chair
 I. I. Mikheyev, Docent, Dean
 M. V. Plaksin, Docent, Head of Chair
 D. I. Shilkrut, Docent
 A. I. Vol'pert

Description:

The Institute is engaged in research in mathematics, physics, machinery, and mechanical engineering. They have also reported work in electronics and chemical engineering. The Institute publishes a Trudy. The curriculum includes courses in forestry, logging, and woodpulp.

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Name: L'vov Polytechnic Institute
 (L'vovskiy politekhnicheskii institut)

Address: L'vov, ulitsa Stalina, 12

Director: N. G. Maksimovich, Docent (1961)

Deputy Directors: A. I. Andriyevskiy, Professor (1961)
I. P. Glushchenko, Docent (1961)
B. M. Zukin (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

I. A. Bagenskiy, Professor, Head of Chair
A. I. Chernyavskiy, Docent, Head of Chair
T. P. Gubenko, Professor, Head of Chair
M. S. Komarov, Professor, Dean
R. S. Kurendash, Docent, Dean
S. V. Kushnir, Docent, Dean
V. I. Kuznetsov, Professor, Head of Chair
Yu. I. Lozovoy
A. A. Malyshev, Docent
I. F. Monin, Candidate
A. D. Motornyy, Professor, Head of Chair
A. N. Rabinovich, Professor, Head of Chair
G. A. Shevtsov, Docent, Head of Chair
A. Ya. Shramkov, Docent, Head of Chair
N. G. Shul'gu, Professor, Head of Chair
B. I. Shvetskiy, Docent, Head of Chair
G. Z. Sokol'nitskiy, Professor, Head of Chair
Yu. V. Timoshin
P. K. Tysyachnyy, Docent, Head of Chair
Ye. N. Vasenko, Docent, Head of Chair
Yu. T. Velichko, Professor, Head of Chair
T. Ye. Yeremenko, Professor, Head of Chair
T. I. Yurzhenko, Professor, Head of Chair

Description:

The L'vov Polytechnic Institute conducts research in many areas. It has studied methods of extracting natural gas from the western Ukraine. It has done considerable work on the use of computers in the automation of metallurgical production and other manufacturing processes, and has available an analog computer. Much of this research is carried out under contract to industry.

The Institute has developed electronic measuring devices, such as a broad-band generator for precision radio measuring, an analyzer for decomposing infrasonic oscillations, an electron-beam oscillograph that makes infrasonic oscillations visible, and an electronic voltmeter with digit indicator. Many of the instruments developed by the Institute are used for geophysical studies.

It publishes a Nauchnyye Zapiski and a Doklady. Candidate's and Doctor's Degrees are granted.

Courses of Study: Exploitation of oil and gas deposits
 Electric power stations, networks, and systems (thermal and hydroelectric power stations)
 Electrification of industrial enterprises and installations
 Thermal power installations (boilers and turbines)
 Machine building, metal-cutting tools, and instruments
 Welding
 Machinery and equipment of oil and gas fields (transportation and storage equipment)
 Electrical machinery and equipment
 Automatic, telemechanic, and electric measuring instruments and systems
 Control instruments for chemical processes
 Electronic instruments
 Radio engineering
 Radio equipment design and manufacture
 Petroleum and natural-gas technology
 Inorganic chemistry
 Silicates (binders and cementitious materials, ceramics and refractories, and glass)
 Organic synthesis and synthetic-rubber manufacture
 Dyes and intermediate processes
 Plastics
 Industrial and civil construction
 Automobile roads
 Geodesy
 Astrogeodesy
 Aerial-photographic geodesy

Name: L'vov State University imeni Ivan Franko
 (L'vovskiy gosudarstvennyy universitet imeni Ivana Franko)

Address: L'vov, Universitetskaya ulitsa, 1

Director: Ye. K. Lazarenko, Professor (1961)

Deputy Directors: A. S. Braginets, Professor (1961)
 F. I. Strautman, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

F. A. Derkach, Docent, Dean
 Ya. I. Dutchok

N. P. Fleishman, Docent
 Ye. I. Gladyshevskiy
 A. Ye. Glauberman, Professor, Head of Chair
 V. I. Kalinovich, Docent, Dean
 S. A. Kaplan
 I. I. Kovalik, Docent, Head of Chair
 A. S. Kovan'ko, Professor, Head of Chair
 P. I. Krypyakevich
 B. G. Kublanov, Professor
 R. V. Kucher
 Yu. B. Kuz'ma
 Ya. B. Lopatinskiy, Professor, Head of Chair
 N. I. Petrovskiy, Docent, Head of Chair
 G. L. Piotrovskiy, Docent, Head of Chair
 V. F. Rogachenko, Docent, Head of Chair
 M. I. Rudnitskiy, Professor
 N. I. Tkachuk, Docent, Head of Chair
 P. N. Tsysya', Professor, Dean
 A. F. Vovchik, Docent
 A. S. Zashkil'nyak, Docent, Head of Chair

Description:

Founded in 1661, L'vov State University today has an enrollment of about 8,400 students. It confers Candidate's and Doctor's Degrees.

One of the primary research activities at the University is in the field of metallurgy, particularly properties of semiconductor metals and intermetallic compounds. Investigations have been made of the vanadium-molybdenum-silicon, manganese-nickel-germanium, manganese-cobalt-beryllium, and manganese-nickel-silicon systems; alloys of cadmium-tin, zinc-antimony, cadmium-antimony, and magnesium-copper-silicon; beryllium alloys; compounds of hafnium-beryllium, rhenium-aluminum, and palladium-magnesium; and high aluminum compounds. Research has been performed on liquid metals, including liquid antimony and liquid bismuth, and the theory of liquid semiconductors. Researchers have investigated the properties of germanium, impurity bands in semiconductors, and methods of crystal growing to obtain large crystals. Chemical and mineralogical investigations of meteorites have been conducted.

Research of general chemical interest at the University covers fields such as ion-exchange chromatography, sulfur purification, dielectric materials, anthracene crystals, clays, and polymerization processes. Special research projects related to local industrial needs were to develop lacquers for TV sets and organic reagents for chemical plants.

Physics research at the University has covered problems such as plasma expansions, design and use of a cathode-ray spectrophotometer, electrode discharge, determination of excitation functions of neutron formation, and shock waves in a magnetized plasma. Mathematicians at the University have investigated solutions of parabolic systems, boundary-value

problems, paired integral equations, and differential equations. The University has a computing center. Problems in mechanics include studies of plates and shells, particularly the carrying capacity of plates reinforced with ribs, and theory of elasticity.

The University has a Magnetic Observatory for observing magnetic storms and disturbances and an Astronomical Observatory. Studies are performed on the physical and economic geography of the Soviet Union, particularly the Ukraine. Also, cartographic expeditions are conducted. Studies are also performed in the fields of linguistics history, literature, and pedagogy. Publications of the University include *Dopovidni ta povidomlennya* and *Uchenyye Zapiski*.

The courses offered by the University include geology and exploration of mineral deposits, geological surveying and prospecting for mineral deposits, geology and exploration of oil and gas deposits, geochemistry, jurisprudence, Russian language and literature, Ukrainian language and literature, Slavic languages and literature, Romance and Germanic languages and literature, classical philology, history, mathematics, mechanics, physics, chemistry, biology, physical geography, and journalism. It publishes (1) *Al'manakh*, (2) *Doklady i Soobshcheniya*, (3) *Nauchnyye Raboty Studentov Geologicheskogo Fakul'teta*.

Name: L'vov Trade-Economics Institute
(L'vovskiy *torgovo-ekonomicheskii* institut)

Address: L'vov, ulitsa Chkalova, 10

Director: S. G. Sidenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Central Union of Consumers Cooperatives of the U.S.S.R. (1958)

Selected Staff Members:

N. K. Kushnir
P. I. Novoderezhkin, Docent, Head of Chair
M. M. Palamarchuk, Professor, Head of Chair
A. A. Ponomarenko

Description:

This institute conducts research in areas such as chemistry and product testing and improvement, with particular reference to textiles. It offers courses in trade economics, accounting, grocery trade, and industrial trade.

Name: Magnetics Laboratory
(Magnitnaya laboratoriya)

Address: Moscow, ulitsa Zhdanova, 27

Director: V. D. Panchenko, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

O. A. Germogenova
G. A. Sokolik

Description:

Staff members at this facility have contributed to studies of the relationship of cosmic radiation to solar activity, effect of magnetic storms on cosmic radiation, and lunar-diurnal variation in the neutron component of cosmic rays. Mathematical studies have been performed on the interpretation of the fusion theory of de Broglie, theory of wave equations, and the Hamiltonian of a uniaxial ferromagnetic.

Name: Magnitogorsk Mining-Metallurgical Institute imeni G. I. Nosov
(Magnitogorskiy gornometallurgicheskiy institut imeni G. I. Nosova)

Address: Magnitogorsk, ulitsa Pervomayskaya, 9-a

Director: N. Ye. Skorokhodov, Professor (1961)

Deputy Director: P. E. Zurkov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Education,
R.S.F.S.R. (1960)

Selected Staff Members:

V. F. Agapov
G. E. Arkulis
B. P. Bakhtinov
A. M. Bannykh, Docent
A. A. Bezdenezhnykh
A. M. Bigeyev, Docent, Head of Chair of Metallurgy of Steel
M. I. Boyarshinov, Docent, Head of Chair of Pressure Treatment of
Metals
A. I. D'yakonov, Docent

N. I. Goldshteyn
N. I. Ivanov, Docent
G. I. Ivantsov, Docent, Head of Chair
I. M. Kostin
V. K. Kropotov
M. I. Kuprin, Docent, Dean
V. I. Maksimov, Docent, Head of Chair of Concentration of Minerals
N. E. Markman
V. V. Mel'tser-Shafran
M. F. Nenashev, Candidate, Head of Chair
A. G. Neyasov
I. I. Opalev, Docent
P. N. Perchatkin
S. I. Popov, Docent, Head of Chair
M. A. Stefanovich, Docent
Yu. V. Togunov, Docent, Dean
G. N. Ustinov, Docent, Dean
G. M. Zamorvev
D. M. Zlatoustovskiy
K. A. Zuts

Description:

The Institute cooperates with the Magnitogorsk Mining-Metallurgical Combine in combining student training and plant work.

The research of the Institute appears to relate to over-all steel technology, with some mining and iron-ore preparation. Pressure working of metals, including rolling, sheet and wire drawing, and plastic deformation, appears to be important work. Steel-melting technology, including blast furnace techniques, open-hearth techniques, and oxygen melting are covered.

Candidate's Degrees are granted. A Sbornik Nauchnykh Trudov is published.

Courses of Study: Ferrous metallurgy
Pressure working of metals
Heat treatment
Metallurgical equipment
Fuels
Automation
Construction
Reinforced-concrete structures
Prefabricated construction
Development of mineral deposits
Mining
Beneficiation
Mining equipment

Name: Main Astronomical Observatory
(Glavnaya astronomicheskaya observatoriya--GAO AS UkrSSR)

Address: Kiyev, Goloseyevo, ulitsa Chudnovskogo 3

Director: Ye. P. Fedorov, Doctor

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

I. V. Gavrilov
Sh. G. Gordeladze
E. A. Gurtovenko
I. G. Kolchinskiy
A. K. Korol, Candidate, former Head of Station for Photographic
Observations of Artificial Earth Satellites
A. B. Onegina
A. A. Yakovkin, Corresponding Academician (Ukrainian S.S.R.),
former Director

Description:

This observatory was established shortly after World War II. Its research activities have included work in positional astronomy, solar physics, planetary astronomy, stellar astronomy, and artificial-earth-satellite tracking. It publishes an Izvestiya.

Name: Main Astronomical Observatory
(Glavnaya astronomicheskaya observatoriya--GAO)

Address: Pulkovo, 18 km from Leningrad

Director: A. A. Mikhaylov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: M. S. Zverev, Corresponding Academician (U.S.S.R.) (1958)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

A. Dadayev, Candidate, Academic Secretary
A. N. Deutsch, Head of the Photographic Astrometry Department
S. E. Khaykin, Professor
N. A. Kozyrev, Professor
A. V. Krat, Professor, Head of the Solar Service
N. I. Kucherov, Candidate

L. P. Linnik, Academician (U.S.S.R.)
 D. D. Maksutov, Corresponding Academician (U.S.S.R.)
 A. Markov, Doctor, Leader of the Group studying the moon
 O. A. Melnikov, Corresponding Academician (U.S.S.R.), Head of the
 Division of Stellar Physics
 A. P. Molchanov
 A. A. Nemiro, Doctor
 Yu. N. Pariyskiy
 N. N. Pavlov, Head of the Time Service
 D. Ye. Shchegolev, Head of the Stations for Sputniks

Description:

This 125-year-old observatory is referred to as the oldest scientific institution in the U.S.S.R. It is also the largest observatory in the world in terms of manpower. In 1958, the staff numbered 400 of whom 160 were scientists.

During World War II (1941), the Observatory's buildings were destroyed. However, the Observatory was rebuilt on the same location and the reconstructed Pulkovo Observatory was officially opened in May, 1954.

Work is done in eight sections: fundamental astrometry, astronomical constants and variation in latitude, time service, photographic astronomy, stellar physics, solar physics, astronomical-instrument construction, and radio astronomy.

The Observatory has two branch stations: (1) one at Nikolayev in the Ukraine, and (2) the Mountain Astronomical Station. The Observatory publishes an Izvestiya and a Trudy.

Some of the newest equipment installed at the Observatory are the RM-700 reflector (a telescope with a metal 700-mm-diameter mirror), to be used for astrophysical observations and spectroscopy; the first Soviet two-channel-television telescope, housed in a special pavilion; and a 130-meter-diameter radio telescope.

Name: Main Geophysical Observatory imeni A. I. Voyeykov
 (Glavnaya geofizicheskaya observatoriya imeni A. I. Voyeykova)

Address: Leningrad

Director: M. I. Budyko, Doctor (1962)

Deputy Director: --

Administrative Affiliation: Main Administration of the Hydrometeorological Service (1961)

Selected Staff Members:

O. A. Drozdov, Doctor
 D. L. Laykhtman, Doctor
 K. S. Shifrin
 N. S. Shishkin
 Yu. D. Yanishevskiy
 M. I. Yudin, Head of the Department of Dynamic Meteorology

Description:

The Main Geophysical Observatory is the oldest meteorological establishment in the U.S.S.R. In April, 1949, it celebrated its One-Hundredth Anniversary.

Extensive research is carried on here in climatology and micro-climatology, dynamic meteorology, radiation, cloud physics, physics of the lowest layers of the atmosphere, atmospheric electricity, atmospheric optics, radio meteorology, atmospheric acoustics, methodology of meteorological observations, and climate and weather control. The Institute's Trudy Number 121 was published in 1961.

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Name: Mari Pedagogical Institute imeni N. K. Krupskaya
 (Mariyskiy pedagogicheskiy institut imeni N. K. Krupskoy)

Address: Yoshkar-Ola, Kommunisticheskaya ulitsa, 94

Director: M. I. Romanov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: N. T. Pengitov, Docent, Head of Chair

Description:

The staff has conducted research in the theoretical and physical chemistry of gases. The Institute offers courses in native language, literature, and history, Russian language, and literature, foreign language, biology, chemistry, and agriculture. It publishes an Uchenyye Zapiski.

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Name: Marine-Hydrophysics Institute
 (Morskoy gidrofizicheskiy institut)

Address: Moscow, Bol'shaya Kaluzhskaya ulitsa, 19

Director: --

Deputy Director: A. A. Ivanov, Doctor (1957)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1962)

Selected Staff Members:

V. I. Grabovskiy, Professor
N. K. Khanaychenko, Head of Kaliningrad Branch
A. G. Kolesnikov, Doctor
A. N. Paramonov
Yu. G. Ryzhkov
Ya. I. Sekerzh-Zen'kovich
V. V. Shuleykin, Academician (U.S.S.R.)
L. N. Sretenskiy, Corresponding Academician (U.S.S.R.)

Description:

This institute was formerly known as the Marine Hydrophysical Laboratory. In 1961, the main institute was located in Moscow, and its two branches, at Katsiveli in the Crimea and at Kaliningrad. The latter branch was opened in 1960. Later in 1961, it was reported that the Institute was to be transferred from Moscow to Sevastopol', and was to be affiliated with the Ukrainian Academy of Sciences.

The Institute owns the research ship Mikhail Lomonosov, built in 1957. The ship is used to study magnetic phenomena and electric currents at all depths of the ocean, geological structure of bottom sediments and ocean-bottom relief, and the origin of cyclones and anticyclones.

It publishes a Trudy irregularly.

Name: Mathematics Institute imeni V. A. Steklov
(Matematischeskiy institut imeni V. A. Steklova--MIAN)

Address: Moscow, 1-y Akademicheskiy proyezd, 28

Director: I. M. Vinogradov, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

P. S. Aleksandrov, Academician (U.S.S.R.)
K. I. Babenko

- S. N. Bernshteyn, Academician (U.S.S.R.)
A. V. Bitsadze, Corresponding Academician (U.S.S.R.)
N. N. Bogolyubov, Academician (U.S.S.R.), Head of Department of
Theoretical Physics
V. G. Boltyanskiy, Doctor
V. A. Bulavskiy
B. N. Delone, Corresponding Academician (U.S.S.R.)
A. A. Dezin
A. A. Dorodnitsyn, Academician (U.S.S.R.)
D. K. Faddeyev
L. D. Faddeyev
V. N. Faddeyeva
R. V. Gamkrelidze
A. O. Gel'fond, Corresponding Academician (U.S.S.R.)
I. M. Gel'fond, Corresponding Academician (U.S.S.R.)
V. P. Il'in
S. V. Iordanskiy
A. Yu. Ishlinskiy, Academician (U.S.S.R.)
L. V. Kantorovich, Corresponding Academician (U.S.S.R.)
M. V. Keldysh, Academician (U.S.S.R.), Head of Department of
Applied Mathematics
M. K. Kerimov
A. N. Kolmogorov, Academician (U.S.S.R.)
P. Ye. Krasnushkin
L. D. Kudryavtsev, Professor
O. A. Ladyzhenskaya
M. A. Lavrentyev, Academician (U.S.S.R.)
S. A. Lebedev, Academician (U.S.S.R.)
A. F. Leontyev
Yu. V. Linnik, Corresponding Academician (U.S.S.R.)
S. M. Lozinskiy
A. G. Lunts
A. I. Mal'tsev, Academician (U.S.S.R.)
A. A. Markov, Corresponding Academician (U.S.S.R.)
B. V. Medvedev
D. Ye. Men'shov, Corresponding Academician (U.S.S.R.)
Ye. F. Mishchenko, Doctor
S. M. Nikol'skiy, Professor
P. S. Novikov, Corresponding Academician (U.S.S.R.), Head of
Department
D. Ye. Okhotsimskiy, Corresponding Academician (U.S.S.R.)
N. I. Pashov
G. I. Petrashen
E. A. Platonova
L. S. Pontryagin, Academician (U.S.S.R.)
M. M. Postnikov, Doctor
L. V. Prokhorov
D. A. Raykov
O. V. Sarmanov
L. I. Sedov, Academician (U.S.S.R.)
I. R. Shafarevich, Corresponding Academician (U.S.S.R.)
V. A. Shakhbazyan

N. A. Shanin
 K. A. Sitnikov, Doctor
 N. V. Smirnov, Corresponding Academician (U.S.S.R.), Head of
 Department of Mathematical Statistics
 V. I. Smirnov, Academician (U.S.S.R.)
 S. L. Sobolev, Academician (U.S.S.R.)
 V. A. Solonnikov
 V. V. Tolmachev
 S. V. Tyablikov, Doctor
 I. N. Vekua, Academician (U.S.S.R.)
 B. A. Venkov
 I. M. Vinogradov, Academician (U.S.S.R.)
 V. S. Vladimirov
 A. M. Yaglom
 M. A. Yakovleva
 G. N. Yaskova
 V. A. Yegorov, Candidate
 V. A. Zalgaller

Description:

The Steklov Institute is the most prominent Soviet research institute in the fields of pure and applied mathematics. Divisions of the parent institute in Moscow include a computation center, equipped with a URAL 1 and a BESM-II computer, and the Department of Applied Mathematics, the Department of Mathematical Statistics, and the Department of Theoretical Physics. There is a branch of the Institute in Leningrad.

Although the Institute's work in pure mathematics is quite varied, there are concentrations of effort in certain applied fields. A group of scientists, including L. S. Pontryagin, has concentrated on optimal control theory. Iordanskiy works on the mathematics of plasma physics, V. A. Solonnikov and others study magnetohydrodynamics, and V. A. Shakhbazyan's field is quantum electrodynamics. Other areas of interest are ferromagnetism, superconductivity, cybernetics and algebraic logic, general relativity, information theory, propagation of radio waves, and propagation of shock waves due to an explosion.

The Institute works closely with other organizations. A group including V. A. Yegorov was responsible for calculating the Lunik trajectories. B. V. Medvedev works closely with members of the Joint Institute of Nuclear Research. And in 1961, the Institute cooperated with the Leningrad and Gor'kiy National Economic Councils and the Scientific-Research Institute for Labor in determining the required numbers of clerical workers in machine-manufacturing plants.

A Trudy is published irregularly throughout the year.

Name: Melekess State Pedagogical Institute
(Melekesskiy gosudarstvennyy pedagogicheskiy institut)

Address: Melekess, ulitsa Dzerzhinskogo, 27

Director: A. G. Karafan, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

The staff is interested in the use of polynomials in mathematics. The available courses include elementary-school instruction methods, Russian language and literature, foreign language, and mathematics and physics.

Name: Melitopol' Institute for Mechanization of Agriculture
(Melitopol'skiy institut mekhanizatsii sel'skogo khozyaystva)

Address: Melitopol', prospekt Bogdana Khmel'nitskogo, 18

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1961)

Selected Staff Members:

G. A. Barkov, Docent
L. Boroshok
I. N. Boyko, Candidate, Head of Chair
A. A. Gol'verk, Candidate
P. P. Karpushu, Docent, Head of Chair

Description:

This institute, part of the Ukrainian Academy of Agricultural Sciences in 1960, has a Sector on Automation. It offers a course on the mechanization of agricultural production processes.

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Name: Melitopol' Pedagogical Institute
(Melitopol'skiy pedagogicheskiy institut)

Address: Melitopol', ulitsa Lenina, 10

Director: --

Deputy Director: I. I. Postol (1961)

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

G. A. Sobol'
B. A. Yankovskiy, Docent

Description:

In addition to training teachers, work in plasma physics, crystals, and phenolic resins has been performed at this facility, which offers courses in biology, chemistry, and agriculture. It publishes a Naukovi Zapysky.

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Name: Michurinsk Fruit and Vegetable Institute imeni I. V. Michurin
(Michurinskiy plodoovoshchnoy institut imeni I. V. Michurina)

Address: Michurinsk, ploshchad' 25 Oktyabrya, 3

Director: K. F. Videnin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

V. I. Budagovskiy, Professor, Head of Chair
V. A. Pronin, Docent, Head of Chair

Description:

The Institute offers courses in agronomy, fruits and vegetables, and viniculture, and publishes a Trudy.

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Name: Michurinsk State Pedagogical Institute
(Michurinskiy gosudarstvennyy pedagogicheskiy institut)

Address: Michurinsk, Sovetskaya ulitsa, 274

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. M. Krasnousov, Docent, Head of Chair
N. I. Shaposhnikov, Docent, Head of Chair

Description:

The Institute has courses in biology and fundamentals of agriculture and methods of elementary-school education, and publishes a Uchenyye Zapiski.

Name: Military Artillery Engineering Academy imeni F. E. Dzerzhinskiy
(Voyennaya artilleriyskaya inzhenernaya akademiya imeni
F. E. Dzerzhinskogo)

Address: Moscow, Kitayskiy prospekt, 9/5

Director: G. F. Odintsov, Colonel General of Artillery (1962)

Deputy Director: --

Administrative Affiliation: Ministry of Defense (1962)

Selected Staff Members:

Ye. M. Filatova, Docent
P. A. Kashirin, Docent
I. Maksimov
A. V. Solodov, Engineer, Colonel
G. I. Suprun, Engineer, Lieutenant Colonel

Description:

This institution, founded in 1820, prepares officer engineers for the artillery arm of the Soviet Army. Courses of study include radio electronics, physics, theoretical mechanics, machine parts, higher mathematics, chemistry, gas dynamics, and Marxism-Leninism.

Name: Mining-Geology Institute
(Gorno-geologicheskii institut)

Address: Sverdlovsk

Director: A. A. Pronin

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
R.S.F.S.R., for Coordination of Scientific
Research (1962)

Selected Staff Members:

V. A. Dunayev
I. S. Gel'fano
A. A. Ilyutskiy
N. A. Ivanov
B. M. Shul'man
L. A. Utkin

Description:

This institute does geological and mineralogical research. Its work has included geophysical investigations under field conditions, mineralogical investigations of meteorites, studies of nuclear methods of investigating the occurrence of boron in rocks, and studies of locating coal deposits with the aid of scattered γ -rays (Co^{60}) and the mining of ore deposits in the Urals. Among its laboratories is the Laboratory for Ore Deposits.

Name: Minsk State Pedagogical Institute imeni A. M. Gor'kiy
(Minskiy gosudarstvennyy pedagogicheskii institut imeni A. M. Gor'kogo)

Address: Minsk, Sovetskaya ulitsa, 18

Director: I. Ye. Lakin, Docent (1961)

Deputy Director: A. G. Chuchko, Docent (1961)

Administrative Affiliation: Ministry of Higher, Secondary Special, and
Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members:

V. I. Arabadzhi, Doctor
N. I. Gurskiy, Docent, Head of Chair
S. I. Karaban, Professor, Head of Chair
V. I. Karpman

Yu. K. Lando
M. V. Makarevich, Docent, Head of Chair

Description:

Dealing with linear integrodifferentials of the Volterra type, electromagnetics and isotopic space, and physics of storm processes, this institute publishes a Uchenyye Zapiski.

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Name: Mogilev State Pedagogical Institute
(Mogilevskiy gosudarstvennyy pedagogicheskiy institut)

Address: Mogilev, Leninskaya ulitsa, 35

Director: I. P. Larchenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher, Secondary Special, and Professional Education, Belorussian S.S.R. (1960)

Selected Staff Members:

N. D. Rybachkin, Dean
Ya. K. Usikov, Docent, Head of Chair

Description:

The Institute publishes a Uchenyye Zapiski.

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Name: Mordovia State University
(Mordovskiy gosudarstvennyy universitet)

Address: Saransk, Bol'shevistskaya ulitsa, 68

Director: G. Ya. Merkushkin, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

F. M. Alemaykin
 V. A. Kartashov, Docent, Head of Chair
 V. V. Klyuyev
 M. N. Kolyadenkov, Professor
 S. P. Nazarov, Docent, Dean
 M. I. Orlova, Docent, Head of Chair
 A. I. Snopov
 S. P. Telin, Candidate, Head of Chair

Description:

The Mordovia State University was created in 1957 by converting the Mordovia Pedagogical Institute into a university. The 1960-1961 enrollment of the University was 4,500 students.

In mathematics, personnel at the University have studied problems ranging from mesomorphic functions to trigonometric double series. In physics, investigations have been made of oscillations of piezoelectric-crystal bars, gas pockets in an ultrasonic field, and luminescence centers of phosphors. Another area of interest at the University is gaseous lubrication.

The University publishes a Uchenyye Zapiski and offers courses in electrification of industrial enterprises and installations, industrial and civil construction, agronomy, animal husbandry, mechanization of agricultural production processes, Russian language and literature, native language and literature of peoples of the U.S.S.R., Romance and Germanic languages and literature, history, mathematics, physics, chemistry, and biology.

Name: Moscow Architecture Institute
 (Moskovskiy arkhitekturnyy institut)

Address: Moscow, ulitsa Zhdanova, 11

Director: I. S. Nikolayev, Professor (1961)

Deputy Directors: L. P. Lukayev, Docent (1961)
 M. F. Shutilov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. N. Blokhin, Professor, Head of Chair
 P. V. Boguslavskiy, Docent, Head of Chair

A. S. Fisenko, Professor, Head of Chair
K. Kh. Polyakov, Professor, Head of Chair
G. A. Simonov, Professor, Head of Chair

Description:

Offering training in architecture, this institute grants the Candidate's and Doctor's Degrees.

Name: Moscow Automechanical Institute
(Moskovskiy avtomekhanicheskiy institut)

Address: Moscow, Bol'shaya Semenovskaya ulitsa, 38

Director: A. Ya. Sinetskiy, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. N. Aksenov, Professor, Head of Chair
I. A. Chernyshov, Docent
V. V. Danilevskiy, Docent
T. G. Demidova, Docent
B. S. Fal'kevich, Professor, Head of Chair
N. I. Glagolev, Professor
P. P. Korzun, Docent
I. M. Lenin, Professor, Head of Chair
G. B. Lur'ye, Professor
I. A. Noritsyn, Professor, Head of Chair
G. M. Orlov
A. V. Pankin, Professor
K. L. Sheptunov, Docent, Head of Chair
Ye. G. Shumskiy, Professor, Head of Chair
N. I. Slodkevich, Docent
Y. A. Spunde, Docent
L. V. Vanykova, Docent
S. A. Yegorov, Professor

Description:

The development of better automotive and tractor parts through improvements in grinding, casting, finishing, and fabrication techniques is being followed by the Institute's staff. New and modified machine tools are being developed to improve gear production. Automation of machine shops, foundries, and fabrication facilities is being studied.

The Institute's staff has conducted extensive research in casting. Included has been work on vibration casting, shrinkage of molds, formation of molds by sand blowing and high-pressure forming, centrifugal casting, and production of large metal castings.

Engine and power-plant research has been conducted in fuel injection, gas turbines, carburetors, and lubricants for engines.

Theoretical mechanical studies have been maintained in wear and friction reduction, roughness determination, and torsion wear in axles.

Cutting tools have been investigated from the standpoint of increasing wear life of tools, increased cutting rates, abrasives, coolants, and new materials for drills, saws, and other cutting devices.

The Institute publishes a Trudy and grants the Candidate's Degree. Courses are offered in automobiles and tractors, internal-combustion engines, machine building, machine tools, pressure working of metals, and casting equipment and technology.

Name: Moscow Automotive-Transportation Institute
(Moskovskiy avtomobil'no-dorozhnyy institut)

Address: Moscow, Leningradskiy prospekt, 64

Director: L. L. Afanas'yev, Docent (1961)

Deputy Directors: V. F. Babkov, Professor (1961)
Yu. M. Lakhtin, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. M. Arkhangel'skiy, Docent
N. R. Briling, Corresponding Academician (U.S.S.R.)
L. V. Dekhterinskiy, Docent
Ye. Ye. Gibshman, Professor, Head of Chair
M. S. Khovakh, Docent, Head of Chair
S. M. Krasikov, Docent, Dean
P. I. Shilov, Professor
N. E. Struve, Docent

Description:

The Institute provides training in civil engineering, with emphasis on highway- and airport-construction techniques and automotive transportation. Other course work covers bridges and tunnels and various types of construction equipment.

A Trudy of the Institute is published. Research work has been reported on boronizing of austenitic steels, metal build-up of case-hardened and heat-treated steels, combustion in light-fuel engines, wear of engine components, structural mechanics and analysis, engineering economics, and applied mathematics.

Both the Candidate's and Doctor's Degrees are given.

Name: Moscow Aviation Institute imeni Sergo Ordzhonikidze
(Moskovskiy aviatsionnyy institut imeni Sergo Ordzhonikidze--MAI)

Address: Moscow, Volokolamskoye shosse, 18

Director: I. F. Obraztsov, Professor (1961)

Deputy Director: I. P. Bratukhin, Professor (1961)
V. G. Bovin, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. L. Abibov, Docent, Dean
G. I. Atabekov, Doctor
A. I. Bertinov, Professor, Head of Chair
P. I. Blandov, Docent, Head of Chair
V. V. Chesnokov, Docent, Dean
G. G. Gakhun, Professor, Dean
A. F. Gurov, Professor
A. V. Kamenskiy, Docent
S. P. Kolosov, Docent
S. V. Kostin, Docent, Head of Chair
A. V. Krasnikov, Professor, Head of Chair
V. P. Leont'yeva, Docent, Head of Chair
M. Ye. Levina, Docent
I. V. Ostoslavskiy, Professor, Head of Chair
V. S. Ponkratov, Candidate, Dean
Yu. A. Popov, Professor, Dean
S. A. Sarkisyan, Docent, Dean
A. G. Saybel', Docent, Head of Chair
M. F. Shirokov, Professor, Head of Chair
A. F. Shtyrlin, Engineer
G. S. Skubachevskiy, Professor, Head of Chair
V. P. Sokolov, Docent, Head of Chair
N. R. Udalov, Docent
V. G. Zhukov, Head of Laboratory

Description:

The Moscow Aviation Institute grew out of the Moscow Technical Institute, established in 1930. It has a very highly qualified staff of professors who, while teaching, conduct research in which students participate. Graduate students work in design offices, plants, and other research institutes.

Research is conducted in all branches of the aerospace sciences, including aircraft production, designing, and planning, stress analysis, aerodynamics, ballistics, metallurgy, materials, propulsion, and instrumentation. The Institute publishes a Trudy.

The Institute is well equipped. It contains wind tunnels, a display of complete aircraft and engines, and modern laboratory and study facilities. The courses of study offered by the Institute include aircraft engines, aircraft construction, aircraft-instrument building, casting ferrous and non-ferrous metals, pressure working of metals, metallography, heat treatment of metals, welding equipment and technology, and lacquers, paints, and non-metallic coatings.

Name: Moscow Aviation Technology Institute
(Moskovskiy aviatsionnyy tekhnologicheskii institut--MATI)

Address: Moscow, Petrovka, 27

Director: --

Deputy Director: M. N. Gorbunov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. A. Alov, Professor
O. S. Bocharov
Kh. L. Bolotin
V. I. Dobatkin
I. V. Dunin-Barkovskiy
A. I. Isayev
I. I. Ivanov, Candidate
K. S. Kirpichnikov, Docent
V. P. Kogayev, Docent
B. A. Kolachev, Docent
A. I. Kolpashnikov
Y. G. Kopanevich, Docent
I. P. Kusatkov
V. A. Livanov, Professor

I. V. Metelkin
 A. A. Neustruyev, Docent
 G. D. Nikiforov, Docent
 D. A. Petrov, Professor
 K. S. Pokhodayev, Docent
 Yu. D. Savkin
 V. V. Serebryakov, Candidate
 S. V. Serensen, Academician (Ukrainian S.S.R.)
 M. V. Sharov, Candidate
 V. N. Stepanov, Docent
 D. Ya. Vishnyakova, Professor
 V. I. Yelagin, Docent

Description:

The Institute has a continuing interest in metal joining. Areas of specific activity include spot, seam, butt, and gas-shielded welding, brazing, analysis of hydrogen in weld seams, and training programs for welders. Equipment for welding sintered aluminum powder (SAP) has been developed.

The effort expended in metallurgical research is extensive. Heat-treatment studies have considered artificial aging, quenching, carburizing, nitriding, and handling of long bars in quenching. Machining is becoming a more important interest of the staff. Research in grinding and polishing turbine blades, broaching, high-speed cutting, and lubricants and cooling fluids is currently of interest. Devices for the rapid machining of gears and gages for lathes have been developed. Automation of foundries, machine shops, welding facilities, and chemical analysis is being studied. Alloy-development work includes research on hydrogen reduction in alloys, metallography, alloy additions, and mechanical-property testing and improvement.

Polymers have been investigated for use in gears. Physical properties of polymers also are of interest.

Equipment for testing gyroscopes is being developed. Also research in compass transmitters and theory of gyro motion is under way.

The Institute offers courses in casting of ferrous and nonferrous metals, thermal processing of metals (metallography, equipment, and technology), metalworking (forging, stamping, rolling, and sheathing), welding, aircraft construction, aircraft engines and propulsion devices, aircraft equipment and instrumentation, and plastics. It grants Candidate's Degrees and frequently publishes a Trudy.

Name: Moscow Branch of the Central Scientific-Research Boiler-Turbine
 Institute imeni I. I. Polzunov
 (Moskovskoye otdeleniye tsentral'nogo nauchno-issledovatel'skogo kotlo-
 turbinnogo instituta imeni I. I. Polzunova--MOTSKPI)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1962)

Selected Staff Members:

P. Ya. Boguslavskiy, Candidate
 A. A. Gukhman, Professor
 Yu. M. Kostrikin, Candidate
 M. A. Nadzharov, Candidate
 Ye. A. Nakhapetyan, Candidate
 N. I. Semenov, Candidate
 B. I. Sheynin
 Ye. V. Shishov

Description:

The staff at this branch has done research on the temperature distribution and the distribution of hydrodynamic parameters for supersonic and subsonic flows around a cylinder, heat exchange in a tube at high air velocities, the frictional-resistance coefficients for flow of steam-water mixtures in pipes, radiant-heat exchange calculation methods, content of sodium silicate and free silicic acid in super-heated steam of uniflow boilers, the combustion in cyclone chambers to improve fuel and air mixing, the cyclone process of combustion of solid fuel, the activity of a gamma source when irradiating with a narrow beam, the use of thermocouples as temperature-measuring devices in supersonic flow, and an apparatus for mechanically polishing metallographic specimens.

The Institute occasionally publishes a Trudy.

Name: Moscow Correspondence State Pedagogical Institute
(Moskovskiy gosudarstvennyy zaochnyy pedagogicheskiy institut)

Address: Moscow, ploshchad' Revolyutsii, 3/1

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

O. A. Frolova, Docent, Head of Chair
 A. I. Pavlovich, Docent, Head of Chair
 A. V. Podzneyev, Professor, Head of Chair

Description:

One of the subjects of research at this institute is waveguides. A Uchenyye Zapiski is published. Courses are offered in Russian language and literature, natural sciences and chemistry, geography, history, drafting and drawing, pedagogy and psychology, defectology, elementary-school instruction methods, and mathematics and physics.

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Name: Moscow Economics-Statistics Institute
 (Moskovskiy ekonomiko-statisticheskii institut)

Address: Moscow, Bol'shoy Strochenovskiy pereulok, 18

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. I. Baklanov, Professor, Head of Chair
 A. I. Ivanov, Docent, Dean
 V. N. Ryazankin, Docent
 K. F. Solov'yeva, Docent

Description:

From 1950 to 1959, 700 students finished their studies in mechanization of accounting and calculating problems at this institute. The Institute studies the application of statistical techniques to economic problems such as demographic and housing statistics, quality control in production, and wage distribution.

The Institute grants the Candidate's Degree. The courses of study offered include computer machines, mechanization of accounting in banks and credit installations, instructional and construction-industry statistics, agricultural statistics, trade statistics, and demographic statistics and budget research. It publishes a Uchenyye Zapiski, Nauchnyye Zapiski Studentov, and a Voprosy statistiki i ucheta (Problems of Statistics and Accounting).

Name: Moscow Electrical Engineering Institute of Communications
(Moskovskiy elektrotekhnicheskiy institut svyazi--MEIS)

Address: Moscow, Aviamotornaya ulitsa, 8

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

E. L. Blokh, Professor
M. M. Bondaryuk, Professor
I. Goron, Professor, Head of Laboratory for Magnetic Recording
N. I. Kalashnikov, Docent
S. I. Katayev, Professor, Head of Chair of Television
V. A. Klyaznik, Docent
V. N. Kuleshov, Professor
L. I. Kurdov, Docent
V. S. Mel'nikov, Docent
A. L. Mikayelyan, Professor
M. V. Nazarov, Docent
M. T. Strel'nikov, Docent
S. A. Yamanov, Docent
L. A. Zhekulin, Professor

Description:

Until 1959, undergraduate engineering degrees were awarded in radio communications and broadcasting, cable communications, and electronics; graduate training was also available in related specialized areas. Presently, under-graduate training programs cover 5-1/2 years. The initial 3 years are devoted to intensive theoretical studies; the remaining time is spent in direct employment in fields reflecting various specialties (viz., radio-relay communication lines, radio communications and broadcasting, TV, automation and mechanization of production processes, telephony and telegraphy, long-range communications).

To promote productive effort, the Institute maintains shops, with annual programs of contractual work, for developing simpler types of communications instruments. Representative of the equipment developed here are a "ballistic" antenna, an electronic telegrapher operating on small batteries, an automatic magnetic-tape symbol-printing apparatus, and an ultra-small semiconductor receiver powered by flashlight batteries. In collaboration with other Moscow institutes, a system of artificial reverberation for altering the acoustic properties of a room was developed. Members of the Institute's staff had designed a radial UHF radio-communication system as early as 1957-1958, and at about the same time, were perfecting an electronically switched telephone sub-exchange.

The Institute trains both technical specialists and engineers and awards both Candidate's and Doctor's Degrees.

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Name: Moscow Engineering-Economics Institute imeni Sergo Ordzhonikidze
(Moskovskiy inzhenerno-ekonomicheskiy institut imeni
Sergo Ordzhonikidze--MIEI)

Address: Moscow, Podsosenskiy pereulok, 20

Director: O. V. Kozlova, Professor (1961)

Deputy Director: V. Girovskiy, Professor (1962)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. A. Bishayev, Candidate, Dean
M. M. Fedorovich, Professor, Head of Chair
I. Ya. Ivanin, Docent, Dean
O. A. Knolomina, Docent, Dean
B. A. Teleshev, Professor, Head of Chair
N. N. Tikhomirov, Docent, Head of Chair
Ye. I. Varenik, Professor, Head of Chair
I. S. Zotov, Docent, Head of Chair

Description:

Among recent projects carried out by this institute were the development of GOST terminology, designations, and basic definitions for statistical inspection methods; calendar planning of production by use of calculating machines; and the use of a computer for estimating total technical and economic data of an entire factory. The Institute publishes a Trudy and grants the Candidate's and Doctor's Degrees. Its course work covers the economics and organization of machine-building, chemical, power, automotive-transportation, and air-transportation industries.

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Name: Moscow Engineering Institute of the Meat and Dairy Industry
(Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy
promyshlennosti)

Address: Moscow, ulitsa Talalikhina, 33

Director: A. N. Lepilkin, Professor (1961)

Deputy Director: N. P. Yanushkin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. I. Akayevskiy, Professor, Head of Chair
 A. Berlin, Professor
 N. Ye. Fedorov, Professor, Head of Chair
 N. I. Zhukov, Docent, Head of Chair

Description:

This institute, formerly the Moscow Chemical Engineering Institute of the Meat Industry, was renamed in 1953. Studies have been made of the bonding of disilicides to molybdenum rod, of high-speed steel to carbon steel, of cast iron to steel, and of sintered carbide tips to steel holdings. The mechanics, chemistry, and synthesis of heat-resistant polymers have been studied in the Laboratory of High-Molecular Compounds. Analytical studies of interest to the Institute include the analysis of amines and acids, cyclohexyl nitrate, cyclohexanone, and nitrocyclohexane, the chromatography of cations, and the use of organic compounds in precipitation chromatography.

A Trudy is published. The Institute grants Candidate's and Doctor's Degrees. The curriculum includes courses in machinery and installations of food industry, plastics, metallurgy, meat and dairy products, veterinary medicine, and economics and organization of food-products industry.

Name: Moscow Engineering-Physics Institute
 (Moskovskiy inzhenerno-fizicheskiy institut--MIFI)

Address: Moscow, ulitsa Kirova, 21

Director: V. G. Kirillov-Ugryumov, Docent, (1961)

Deputy Directors: V. K. Gusev, Docent (1961)
 Ye. V. Filipchuk, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. V. Armenskiy, Docent, Dean
 V. F. Baranov
 I. A. Berezin, Candidate, Head of Chair
 V. I. Bryunova

Ya. F. Bychkov
 P. N. Chistyakov
 K. E. Erglis
 Ya. B. Fridman, Professor
 V. N. Glazanov, Professor
 I. Ye. Irodov
 V. I. Ivanov
 Ya. A. Khetagurov, Candidate
 I. K. Kikoin, Academician (U.S.S.R.)
 V. I. Kogan
 N. N. Kuznetsova, Deputy Director of Evening Division 5
 G. A. Leont'yev
 V. G. Levich, Corresponding Academician (U.S.S.R.)
 A. I. Leypunskiy, Academician (Ukrainian S.S.R.)
 P. I. Lizorkin
 V. V. Lukin
 V. K. Lyapidevskiy
 V. G. Nosov
 I. I. Novikov, Corresponding Academician (U.S.S.R.), Head of Chair
 of Thermophysics
 K. I. Panevkin, Candidate, Head of Chair
 G. I. Pogoden-Alekseyev
 P. I. Popov
 A. N. Rozunov
 P. A. Ryazin, Academician (Kirghiz S.S.R.)
 I. V. Savel'yev
 A. A. Sazonov, Candidate, Head of Chair
 K. V. Shalimova
 K. N. Shevchenko
 D. M. Skorov
 Ye. L. Stalyarov
 I. P. Stepanenko, Docent
 I. V. Tananayev
 G. A. Tyagunov, Professor, Head of Chair
 O. A. Val'dner, Candidate
 D. A. Vasil'kov, Docent, Head of Chair
 V. S. Yemel'yanov, Corresponding Academician (U.S.S.R.), Head of
 Chair
 A. I. Yevstyukhin

Description:

This institute, founded in 1943, is one of the leading Soviet educational and research institutions in nuclear physics, solid-state physics, and reactor structural materials. It is one of the best-equipped educational-research facilities in the Soviet Union. It has had a 15-Mev betatron since 1951 and a specialized laboratory for betatron research since 1954.

Much of the research of the Institute is in experimental physics, particularly particle acceleration, radiation analysis, and semiconductors. The Institute has developed linear electron accelerators, scintillation counters, and much equipment for measuring physical properties of materials.

Important work also has been done in nuclear metallurgy, i.e., iodide purification of zirconium, chromium, hafnium, beryllium, molybdenum, niobium, and thorium. Emphasis has been on the study of zirconium alloys. Other research has been on liquid-metal corrosion (particularly in lithium), the design of electric-arc furnaces, and tool steels.

In 1960, this institute was one of two higher educational institutions in Moscow offering specialized advanced training in computer technology. Its curricula also provide for courses in experimental and theoretical physics, electronic computers and automation, and power engineering. It publishes a Sbornik Nauchnykh Rabot, Metallurgiya i Metallovedeniye Chistykh Metallov (Collection of Scientific Works, Metallurgy and Metal Physics of Pure Metals) and Trudy. The Institute grants Candidate's and Doctor's Degrees.

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Name: Moscow Evening Metallurgical Institute
(Moskovskiy vecherniy metallurgicheskiy institut--MVMi)

Address: Moscow, 2-y Prolomnyy proyezd, 1

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. N. Bidulyu, Professor, Head of Chair of Steel Metallurgy
 A. P. Gulyayev
 M. B. Kapilevich
 I. Ye. Kontorovich
 A. A. Korolov, Head of Chair of Metallurgical Equipment
 R. G. Kozolupova
 K. V. Lyubavskiy
 G. A. Maslov
 I. A. Noritsyn
 V. D. Pavlov
 A. I. Tselikov, Professor
 A. I. Vashchenko, Professor, Head of Chair

Description:

The Institute does work in pig-iron technology, metal physics, mathematics, properties of Ti-Al alloys, pressure working of metals, transformation of steel, grain size, low-temperature properties of steel, efficient use of oxygen in melting, economics, organization and planning of metallurgical industry, processing of liquid steel under pressure, cast-iron foundry

practice, and mechanical equipment used in the metallurgical industry. The courses of study offered include ferrous and nonferrous metallurgy, foundry, metallurgical furnaces, pressure working of metals, metallurgical equipment, heat treatment, and metal physics. A Sbornik Trudov is published.

Name: Moscow Finance Institute
(Moskovskiy finansovyy institut)

Address: Moscow, Yaroslavskaya ulitsa, 3

Director: V. V. Shcherbakov, Docent (1961)

Deputy Directors: P. F. Ipatov, Docent (1961)
G. M. Tatsiya, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

D. A. Allakhverdyan, Professor, Head of Chair
A. S. Atlas, Professor, Head of Chair
A. A. Dodonov, Professor, Head of Chair
M. M. Usoskin, Professor, Head of Chair

Description:

Studies of this institute involve problems of budget planning, accounting systems, credit, production costs, labor productivity, and wages. It is also interested in automation of financial operations.

The Institute offers courses in finance, credit and accounting.

It publishes Nauchnyye Zapiski and Nauchnyye Zapiski Studentov.

Name: Moscow Geological-Prospecting Institute imeni Sergo Ordzhonikidze
(Moskovskiy geologorazvedochnyy institut imeni Sergo Ordzhonikidze--
MGRI)

Address: Moscow, Mokhovaya ulitsa, 11, korpus Zh

Director: A. A. Yazhin, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. V. Aristov
 N. I. Kulichikhin, Professor, Head of Chair
 N. I. Nikolayev
 V. A. Sokolov
 A. A. Trofimov, Professor, Head of Chair
 G. Ts. Tumarkin, Docent
 B. I. Vozdvizhenskiy, Professor, Head of Chair

Description:

This institute was organized in 1930. Members of the Institute's staff have published on research in geophysics (gravimetry and magnetometry), mathematics (as applied to geological, geophysical, and geodetic problems), geodesy, analytical chemistry, physics (electromagnetism), engineering geology (including the development of exploratory equipment), descriptive geology, electronics, stratigraphy, hydrogeology, petrography, mineralogy (crystallography), and geochemistry. The Institute publishes a Trudy and maintains Geological and Mineralogical Museums.

Geology, geological exploration and prospecting for mineral deposits, geophysical prospecting, hydrogeology and engineering geology, techniques of exploring universal deposits, and mineralogy are among the courses of study offered by the Institute.

Name: Moscow Higher Technical School imeni N. E. Bauman
 (Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N. E. Baumana--
 MVTU)

Address: Moscow, 2-ya Baumanskaya ulitsa, 5

Director: L. P. Lazarev, Professor (1961)

Deputy Directors: M. A. Anuchin, Docent (1961)
 G. V. Bechin (1961)
 G. A. Nikolayev, Professor (1958)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. I. Akulov, Candidate
 G. F. Balandin, Docent
 V. L. Biderman

Ye. I. Bobkov, Docent, Dean
 V. N. Chelomey, Corresponding Academician (U.S.S.R.)
 M. M. Chursin, Professor
 S. O. Dobrogurskiy, Professor, Head of Chair of Computers
 V. V. Dobronravov, Doctor, Head of Chair of Theoretical Mechanics
 V. I. Feodos'yev, Professor, Head of Chair
 A. V. Filyushkin, Head of Scientific-Research Sector
 A. G. Golovintsov, Professor, Head of Chair
 G. I. Granovskiyy, Academician (Latvian S.S.R.)
 N. I. Kamyshnyy, Professor, Dean
 G. A. Kiselev, Docent
 G. F. Knorre, Professor, Head of Chair
 V. M. Kovan, Professor, Head of Chair
 M. S. Krasinskaya, Professor, Head of Chair
 V. I. Krutov, Docent, Head of Chair
 A. M. Kugushev, Professor, Head of Chair of Radio Engineering
 O. B. Leonov, Docent, Dean
 M. Ye. Leybman
 K. K. Likharev
 A. A. Lipgart, Professor, Head of Chair of Automobiles
 V. N. Lymzin, Professor, Head of Laboratory of Use of Plastics in
 Machine Construction
 N. N. Malinin
 A. V. Mordvintseva
 S. T. Nazarov
 B. K. Nekrasov
 Ya. Nemets, Professor
 N. A. Ol'shanskiy, Docent
 P. V. Orekhov, Docent
 A. S. Orlin, Professor, Head of Chair
 Yu. A. Pobedonostsev, Professor
 S. D. Ponomarev, Professor, Head of Chair
 M. A. Popov, Professor, Head of Chair
 L. N. Presnukhin, Professor, Dean
 N. N. Prokhorov, Professor
 V. N. Prokof'yev, Professor
 D. A. Prokoshkin, Professor, Head of Chair
 I. M. Razumov, Professor, Head of Chair
 E. A. Satel', Professor, Head of Chair
 B. A. Shapochkin
 I. I. Sidorin, Professor
 G. A. Smirnov, Docent, Dean
 K. P. Stanyukovich, Doctor
 A. I. Tselikov, Corresponding Academician (U.S.S.R.)
 I. A. Turygin, Professor, Head of Chair
 G. M. Ulanov, Doctor
 V. V. Uvarov, Professor, Head of Chair of Turbine Construction
 M. L. Zaroshchinskiy, Doctor
 A. I. Zimin, Professor, Head of Chair of Machines and Processes for
 Pressure Working of Metals
 Ye. K. Zverev, Docent, Dean

Description:

MVTU, established in 1830, has developed into one of the largest and best higher technical institutes in the U.S.S.R. During the first years of its existence, it formulated the Russian method of practical education, i.e., the students received both an engineering education and a practical specialization. In the 1870's, the School became the center of scientific-technical thought in Russia, actively contributing to the development of native machine construction. At the end of the Nineteenth Century, MVTU gave rise to many scientific-technical schools and trends in mechanics, machine construction, and thermal technology. In 1918, the School was changed into a polytechnic type, and civil and electrical engineering faculties were added. New research and education institutes were set up on the basis of its laboratories; these include the Moscow Power Institute, Moscow Aviation Institute, Moscow Textile Institute, Thermodynamics Institute, etc.

Presently the Institute has five main divisions, Mechanical Technology, Thermal and Hydraulic Machines, Instruments (including optical-mechanical instruments), Hoisting and Transport Machines, and General Machinery, and over 60 chairs or specialities. The staff and students number over 800 and 10,000, respectively.

In recent years, over 70 apparatuses were created here and recommended for introduction in industry, including new methods of designating allowances and tolerances, designs of manipulators for a horizontal forging machine for automating wheel-bearing production, and rolling mills.

In the study of gas-turbine-construction problems, the staff of the Chair of Turbine Construction has investigated the use of solid fuel in gas-turbine units, new methods for increasing the temperature of the working gas, and the efficiency of the units. Resulting designs and developments include a high-pressure compressor and a 6,000-hp gas-turbine locomotive. Deep-freezing and cryogenic problems associated with heat-exchange processes and the design of expanders and turbocompressors have also been investigated.

Extensive research on the general theory of automatic control and on the comprehensive automation of technological processes with the aid of computers has been conducted. The design and development of an analog-digital converter has aided in the programmed control of milling and cutting of parts of intricate shape, heat-treatment processes, and plastic production.

The activities of the welding department include research on improvement of methods of measuring residual stresses and deformation caused by welding, and the effect of alloying additions on the corrosion and crack resistance of welded joints in steel, copper, and aluminum alloys. Devices and methods of ultrasonic welding have also been studied, and in 1958, they developed an ultrasonic welding method for plastics. Their interest in automation is evident in the numerous studies on automatic control of resistance, arc, and thermal welding and cutting methods. The staff has also developed electron-beam and inert-gas-shielded welding methods for the more difficult to weld metals, i.e., molybdenum, titanium, zirconium, etc.

After its inception in 1930, the Instrument-Construction Department studied problems of design and analysis and manufacture, including work on aircraft-sighting devices. However, in the post-war period, the Department expanded and shifted its interest to gyroscopic instruments and devices. Currently, they are studying and developing optical target simulators and optical systems for photoelectric control and measuring devices. Precision instruments, their manufacture, and assembly have also been covered in numerous research projects.

Research also is being conducted on the properties of plastics and other synthetic materials and their application in instrument bearings and high-precision casting molds. In connection with these studies, automatic equipment has been developed for the manufacture and treatment of plastics.

Due to the fact that the technology of machine building is of prime interest, the staff is working constantly on the problems of strength calculation faced by the machine industry. Also in connection with this interest, many phases of metalworking and treatment have been investigated. They are constantly attempting to develop new methods and equipment, improve the old, and automate processes. A small sampling of this work includes improved accuracy in machining, vibratory drilling, cyclone melting, a new type of drawing mill, casting, and heat treating.

The large staff of MVFU produces many textbooks, general-interest books, and a Trudy, in addition to innumerable technical and scientific tracts.

The Institute grants both the Candidate's and Doctor's Degrees. Its curricula include courses in machine-building technology, machine tools, equipment and technology of pressure working metals, metallurgy, heat treatment of metals, welding equipment and technology, boiler building, internal-combustion engines, hydroturbines and other hydraulic machines, refrigerators and compressors, auxiliary equipment, locomotive building, optical instruments, precision-mechanical instruments, automation and remote control, mathematical machines and computers, gyroscopic instruments, design and production of radio equipment, electrovacuum machines, and mechanical engineering.

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Name: Moscow Institute of Chemical Machine Building
(Moskovskiy institut khimicheskogo mashinostroyeniya--MIKHM)

Address: Moscow, ulitsa Karla Marksa, 21/4

Director: P. M. Reshchikov, Docent (1961)

Deputy Directors: D. T. Kokorev, Professor (1961)
Ye. V. Iyalin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. I. Basov, Docent, Dean
 A. A. Gukhman, Professor
 N. M. Karavayev, Corresponding Academician (U.S.S.R.)
 A. M. Khodzhayev, Docent, Head of Chair
 I. Ya. Klinov, Professor
 I. M. Maslennikov, Docent, Dean
 A. N. Planovskiy, Professor, Head of Chair
 A. I. Rychkov
 K. A. Salazkin, Docent, Head of Chair
 N. P. Shchapov, Professor
 S. N. Shorin, Doctor
 S. I. Sokolov
 I. P. Usyukin, Professor, Head of Chair
 V. A. Yudin, Professor
 D. A. Zykov, Academician (Kazakh S.S.R.)

Description:

This institute is one of the leading institutes in the Soviet Union specializing in the preparation of engineers for the chemical industry. Much research is conducted on mass- and heat-transfer kinetics and materials for use in the chemical industry. Work has been done on problems of corrosion and the use of aluminum and titanium alloys. The forming of plastics (equipment, dies, etc.), coke production, the use of oxygen to intensify metallurgical processes, products of copolymerization, copolycondensation of materials, and highly durable dielectrics and adhesives represent other research areas. A Trudy of the Institute is published frequently.

The Institute grants the Candidate's Degree. Courses are offered in industrial thermal power engineering, chemical industry machinery, refrigeration and compressor machinery and installations, and control instruments for chemical processes.

Name: Moscow Institute of Engineers of City Building
 (Moskovskiy institut inzhenerov gorodskogo stroitel'stva)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. D. Al'tshul, Docent
 B. A. Ignatov
 G. K. Kleyn
 N. V. Rapp

Description:

The Institute provides academic training in civil engineering, with particular reference to urban planning and construction techniques. At the graduate level, the Candidate's Degree is granted. A Trudy is published by the Institute, and research efforts have included work in fluid flow, materials, nondestructive testing, structural analysis, and machining of metals.

Name: Moscow Institute of Engineers of Geodesy, Aerial-Photographic Surveying, and Cartography
 (Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii--MIIGAIK)

Address: Moscow, Gorokhovskiy pereulok, 4

Director: P. S. Zakatov, Professor (1961)

Deputy Directors: A. I. Durnev, Professor (1961)
 A. A. Izotov, Professor (1960)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Avgevich, Docent
 G. V. Bargatuni, Docent, Dean
 V. A. Belitsyn
 B. I. Belyayev
 G. A. Burmistrov
 M. I. Burov, Assistant Head of Chair of Photogrammetry
 A. S. Chebotarev, Professor, Head of Chair of Geodesy
 G. P. Levchuk, Docent
 A. P. Mashkovich, Professor
 A. I. Mazmishvili, Professor
 G. M. Rikhter, Professor, Head of Chair of Physical Geography
 B. N. Rodionov, Docent
 G. V. Romanovskiy, Professor
 P. F. Shokin, Docent
 A. I. Sukhov

S. V. Yeliseyev, Docent, Head of Chair of Instrument Construction
N. P. Zakaznov, Docent

Description:

This educational institution, founded in 1930, is one of the outstanding Soviet institutes preparing engineers for work in geodesy, aerial photography, and cartography. Research is done in astronomy, photogrammetry, optics, aerial photography, physical geography, gravimetry, development of photographic and geodetic equipment and processes, movements of the earth's crust, spheroidal geodesy, latitude determination, precise trigonometric leveling, photorectification, spatial triangulation, and photointerpretation.

The Institute publishes a Trudy and awards the Candidate's and Doctor's Degrees. It offers courses in astronomical geodesy, engineering geodesy, aerial-photographic geodesy, optical instruments, and cartography.

Name: Moscow Institute of Engineers of the Water Economy imeni
V. R. Vil'yams
(Moskovskiy institut inzhenerov vodnogo khozyaystva imeni
V. R. Vil'yamsa)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

Research at this institute is on irrigation, drainage, and subsurface hydrodynamics. This institute participated in the Inter-VUZ-Scientific Conferences on geodetic problems. As an educational institute, it grants advanced degrees and offers courses of study in river installations and hydroelectric power stations, mechanization of agricultural production processes, and drainage and land reclamation. It publishes a Nauchnyye Zapiski and a Sbornik Nauchnykh Studencheskikh Rabot.

Name: Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov
(Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M. V. Lomonosova--MITKhT)

Address: Moscow, M. Pirogovskaya ulitsa, 1

Director: K. A. Bol'shakov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. P. Alimarin, Corresponding Academician (U.S.S.R.)
 K. A. Andrianov, Corresponding Academician (U.S.S.R.)
 A. N. Bashkirov, Corresponding Academician (U.S.S.R.)
 G. K. Boreskov, Corresponding Academician (U.S.S.R.), Head of
 Chair of Isotope Separation
 P. P. Budnikov, Corresponding Academician (U.S.S.R.)
 Yu. M. Butt
 B. A. Dogadkin, Professor
 N. P. Fedorenko, Professor
 R. M. Flid
 V. Ye. Gul'
 N. M. Karavayev, Corresponding Academician (U.S.S.R.)
 Yu. G. Korablev, Docent, Dean
 S. S. Korovin, Docent, Dean
 V. V. Korshak, Corresponding Academician (U.S.S.R.)
 B. G. Korshunov
 F. F. Koshelev
 V. I. Ksenzenko, Docent, Head of Chair
 S. S. Medvedev, Academician (U.S.S.R.)
 V. Ye. Plyushchev
 N. A. Preobrazhenskiy, Professor, Head of Chair
 A. I. Selivanov
 Ya. K. Syrkin, Corresponding Academician (U.S.S.R.)
 S. S. Voyutskiy

Description:

MITKhT, established in 1930, is one of the more prominent chemical engineering institutes of the Soviet Union. Its research effort is concentrated in organic chemistry, the chemistry and physics of high polymers, technology of rubber, and the chemistry and technology of rare and trace elements, pure salts, and metals. Some specific areas of research are high-temperature organosilicon compounds, cyclorubber, various polymeric adhesives, emulsion polymerization, phosphinic and phosphatic acids, cocaine derivatives, organocyclosiloxanes, and rare-earth compounds.

The Institute publishes a Trudy and grants the Candidate's and Doctor's Degrees. Its courses of study include fuel technology, technology of rare elements, organic synthesis and synthetic-rubber manufacture, medical drugs and aromatic compounds, and rubber.

Name: Moscow Institute of Land Management Engineers
(Moskovskiy institut inzhenerov zemleustroystva--MIIZ)

Address: Moscow, ulitsa Kazakova, 15

Director: N. D. Il'inskiy, Docent (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. S. Chebotarev, Professor
Ya. I. Gebgart, Docent
N. G. Kell', Corresponding Academician (U.S.S.R.)
M. D. Konshin, Professor
Ye. G. Larchenko, Doctor
A. P. Mashkovich, Professor
A. V. Maslov, Professor, Dean of Geodesy Department
G. V. Mikhnevich, Docent
G. V. Pomanovskiy, Professor
K. S. Soberayskiy, Docent
S. A. Udachin, Professor, Head of Chair
V. F. Yeremeyev

Description:

This institute, organized in 1930, is largely an educational institution, although it also carries on research. The Institute, which grants the Candidate's Degree, has a Faculty of Photogrammetric Geodesy, as well as a Geodesy Department.

Research at the Institute has included study and use of aerial-surveying instruments and procedures, such as stereoscopic maps, probability of errors, and ordinary surface surveying. The Institute publishes a Trudy.

Name: Moscow Machine-Tool and Instrument Institute imeni I. V. Stalin
(Moskovskiy stankoinstrumental'nyy institut imeni I. V. Stalina--Mosstankin)

Address: Moscow, Novoslobodskaya ulitsa, Vadkovskiy pereulok, 13-a

Director: V. A. Arshinov, Docent (1961)

Deputy Directors: A. M. Kozlov (1961)
V. P. Kopylenko, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. S. Akhmatov, Professor, Head of Chair
 B. S. Balakshin, Professor, Head of Chair
 D. V. Charko, Professor
 Yu. A. Geller, Doctor
 A. A. Kudryashov, Docent, Dean
 V. T. Meshcherin, Professor, Head of Chair
 B. I. Segal, Professor, Head of Chair

Description:

The Institute was organized about 1931.

Its research program has leaned toward methods of increasing production and accuracy in the machine-tool industry. Its studies have included the use of radioisotopes for measuring, automatic control of machine tools, metal polishing, and the development of high-speed metal-cutting machine tools.

The Institute offers courses in precision mechanical instruments, machine-building technology, machine tools, casting equipment and technology, and pressure working of metals.

The Chair of the Technology of Metals of the Institute publishes a Trudy, and the Chair of Equipment and Technology of Forging and Pressure Working publishes a Sbornik.

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Name: Moscow Mining Institute imeni I. V. Stalin
 (Moskovskiy gornyy institut imeni I. V. Stalina)

Address: Moscow, Leninskiy prospekt, 6

Director: A. F. Sukhanov, Professor (1958)

Deputy Director: V. I. Solod, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

O. M. Arutinov
 B. I. Belyayev, Candidate
 L. V. Gladilin, Professor, Head of Chair
 A. I. Ksenofontova, Professor, Head of Chair
 S. S. Nekrasov
 I. M. Panin, Docent, Dean

N. M. Pokrovskiy, Professor, Head of Chair
 P. A. Ryzhov, Professor
 S. F. Shinkorenko
 A. O. Spivakovskiy
 I. M. Verkhovskiy
 N. N. Vinogradov

Description:

The Institute conducts diversified research in mining engineering. It has also done work in problems of geophysics and has developed new types of seismic equipment. It publishes a Nauchnyye Trudy and grants the Candidate's and Doctor's Degrees.

The curriculum of the Institute includes courses in mine surveying, mining, minerals beneficiation, mining construction, mining electromechanics, mining machinery, pipeline construction, exploitation of gas and oil pipelines, and economics and organization of mining industry.

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Name: Moscow Order of Labor Red Banner Construction-Engineering Institute
 imeni V. V. Kuybyshev
 (Moskovskiy ordena Trudovogo Krasnogo Znameni inzhenerno-stroitel'nyy
 institut imeni V. V. Kuybysheva--MISI)

Address: Moscow, Spartakovskaya ulitsa, 2

Director: N. A. Strel'chuk, Professor (1961)

Deputy Directors: N. N. Abramov, Professor (1961)
 V. M. Predtechenskiy, Docent (1961)
 S. V. Yakovlev, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. S. Berdichevskaya
 Yu. S. Burov, Docent
 N. Ya Denisov
 N. N. Dzhunkovskiy, Professor, Head of Chair
 V. I. Feronkiy
 P. T. Frolov, Docent, Dean
 S. Ya. Khavinson
 V. A. Kireyev, Professor, Head of Chair of Chemistry
 V. A. Kitaytsev, Docent, Head of Chair
 A. G. Komar
 P. G. Kuz'min, Docent, Dean

V. A. Lukin
 L. G. Osipov, Docent
 P. L. Pasternak, Professor, Head of Chair
 G. A. Paushkin, Docent
 A. P. Rubtsov, Head of Laboratory
 M. M. Shchegolev, Professor, Head of Chair
 Yu. V. Slitskoukhov, Docent
 G. N. Smirnov, Docent, Dean
 N. S. Streletskiy, Corresponding Academician (U.S.S.R.), Head
 of Chair
 N. F. Uskov
 V. A. Vorob'yev, Professor, Head of Chair

Description:

One of the major institutions in the Soviet Union training construction engineers, MISI also conducts extensive research in construction techniques, materials and equipment. Much work has been done in structural and theoretical mechanics, hydrodynamics, hydroturbine design, and the study of soils. Some work has been done on the use of computers in structural analysis and the use of aluminum alloys in construction. Glacial-actinometric studies have also been made in the Antarctic. A Trudy of the Institute is published.

The courses of study offered include construction, hydroconstruction, plumbing, heating and ventilation, reinforced-concrete structures, prefabricated construction, city planning, and construction equipment. The Institute grants both the Candidate's and the Doctor's Degrees.

The Institute was opened in 1921.

Name: Moscow Order of Labor Red Banner Electromechanical Institute of Railroad-Transportation Engineers imeni F. E. Dzerzhinskiy (Moskovskiy ordena Trudovogo Krasnogo Znameni elektromekhanicheskiy institut inzhenerov zheleznodorozhnogo transporta imeni F. E. Dzerzhinskogo--MEMIIT)

Address: Moscow, ulitsa Novosushchevskaya, 26

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

A. V. Gorinov, Corresponding Academician (U.S.S.R.)
 A. S. Yastrzhemskiy, Professor

Description:

The Institute, founded in 1931, prepares students for careers in the railroad industry. Departments of Mechanical and Power Engineering, Electric Transport, and Communications afford particular areas for specialization. The Candidate's Degree is conferred, and a Trudy is published. Some research has been done in thermal engineering and in metal-bearing coatings.

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Name: Moscow Order of Labor Red Banner Institute of Steel imeni
I. V. Stalin
(Moskovskiy ordena Trudovogo Krasnogo Znameni institut stali imeni
I. V. Stalina)

Address: Moscow, Leninskiy prospekt, 6

Director: V. I. Yavoyskiy, Professor (1962)

Deputy Director: R. N. Grigorash, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. P. Alimarin, Corresponding Academician (U.S.S.R.)
Yu. G. Andreyev
G. M. Ashmarin
B. S. Balakshin
N. P. Banny, Docent
Yu. A. Bashnin, Candidate
D. K. Belashchenko
M. L. Bernshteyn, Docent
Yu. M. Chezhevikov, Candidate
P. A. Dudovtsev, Candidate
A. M. Dymov, Professor
L. I. Fantalov, Professor, Head of Chair
S. I. Filipov, Professor
B. N. Finkel'shteyn, Professor
S. D. Gagin, Candidate
M. A. Glinkov, Professor, Head of Chair of Foundry Furnaces
S. A. Golovin, Candidate
S. S. Gorelik, Docent
I. N. Kidin, Professor
L. I. Kogan, Candidate
B. G. Livshits, Professor, Head of Chair
Yu. Yu. Lur'ye, Professor
A. P. Lyubimov, Professor

L. I. Mirkin
 Ya. M. Okhrimenko, Doctor
 N. V. Okorokov
 G. N. Oyks, Professor
 I. V. Paisov, Professor
 I. M. Pavlov, Corresponding Academician (U.S.S.R.)
 M. N. Petrovskaya, Docent, Head of Chair
 A. N. Pokhvisnev, Professor
 P. I. Polukhin, Professor
 L. N. Rastorguyev
 V. V. Rikman, Docent
 A. M. Samarin
 S. I. Sharov, Professor, Dean
 Yu. F. Shevakin, Candidate
 N. N. Shevyakov, Docent, Dean
 V. S. Smirnov
 G. A. Sokolov
 I. K. Suvorov, Docent
 N. D. Tomashov, Professor
 K. G. Trubin, Professor
 Ya. S. Umanskiy, Professor, Head of Chair of Radiography
 D. Ya. Vishnyakov, Doctor
 F. P. Yedneral, Doctor
 V. P. Yelyutin, Professor
 V. I. Zalesskiy, Profesor
 A. A. Zhukhovitskiy, Professor

Description:

This educational-research institute has Departments of Metallurgy of Steels, Rare-Metals Metallurgy, Electrometallurgy, Metallurgical Furnaces, Rolling, Die-Forging Production, Physical Metallurgy and Heat Treatment, Metallurgy, Physics of Metals and X-Ray Analysis, Electrical Engineering, Analytical Chemistry, Physical Chemistry, Economics and Organization of Production, Metallurgy of Pig Iron, Foundry Operations, Theory of Metallurgical Processes, General Machine Building, Corrosion and Protection of Metals, Roentgenography, Physics, and Forging and Stamping Production. Its laboratories include the Laboratory of High-Frequency Currents, the Laboratory for Electrometallurgy and the Laboratory of Vacuum Arc Furnaces.

The Institute is interested mainly in processing methods and improvements of metals. A second Minkevich prize was awarded to the Institute in 1959 for the development of a high-strength engineering steel for special equipment.

Steel processing studies include tempering, annealing, desulfurization cyaniding, cold rolling, and titanizing. The Institute has developed die steels, ball-bearing steels, tube steels, and low-carbon electrical steels. Titanium, chromium, molybdenum, nickel, and their alloys are also studied. X-ray and radioisotope analysis methods are widely employed. Machine and instrument design and production economics are studied for the steel industry.

The Institute publishes a Sbornik and offers Doctor's and Candidate's Degrees. Its curriculum includes courses in geology and prospecting for mineral deposits, development of mineral deposits, enrichment of minerals, ferrous metallurgy, nonferrous metallurgy, casting ferrous and nonferrous metals, metallurgical furnaces, automation, metallography, heat treatment of metals, pressure working of metals, metal physics, and physical-chemical investigation of metallurgical processes.

Name: Moscow Order of Labor Red Banner Institute of the Petrochemical and Gas Industry imeni Academician I. M. Gubkin
(Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I. M. Gubkina--MINKh i GP)

Address: Moscow, Leninskiy prospekt, 6

Director: K. F. Zhigach, Professor (1961)

Deputy Director: I. M. Murav'yev, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. A. Almazov, Docent, Head of Chair
A. A. Bakirov, Professor, Head of Chair
I. S. Belousova, Docent, Head of Chair
M. M. Charygin, Professor, Head of Chair
N. I. Chernozhukov, Professor
F. A. Grishin
I. L. Gurevich, Professor, Head of Chair
V. I. Isagulyants, Academician (Armenian S.S.R.)
A. A. Kartsev
Ya. M. Kershenbaum, Professor, Head of Chair
Ye. M. Kuzmak, Professor
T. A. Lapinskaya, Docent, Head of Chair
G. M. Panchenko, Professor
Ya. M. Paushkin
L. A. Ryabinkin, Docent, Head of Chair
V. N. Shelkachev, Professor, Head of Chair
A. I. Shirkovskiy
V. P. Shugrin
V. D. Taran, Professor
V. L. Vayser
V. I. Yegorov, Docent, Dean
M. A. Zhdanov

Description:

This institute, prior to 1958, concentrated its efforts on the preparation of specialists in oil surveying and extraction. In 1958, it was reorganized into an institute serving the oil, chemical, and gas industries. The Institute now trains experts in the use of atomic energy in oil refining and gas reprocessing, the automation of the oil, chemical, and gas industries, construction and use of pipelines and chemical synthesis.

Research of the Institute has been in thermal and catalytic petroleum cracking, cracking catalysts (especially aluminosilicate catalysts), polymerization, physical chemistry, lubricants, antioxidant fuel additives, and organosilicon compounds. Considerable research is also done in metal physics, metal corrosion, pipeline welding, metalworking, and mechanical engineering problems related to the oil, chemical, and gas industries. Petroleum geophysical research includes seismology and oil-prospecting techniques. Some work is done also in hydrodynamics and gasodynamics.

The Institute publishes a Trudy frequently. The Candidate's and Doctor's Degrees are granted.

In its academic program, the Institute offers courses in geology and exploration of oil and gas deposits, geophysical prospecting, exploitation of oil and gas deposits, machinery and equipment for oil and gas fields (including transportation and storage equipment), chemical-industry machinery (inorganic and organic processes, silicates, and liquid and gaseous fuels), control instruments for chemical processes, petroleum and natural-gas technology, economics and organization of oil and gas industry.

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Name: Moscow Order of Lenin and Labor Red Banner Institute of Railroad-Transportation Engineers imeni I. V. Stalin
(Moskovskiy ordena Lenina i Trudovogo Krasnogo Znameni institut inzhenerov zheleznodorozhnogo transporta imeni I. V. Stalina)

Address: Moscow, ulitsa Obraztsova, 15

Director: F. P. Kochnev, Professor (1961)

Deputy Directors: A. I. Ioannisyan, Professor (1961)
N. I. Panov, Professor (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

V. M. Akulinichev, Docent, Dean
L. N. Belokonev, Dean
S. K. Danilov, Professor, Head of Chair

V. Ye. Dotsenko, Docent, Head of Chair
 V. N. Ivanov, Professor, Head of Chair
 V. S. Kazantseva, Librarian
 V. G. Kirkin, Professor, Head of Chair
 V. B. Medel', Professor, Head of Chair
 P. V. Popov, Docent, Head of Chair
 N. K. Prozorov, Head of Laboratory
 V. V. Revenko, Docent, Head of Chair
 G. M. Shakhunyanets, Professor, Head of Chair
 A. Ye. Sheykin, Professor
 A. F. Smirnov, Professor, Head of Chair
 G. K. Yevgrafov, Professor, Head of Chair

Description:

The Institute provides both undergraduate and graduate training for students specializing in technical fields associated with the railroad industry. The Institute draws on the civil, electrical, and chemical engineering professions to augment its academic programs. Research studies have been done in applied mathematics, structural mechanics, ferrous and nonferrous metallurgy, metal physics, heat engineering, welding technology, ultrasonics, corrosion, metalworking, and turbine technology. A Trudy is published regularly. The Candidate's Degree is granted.

Courses of Study: Steam locomotives
 Railroad-car construction
 Thermoelectric power installations
 Railroad automation, remote control, and communications
 Railroad electrification
 Utilization of railroads
 Railroad construction
 Civil engineering
 Bridges and tunnels
 Railroad economics and organization

Name: Moscow Order of Lenin Chemical Engineering Institute imeni
 D. I. Mendeleev
 (Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut imeni
 D. I. Mendeleeva--MKhTI)

Address: Moscow, Miysskaya ploshchad', 9

Director: N. M. Zhavoronkov, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: B. I. Stepanov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1961)

Selected Staff Members:

Ye. M. Aleksandrova, Professor
 K. K. Andreyev, Professor, Head of Chair
 V. I. Atroshchenko
 A. S. Bakayev, Professor, Head of Chair
 G. K. Boreskov, Corresponding Academician (U.S.S.R.), Head of Chair
 of Isotope Separation
 P. P. Budnikov, Corresponding Academician (U.S.S.R.), Head of Chair
 of General Silicate Technology
 A. A. Bundel', Professor, Head of Chair of Electrical Vacuum
 Production Technology
 A. B. Darankov, Docent
 V. A. Drozdov
 S. V. Gorbachev, Professor
 V. V. Kafarov
 I. V. Kamenskiy
 M. Kh. Karapetyanets, Professor, Head of Chair of Physical Chemistry
 A. G. Kasatkin, Doctor
 I. I. Kitaygorodskiy, Professor, Head of Chair of Glass
 N. T. Kudryavtsev
 D. A. Kuznetsov, Professor, Head of Chair
 Ye. V. Latyshev
 I. P. Losev, Professor, Head of Chair of Plastics
 A. S. Panteleyev, Docent
 N. M. Pavlushkin, Doctor
 A. D. Petrov, Corresponding Academician (U.S.S.R.)
 G. S. Petrov
 D. N. Polybaryarov, Professor, Head of Chair of Ceramics
 K. G. Shchegolev, Docent, Head of Chair
 V. B. Shevchenko
 P. P. Shorygin, Academician (U.S.S.R.)
 Ye. L. Starokadomskaya
 V. V. Tarasov, Professor
 N. S. Torocheshnikov
 Ye. B. Trostyanskaya
 N. N. Vorozhtsov, Corresponding Academician (U.S.S.R.)
 G. A. Yagodin, Docent, Dean
 P. A. Zagorets, Docent, Head of Chair

Description:

MKKhTI, founded in 1920, is an outstanding Soviet chemical engineering institute. Its staff has made significant contributions in many fields, but particularly in the study of plastics, ceramics, and glasses. Research has been conducted on organosilicon compounds, nitro esters, nitroglycerine and diglycol dinitrate, polymer binders for explosives, lithium-organic synthesis, silanes, polycondensation theory, alkylchlorosilanes, organostannoxanes, furan monomers, phenol-carbamide resins, interfacial polyesterification, ionites, and ion-exchange resins.

Research also has been done on high-temperature electrolysis, hot cathodes and luminophors, electrodeposition of metals, alkali-earth elements, metal corrosion, electrolytic iron powders, ceramic cutting tips of alumina and magnesia, refractory ceramics of pure MgO , ZrO_2 and ThO_2 , heat-resistant aluminum-phosphate cements for bonding metals to ceramics, ion-exchange membranes for use in hydrometallurgy of uranium, organosilicon coatings of glass for increasing properties, nuclear engineering, physics of glass, glass foil one micron thick, foamed glass, foamed quartz, glass crystals (Sitally), and combustion explosives.

The Institute frequently publishes a Trudy.

Courses are offered in fuel technology, inorganic chemistry, technology of rare elements, electrochemical processes, silicates (binders and cementitious materials, ceramics and refractories, and glass), dyes and intermediate products, plastics, and varnishes, paints, and nonmetallic coatings. The Candidate's and Doctor's Degrees are granted.

Name: Moscow Order of Lenin Power Institute
(Moskovskiy ordena Lenina energeticheskiy institut)

Address: Moscow, Krasnokazarmennaya ulitsa, 17

Director: M. G. Chilikin, Professor (1961)

Deputy Directors: P. A. Ionkin, Professor (1961)
V. A. Iyevlev (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

- V. N. Arkhipov, Dean
- A. M. Baklastov, Docent, Dean
- V. A. Fabrikant, Professor, Head of Chair of Physics
- V. A. Golubtsov, Corresponding Academician (U.S.S.R.)
- M. M. Gutorov, Docent, Dean
- A. P. Kovalev, Professor, Dean
- A. N. Larionov, Corresponding Academician (U.S.S.R.), Dean
- A. I. Lepunskiy, Academician (Ukranian S.S.R.), Head of Chair
- T. Kh. Margulova, Professor, Head of Chair of Atomic Electric Power Stations
- S. I. Murashov, Professor, Head of Chair
- A. Nazarenko, Chief, Computation Center
- V. S. Pantyushin, Professor, Head of Chair
- G. N. Petrov, Professor, Head of Chair of Electrical Machines
- K. M. Polivanov, Professor, Head of Chair of Theoretical Foundations of Electrical Engineering

D. V. Razevig, Docent, Head of Chair
 N. A. Semenenko, Professor, Head of Chair
 A. V. Shcheglyayev, Corresponding Academician (U.S.S.R.), Head of Chair
 A. Ye. Sheyndlin
 M. A. Styrikovich, Corresponding Academician (U.S.S.R.), Head of Laboratory
 N. V. Tsederberg, Professor, Dean
 V. A. Venikov, Professor, Head of Chair
 M. P. Wukalovich, Professor, Head of Chair
 I. S. Yefremov, Professor, Dean
 S. I. Yevtyanov, Professor, Head of Chair
 G. M. Zhdanov, Professor, Head of Chair for Electrical and Mathematical Machines
 A. L. Zinov'yev, Docent, Dean

Description:

This institute is one of the oldest educational facilities in the Soviet Union. There are literally hundreds of staff members at this institute engaged in many fields of scientific endeavor. Because of its long-term existence, large size, and superior staff, many contributions to science have been made, such as advances in semiconductor physics, electrical engineering, and the theory of many other fields.

The Institute grants Candidate's and Doctor's Degrees. It publishes a Trudy. Its curricula include courses in boiler construction, turbo-generator construction, hydraulic turbines and other hydraulic machines, refrigerators and compressors, electric power stations, thermal physics, planning and utilization of nuclear power stations, electrical engineering, dielectrics and semiconductors, automation and remote control, mathematical machines and computers, radio engineering, radiophysics and electronics, municipal electric transportation, and hydropower engineering.

Name: Moscow Physical-Technical Institute
 (Moskovskiy fiziko-tehnicheskiy institut--MFTI)

Address: Moscow oblast', platforma Dolgoprudnaya, Severnoy zheleznoy dorogi

Director: I. F. Petrov, Candidate (1961)

Deputy Director: I. T. Gusev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. Ye. Alekseyevskiy, Corresponding Academician (U.S.S.R.), Head of
 Chair of Experimental Physics
 V. B. Berestetskiy, Professor
 B. V. Bondarensko, Candidate
 A. A. Dorodnitsyn, Academician (U.S.S.R.), Head of Chair of Gas
 Dynamics
 G. I. Dorofeyev, Docent
 I. I. Fayerberg, Candidate
 D. A. Frank-Kamenetskiy
 F. R. Gantmakher, Professor, Head of Chair
 V. O. Geogdzhayev, Candidate
 I. M. Khalatnikov, Professor
 M. S. Khaykin, Docent
 S. M. Kozel, Candidate
 Yu. P. Krivenkov
 A. A. Lakshovskiy, Docent
 Yu. S. Lazurkin, Professor
 V. B. Lidskiy
 I. V. Livartovskiy, Candidate
 Ye. I. Manayev, Professor
 A. B. Migdal, Corresponding Academician (U.S.S.R.)
 N. N. Moiseyev, Professor
 V. P. Mugalov
 V. I. Murontsev
 M. A. Neymark
 P. I. Perlin, Candidate
 L. S. Popov, Docent
 A. L. Rabinovich, Candidate
 B. V. Raushenbakh, Docent
 K. A. Rogozinskiy, Head of Laboratory
 A. R. Ryharitsyn, Doctor
 V. A. Shcheglov
 M. G. Shcheglova, Docent
 N. D. Sokolov, Professor
 V. V. Sokolovskiy, Professor, Head of Chair
 V. V. Sychev, Docent
 Yu. G. Tolstov, Professor
 B. A. Tsarev, Professor
 A. O. Vaysenberg, Professor
 V. V. Voyevodskiy, Professor
 B. V. Voytsekhovskiy, Candidate
 A. M. Zhukov, Docent
 V. M. Zolotarev, Candidate

Description:

This large institute for higher education was established in 1952. The range of its interests is indicated by the Chairs into which it is organized: stability of aircraft, general physics, electron and ion apparatus, chemistry, engine aerodynamics, radio engineering, chemical

kinetics and combustion, gas-turbine engines, radiophysics, theoretical physics, resistance of materials and the theory of elasticity, gas dynamics, electrical engineering, theoretical mechanics, mathematics, and electronics. The research work of the Institute encompasses many fields, as exemplified by the Institute's Trudy, which is divided into several volumes, for example, "Research in Mechanics and Applied Mathematics" and "Research in Physics and Radio Engineering".

Research at the Institute is primarily theoretical, although instruments are designed and constructed in the Chair of Electron and Ion Apparatus. Students and other institute personnel often receive guidance and help from well-known personnel employed at other research facilities in Moscow.

Some of the best work at the Institute is in the fields of structural mechanics and mathematics. Yu. P. Krivenkov, for example, has specialized in investigations of the equation of Euler-Poisson-Darboux; I. V. Livartovskiy, in the use of Lyapunov criteria for the stability of systems of differential equations; and M. A. Neymark, in group theory. Also, there is much work on creep, sandwich materials, stresses around holes, and plastic flow. Candidates A. L. Rabinovich and V. O. Geogdzhayev have been outstanding in this work.

Several investigators study fluid flow and aerodynamics. Most interesting are the investigations by V. P. Mugalov of the turbulent boundary layer in supersonic flow. Other investigators study gas-turbine engines, specifically, the combustion processes in the engine and the heat-transfer problems associated with its operation. In the field of gas dynamics, there have been several studies on shock waves and detonations.

Radio communication is a major interest at the Institute. In addition to work on communication theory, there is much work done on the electronic apparatus itself. B. V. Bondarenko and Yu. G. Tolstov have examined semiconductors for use as power rectifiers and thermionic cathodes. V. I. Murontsev, working under Prof. Manayev, is studying the electronics of transistor amplifiers, and V. A. Shcheglov is doing theoretical work on masers.

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Name: Moscow Planetarium
(Moskovskiy planetariy)

Address: Moscow

Director: V. V. Bazykin (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. A. Bronshthen
V. Lutskiy

Description:

In 1958, it was reported that the Moscow Planetarium was to be reconstructed, and when finished, it would be the largest in Europe. The plan envisaged erection of a large building with two towers. One of them was to house a 12-inch refractor telescope, and the other was to house a solar telescope. Two auditoriums were to be expanded to twice their present size, and a museum of meteorites was planned.

The Planetarium has a number of exhibits, one being a meteorological rocket. Popular lectures are given on various subjects, such as research ships, space travel, artificial earth satellites, etc.

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Name: Moscow Printing Institute
(Moskovskiy poligraficheskiy institut)

Address: Moscow, ulitsa Pryanishnikova, 2-a

Director: --

Deputy Directors: D. Yu. Klimov, Docent (1961)
M. S. Timofeyev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. V. Chutkerashvili, Docent, Head of Chair
N. F. Chvanov, Docent, Head of Chair
A. D. Goncharov, Professor, Head of Chair
B. M. Mordovin, Professor, Head of Chair
P. A. Popryadukhin, Candidate, Head of Chair
A. S. Rumyantseva, Docent
N. I. Sinyakov, Candidate, Head of Chair
D. P. Tatiyev, Professor, Head of Chair

Description:

This institute is engaged in research on printing and reproduction processes. Because of this research, work is also done in the areas of chemistry, materials, graphics, and other related sciences. This institute concerns itself with printing machines and photographic devices. Candidate's Degrees are granted, and a Nauchnyye Trudy is published.

The Institute offers courses in printing machines, economics and organization of printing industry, graphic arts, printing production, strength of materials, general and inorganic chemistry, power engineering, and organic chemistry and printing materials.

Name: Moscow Regional Pedagogical Institute imeni N. K. Krupskaya
(Moskovskiy oblastnoy pedagogicheskiy institut imeni N. K. Krupskoy)

Address: Moscow, ulitsa Radio, 10-a

Director: V. F. Nozdrev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. K. Andronov, Professor, Head of Chair
V. S. Govorukhin, Professor, Head of Chair
Z. T. Grazhdanskaya, Docent, Head of Chair
A. I. Novgorodov, Professor, Head of Chair
B. A. Sagatelyan, Head of Chair
A. S. Samoylo, Professor, Head of Chair

Description:

Undergraduate and graduate training is provided for prospective teachers in the arts and sciences. Courses are offered in Russian language and literature, foreign languages, mathematics and drafting, biology, chemistry, agriculture, geography, and physical education. This institute awards both the Candidate's and the Doctor's Degree and its staff has done a great amount of research in the field of ultrasonics.

In addition to work related to ultrasonics in organic chemistry, many investigations have been made in the areas of physical and polymer chemistry and mathematics. Some interest has been expressed in glaciology, mechanics, and gas physics. Typical recent work concerns ultrasonic absorption in formates, acetates, and gases; 3-cm em-wave studies on oleic acid; light scattering in nitrobenzenehexane solutions; viscosity and effect on ultrasound absorption in liquids; and aggregation states in high-molecular compounds such as polychloroprene and natural rubber.

The Institute publishes a Uchenyye Zapiski.

Name: Moscow State Pedagogical Institute imeni V. I. Lenin
(Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni
V. I. Lenina)

Address: Moscow, Malen'kaya Pirogovskaya ulitsa, 1

Director: I. P. Dalmatov, Docent (1961)

Deputy Director: N. V. Aleksandrov, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. D. Arakin, Professor, Head of Chair
L. S. Atanasyan, Docent, Dean
S. A. Balezin
G. M. Bartenev, Professor, Head of Chair
S. D. Beskov
A. V. Bryukhanov
A. Ye. Dmitriyev, Docent
V. S. Etkin, Doctor
K. I. Finogenov, Professor, Head of Chair
F. M. Golovenchenko, Professor, Head of Chair
V. A. Izmail'skiy
A. P. Kapustin, Professor
N. P. Kireyev, Docent, Head of Chair
A. A. Kirillova, Docent
I. G. Klabunovskiy, Professor, Dean
N. G. Klyuchnikov
V. V. Lavrent'yev
V. G. Lemleyn, Candidate
M. L. Levin, Professor
N. I. Lyalikov, Professor
N. N. Malov, Professor, Head of Chair of General Physics
P. S. Novikov, Corresponding Academician (U.S.S.R.), Head of Chair
of Mathematical Analysis
B. V. Rozhdestvenskiy, Professor, Head of Chair
I. G. Serebryakov, Professor
E. V. Shpol'skiy, Professor
I. N. Smirnova
I. I. Sokolov, Professor
M. G. Solov'yeva, Docent
Z. V. Volkova
B. V. Vsesvyatskiy, Professor, Head of Chair
E. G. Zak

Description:

Basically a secondary teacher-training institution, this institute conducts much research. In the field of mathematics, this institute studies differentiable manifold spaces, sets and singular functions, invariant

differentiation in fractional linear groups, approximation of functions by linear operators, n-dimensional space, and trajectories. In the area of physics, absorption spectra of aniline derivatives, static friction in rubberlike polymers, gas pressure, strain in imperfect elastic bodies, ultrasonics, statistical physics, and phase motion of electrons in synchrotrons are researched. Corrosion of steel in carbon tetrachloride, effects of impurities on thermal expansion, properties of electron fields, linear magnetostriction, theory of deformation in polymers, volume-temperature hysteresis of amorphous substances, properties of electretized polymers, surface purification, hydrogen diffusion during acid pickling of steel, semiconductor diodes, and "TE"-type waves in metal grooves number among other research subjects.

Doctor's and Candidate's Degrees are granted by this institute, and a Uchenyye Zapiski is published. The available courses of study include Russian language, literature, and history, mathematics and drafting, mathematics and physics, physics, electrical engineering, and machine science, biology and chemistry, chemistry and chemical engineering, defectology, geography and biology, English, German, and French, pedagogy and psychology (pre-school), elementary-school teaching methods, and music and singing.

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Name: Moscow State University imeni M. V. Lomonosov
(Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova--MGU)

Address: Main university--Moscow, Leninskiy gory
Social-sciences section--Moscow, Mokhovaya ulitsa

Director: I. G. Petrovskiy, Academician (U.S.S.R.) (1961)

Deputy Directors: K. I. Ivanov, Candidate (1961)
S. V. Kalinin, Doctor (1961)
Ye. M. Kozhevnikov (1961)
M. M. Sokolov, Professor (1961)
G. D. Vovchenko, Professor (1961)

Administrative Affiliation: Ministry of Higher and Special Secondary
Education, R.S.F.S.R. (1961)

Selected Staff Members:

P. A. Akishin, Professor
N. G. Aleksandrov, Professor, Head of Chair
P. S. Aleksandrov, Academician (U.S.S.R.), Head of Chair of Geology
and Topology
I. P. Alimarin, Corresponding Academician (U.S.S.R.), Head of Chair
A. V. Artsikhovskiy, Corresponding Academician (U.S.S.R.)
L. A. Artsimovich, Academician (U.S.S.R.)
V. I. Avdiyev, Professor, Head of Chair

- A. A. Balandin, Academician (U.S.S.R.)
 N. N. Baranskiy, Corresponding Academician (U.S.S.R.)
 G. P. Barsanov, Professor, Dean of Geological Faculty
 V. V. Belousov, Corresponding Academician (U.S.S.R.)
 A. N. Belozerskiy, Corresponding Academician (U.S.S.R.), Head of
 Chair
 D. I. Blokhintsev, Corresponding Academician (U.S.S.R.)
 A. A. Bogdanov, Professor, Head of Chair
 N. N. Bogolyubov, Academician (U.S.S.R.)
 V. G. Bogorov, Corresponding Academician (U.S.S.R.)
 G. B. Boki, Corresponding Academician (U.S.S.R.)
 V. L. Bonch-Bruyevich, Professor
 L. M. Brekhovskikh, Corresponding Academician (U.S.S.R.)
 N. P. Brusentsov, Head of Division of Problem Laboratory
 R. A. Budagov, Professor, Head of Chair
 G. G. Chernyy, Professor
 D. I. Chesnokov, Professor, Head of Chair
 B. S. Chuchkalov
 A. Ya. Chugayev, Docent, Head of Chair
 V. G. Chuvayeva, Docent, Head of Chair
 A. S. Davydov, Professor, Head of Chair
 V. G. Demidov, Dean
 A. D. Dobrovol'skiy, Professor
 I. M. Emanuel', Corresponding Academician (U.S.S.R.)
 V. A. Engel'gardt, Academician (U.S.S.R.)
 A. A. Fedorov-Davydov, Professor, Head of Chair
 I. A. Fedosov, Professor, Dean of History Faculty
 S. P. Finikov, Professor, Head of Chair
 I. M. Frank, Corresponding Academician (U.S.S.R.)
 A. N. Frumkin, Academician (U.S.S.R.), Head of Chair of
 Electrochemistry
 V. S. Fursov, Professor, Dean of Physics Faculty
 I. M. Gel'fand, Corresponding Academician (U.S.S.R.), Head of Chair
 of Number Theory
 A. O. Gel'fond, Corresponding Academician (U.S.S.R.)
 I. P. Gerasimov, Academician (U.S.S.R.), Head of Chair
 Ya. I. Gerasimov, Corresponding Academician (U.S.S.R.), Head of
 Chair
 M. A. Glazovskaya, Professor, Head of Chair
 M. V. Gorlenko, Professor, Head of Chair
 O. A. Grigorov, Professor, Head of Laboratory
 N. K. Gudziy, Academician (Ukrainian S.S.R.)
 M. O. Gulikov, Director of Publishing House
 S. D. Gvozdover, Professor, Head of Chair
 A. A. Il'yushin, Corresponding Academician (U.S.S.R.), Head of
 Chair of Theory of Elasticity
 M. T. Iovchuk
 A. Yu. Ishlinskiy, Academician (U.S.S.R.)
 V. I. Iveronova, Professor, Head of Chair
 N. A. Kachinskiy, Professor, Head of Chair
 S. G. Kalashnikov, Professor, Head of Chair

- N. A. Kaptsov, Professor, Head of Chair
D. S. Karev, Professor, Dean of Jurisprudence Faculty
V. A. Kargin, Academician (U.S.S.R.), Head of Chair of High-Molecular Compounds
B. A. Kazanskiy, Academician (U.S.S.R.)
Ye. L. Khudyakov, Docent, Dean of Journalism Faculty
V. M. Khvostov, Corresponding Academician (U.S.S.R.)
I. K. Kikoin, Academician (U.S.S.R.)
S. V. Kiselev, Corresponding Academician (U.S.S.R.)
N. Kochenskiy, Head, Laboratory of Physical Amelioration of Soils
A. G. Kolesnikov, Professor, Head of Chair
A. N. Kolmogorov, Academician (U.S.S.R.), Head of Chair
Ye. I. Kondorskiy, Professor
F. A. Korolev, Professor, Head of Chair
Ye. A. Korovin, Corresponding Academician (U.S.S.R.)
F. P. Koshelev, Professor, Head of Chair
Kh. S. Koshtoyants, Corresponding Academician (U.S.S.R.)
V. A. Kovda, Corresponding Academician (U.S.S.R.)
N. A. Krasil'nikov, Corresponding Academician (U.S.S.R.)
V. A. Kudryavtsev, Professor, Head of Chair
K. A. Kulikov, Professor, Head of Chair
Ya. S. Kumachenko, Professor, Head of Chair
A. G. Kurosh, Professor, Head of Chair
Ye. A. Kuznetsov, Professor, Head of Chair
L. D. Landau, Academician (U.S.S.R.)
O. K. Lange, Professor, Head of Chair
V. N. Lazarev, Corresponding Academician (U.S.S.R.)
M. A. Leontovich, Academician (U.S.S.R.)
B. M. Levitan, Professor
V. A. Lomakin
L. A. Lyusternik, Corresponding Academician (U.S.S.R.)
A. A. Markov, Corresponding Academician (U.S.S.R.)
K. K. Markov, Professor, Head of Chair
M. A. Markov, Corresponding Academician (U.S.S.R.)
D. Ya. Martynov, Head of Chair of Astrophysics
D. Ye. Men'shov, Corresponding Academician (U.S.S.R.), Head of Chair
M. G. Meshcheryakov, Corresponding Academician (U.S.S.R.)
A. I. Metchenko, Professor, Head of Chair
K. I. Meyer, Professor, Head of Chair
V. V. Migulin, Professor, Head of Chair
V. S. Molodtsov, Professor, Dean of Philosophy Faculty
V. I. Morozov, Head of Chair
K. A. Myshenkova, Docent, Head of Chair
N. P. Naumov, Professor, Dean of Biology and Soil Science Faculty
N. A. Nazarov, Head of Administration
M. V. Nechkina, Academician (U.S.S.R.)
A. N. Nesmeyanov, Academician (U.S.S.R.)
G. V. Nikol'skiy, Corresponding Academician (U.S.S.R.), Head of Chair

- P. S. Novikov, Academician (U.S.S.R.)
 G. A. Novitskiy, Professor, Head of Chair
 A. V. Novoselova, Corresponding Academician (U.S.S.R.)
 A. I. Oparin, Academician (U.S.S.R.)
 Yu. A. Orlov, Academician (U.S.S.R.)
 P. Ye. Orlovskiy, Corresponding Academician (U.S.S.R.)
 A. M. Osipov, Docent, Head of Chair
 T. I. Ozyerman, Professor, Head of Chair
 A. I. Pashkov, Corresponding Academician (U.S.S.R.)
 N. A. Penchko, Head Librarian
 G. I. Petrov, Academician (U.S.S.R.)
 A. F. Plate, Doctor
 G. V. Platonov, Professor, Head of Chair
 L. S. Pontryagin, Academician (U.S.S.R.)
 M. M. Postnikov, Professor
 A. S. Predvoditelev, Corresponding Academician (U.S.S.R.),
 Professor, Head of Chair
 T. P. Pyshnova, Deputy Director of Science Library
 Kh. A. Rakhmatulin, Academician (Uzbek S.S.R.), Head of Chair
 P. A. Raykov
 P. A. Rebinder, Academician (U.S.S.R.)
 N. P. Remezov, Head of Biology and Soil Science Faculty
 O. A. Reutov, Corresponding Academician (U.S.S.R.)
 G. I. Roskin, Professor, Head of Chair
 G. V. Rozhkova, Docent, Head of Chair
 A. M. Ryabchikov, Docent, Dean of Geography Faculty
 B. A. Rybakov, Academician (U.S.S.R.)
 S. N. Rzhhevkin, Professor, Head of Chair
 K. A. Salishchev, Professor, Head of Chair
 R. M. Samarin, Professor, Dean of Philology Faculty
 A. A. Saukov, Corresponding Academician (U.S.S.R.)
 Yu. G. Saushkin, Professor, Head of Chair
 Ye. F. Savarenskiy
 I. Savenko, Professor
 N. V. Savinchenko, Docent, Head of Chair
 L. I. Sedov, Academician (U.S.S.R.)
 N. N. Semenov, Academician (U.S.S.R.)
 Ye. M. Sergeev, Professor, Head of Chair
 S. Ye. Severin, Corresponding Academician (U.S.S.R.), Head of Chair
 I. R. Shafarevich, Corresponding Academician (U.S.S.R.), Professor
 A. I. Shal'nikov, Academician (U.S.S.R.)
 V. N. Shaposhnikov, Academician (U.S.S.R.), Head of Chair
 I. Ya. Shchipanov, Professor, Head of Chair
 I. S. Shchukin, Professor, Head of Chair
 N. S. Shevtsov, Professor, Head of Chair
 G. Ye. Shilov
 G. M. Shtraks, Docent, Head of Chair
 A. V. Shubnikov, Academician (U.S.S.R.)
 V. V. Shuleykin, Academician (U.S.S.R.)
 N. I. Shuykin, Corresponding Academician (U.S.S.R.)

- L. V. Simonovskaya, Docent, Head of Chair
 S. D. Skazkin, Academician (U.S.S.R.)
 S. M. Skuratov, Professor, Dean of Chemistry Faculty
 N. A. Slezkin, Professor, Dean of Mechanics-Mathematics Faculty
 V. I. Smirnov, Corresponding Academician (U.S.S.R.), Head of Chair
 S. L. Sobolev, Academician (U.S.S.R.), Head of Chair of
 Computational Mathematics
 A. N. Sokolov, Professor, Head of Chair
 V. S. Sokolov, Docent, Head of Chair
 Ye. N. Sokolov
 B. M. Spiridonov, Junior Scientific Associate, Deputy Party
 Secretary
 N. S. Spiridonova, Docent, Head of Chair
 V. I. Spitsyn, Academician (U.S.S.R.)
 G. V. Spivak, Professor, Head of Chair
 L. N. Sretenskiy, Corresponding Academician (U.S.S.R.)
 S. M. Stishov
 I. Ye. Tamm, Academician (U.S.S.R.)
 A. P. Terent'yev, Corresponding Academician (U.S.S.R.)
 M. N. Tikhomirov, Academician (U.S.S.R.), Professor, Head of Chair
 A. N. Tikhonov, Corresponding Academician (U.S.S.R.), Head of Chair
 N. A. Tsagolov, Professor, Head of Chair
 G. K. Tushinskiy, Professor, Head of Chair
 M. M. Umanskiy, Professor
 G. S. Vasteskiy, Professor, Head of Chair
 V. I. Veksler, Academician (U.S.S.R.)
 S. N. Vernov, Corresponding Academician (U.S.S.R.), Director of
 Research Institute
 A. P. Vinogradov, Academician (U.S.S.R.)
 V. V. Vinogradov, Academician (U.S.S.R.)
 A. V. Vlasov
 S. I. Vol'fkovich, Academician (U.S.S.R.)
 N. V. Yefimov, Professor
 Ya. N. Zasurskiy, Docent, Head of Chair
 A. A. Zaytsev, Doctor
 L. A. Zenkevich, Corresponding Academician (U.S.S.R.), Head of Chair
 V. A. Zhamin, Professor, Dean of Economics Faculty
 G. S. Zhdanov, Professor, Head of Chair
 V. A. Zvegintsev, Professor, Head of Chair

Description:

Moscow State University (MGU) is the largest and foremost university in the Soviet Union. It was founded in 1755 by Mikhail Lomonosov, the distinguished Russian scientist and man of letters. Since 1953, a new complex of buildings has been constructed in the Lenin Hills which houses the scientific and technical departments of the University. The complete staff at the University numbers 2,900. In 1961, it included 39 Academicians and 52 Corresponding Academicians of the Academy of Sciences of the U.S.S.R., 57 Academicians of the Union Republics, 479 Professors, 616 Docents, 430

Doctors, and 1,482 Candidates. Student enrollment was 23,650. Laboratory and other training facilities at MGU have been described by numerous visitors as the finest and most up to date in the Soviet Union. Students are selected on the basis of competitive examination. The majority of scientific and technical graduates take up careers in research. Thus, the curricula are highly slanted toward research training.

The University carries on numerous research projects in the physical sciences. In chemistry, research interests focus on petrochemicals, polymer chemistry, ferrites, radiation chemistry, electrolytes, catalysts and catalysis, and semiconductor materials. Materials which have been under study range from alloys, such as palladium-copper-chromium, cobalt-manganese, chromium-cobalt, and iron-cobalt-palladium, to substances such as hydrogen peroxide, polycarbonates, liquid ozone, rare-earth elements, carbon black, and proteins. Projects include studies on adsorption, analytical methods, structure of solutions, welding fluxes, organic-sulfur compounds in petroleum products, and chemical processes at low temperatures. The Thermochemical Laboratory imeni V. F. Lieginin has studied the enthalpy of formation of compounds such as aluminum fluoride, lithium fluoride, boron tetrachloride, boron nitride, and lithium oxide. The Laboratory of Catalysis and Gas Electrochemistry has investigated ozone and ozonizers. In January, 1959, the Interdivisional Special Research Laboratory of High-Molecular Compounds was established under V. A. Kargin. One of its early study programs concerned monocrytals of high-molecular compounds.

Physics research at MGU touches on all areas of modern physics, for example, high-energy physics, nuclear physics, quantum theory, solid-state physics, relativity, plasma physics, radiophysics, cosmic radiation, electron beams, scattering theory, crystallography, magnetism, nuclear magnetic resonance, elementary particles, acoustics and ultrasonics, cryogenics, luminescence, and optics. Recent research projects included study of water adsorption on the surface of silica gel, filtration of radio signals from noise, magnetogasdynamics, sound-absorbing materials, recombination centers, surface effects, and low-temperature properties of semiconductors, pinch effect of gas discharge, reflex klystrons and travelling-wave tubes, super-conducting films as computer memory elements, etching of metals by ion bombardment, and Cherenkov radiation and theory of electron acceleration. Important facilities associated with the University are the Institute of Nuclear Physics and the Astronomical Institute imeni P. K. Shternberg.

In the biosciences, workers have investigated plant-growth factors, genetics, radiation effects on animal cells, tissue, and nerves, micro-organisms, edible fungi, plant diseases, and photosynthetic bacteria. The biochemistry group has concentrated on problems such as oxidative phosphorylation, biochemical changes from cardiac diseases, and blood anticoagulants. Facilities associated with the Faculty of Biology and Soil Science are the Soil-Science Institute, a climatology station, biological stations at Zvenigorod and on the White Sea, botanical gardens, an agrobiological station in Chashnikov, and museums of anthropology and zoology.

In mechanics and mathematics, investigators have worked on theory of optimal control and kinetics of servo systems, theory of fluctuations, computational methods, elasticity and plasticity, behavior of plates and shells, gas flow at supersonic speeds, fluid flow, and aerodynamics. In the University's computing center, the staff is interested in computer applications to electro-dynamics problems, numerical weather prediction, gas-dynamics problems, automatic programming, and numerical analysis. Of current interest also is analog to digital conversion, and vice versa. The Statistical Laboratory, headed by A. N. Kolmogorov, covers problems of mathematical statistics, probability theory, and deviations of the earth's axis in rotation. Associated with the University is a Scientific-Research Institute of Mechanics.

In geophysics, geography, and geology, researchers are interested in regional planning, ore examination, model seismology, geodesy, gravity anomalies, and aerial-photography techniques. The staff continuously compiles atlases of mineral-raw-material deposits.

The philology faculty has worked on linguistic problems in machine translation. An Institute for Eastern Languages is associated with the University.

There is an Institute for Improving the Qualifications of Social-Science Teachers at the University.

One of the most impressive facilities at the University is the Science Library imeni M. A. Gor'kiy, the oldest scientific library in the Soviet Union, which was established in 1796. In addition to housing 5,500,000 volumes, it is responsible for providing complete bibliographic service to the staff and students of the University.

The University has about 250 laboratories. Many of them concentrate on a particular field of research, such as the Antarctic Laboratory, the Low-Temperature Laboratory, the Laboratory of Magnetism, the Laboratory of Molecular Physics, headed by A. S. Predvoditelev, the Motion-Picture Laboratory, the Laboratory for Optical Methods of Research on Stresses, the Spectral Laboratory, the Laboratory of Snow and Ice, the Laboratory of Paleogeography, the Soils Laboratory, the Geochemistry of Landscapes Laboratory, the Aerial-Photographic-Methods Laboratory, and the Cartography Laboratory.

Courses of study and further information about MGU may be obtained from "The Handbook for Persons Entering MGU" (Spravochnik dlya Postupayushchikh v MGU), edited by K. I. Ivanova, Moscow, 1961.

It publishes a Uchenyye Zapiski and Vestnik in the ten series: Biology, Soil Science, Physics, Astronomy, Geology, Surgery, Mathematics, Mechanics, Geography, History, Law, Philology, Journalism, Economics, and Philosophy.

Name: Moscow Technical Institute of the Fishing Industry and Economy imeni
A. I. Mikoyan
(Moskovskiy tekhnicheskii institut rybnoy promyshlennosti i
khozyaystva imeni A. I. Mikoyana)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

Research of this institute has included work in chemistry, particularly ion exchange and chromatography; ice-crystal microstructure; and some mechanical investigations as related to the fishing industry. A Trudy is published, and the Candidate's Degree is granted. The Institute was opened in 1930.

Name: Moscow Technological Institute
(Moskovskiy tekhnologicheskii institut)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute is active in the study and development of machines and the materials used in their construction. They have investigated metals, ceramics, and some rubber mixtures. Studies on these materials have included work on antifriction properties and extrusion.

A program-controlled milling machine was constructed by the staff for use in the metalworking industry.

The Institute's cooperative research in welding techniques resulted in the design of a welder for the diffusion welding of ceramics, cermets, heat-resistant steel, and nonferrous metals in vacuum.

A Trudy is published periodically.

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Name: Moscow Technological Institute of Light Industry
(Moskovskiy tekhnologicheskii institut legkoy promyshlennosti--MTILP)

Address: Moscow, ulitsa Poliny Osipenko, 33

Director: V. N. Tsvetkov, Docent (1961)

Deputy Director: A. G. Nikitin (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

N. A. Alyavdin
G. A. Arbuzov
N. K. Baramboym
R. I. Fel'dman
T. A. Grylova, Docent
N. S. Khromova, Docent, Dean
Ya. Ya. Makarov-Zemlyanskiy
M. M. Mayzel', Professor, Head of Chair
N. N. Pavlov
S. A. Pavlov
S. I. Sokolov, Professor
S. S. Vasil'yev, Professor

Description:

Included among the departments of this educational institute are the departments of mechanics, general chemical engineering and thermal engineering, mechanical engineering, and parts of machines, and a film laboratory. The Institute offers Candidate's Degrees. A Trudy is published by the Institute.

The study of new production methods and study of properties in the areas of plastics and elastomers are of great interest to the Institute. Other broad areas of research include acoustics, electrical discharge, theoretical studies of surface geometry and differential equations, useful applications for industrial waste products, reaction kinetics, and design of improved machine components. Polymer films of various composition are tested and developed. Properties and uses of polymers of chromium complexes have been studied.

Name: Moscow Technological Institute of the Food Industry
(Moskovskiy tekhnologicheskii institut pishchevoy promyshlennosti)

Address: Moscow, D-80, Volokolamskoye shosse, 2125

Director: N. F. Gatilin, Professor (1961)

Deputy Director: Ye. D. Kazakov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. V. Kruzhkov, Docent, Dean
V. T. Lyubushkin, Docent, Head of Chair
I. A. Naomov, Head of Department of Flour and Bread Making
V. F. Oreshko
P. M. Silin, Professor, Head of Sugar-Industry Department
A. I. Veynik, Professor

Description:

The Institute is engaged in teaching and research on the processing of agricultural raw products, except fruits and vegetables. Its various departments are concerned with grain storage, milling, and processing; agricultural engineering; agricultural economics; beet-sugar technology; and vitamin production. Current projects include studies of heat and mass transfer in phase and chemical transformations and gamma irradiation effects on starches.

The Institute grants the Candidate's and Doctor's Degrees. Textbooks, a Trudy, and curricula for similar institutes in the U.S.S.R. are prepared here. Machinery and installations of the food industry, control instruments for chemical processes, grain processing and storage, bakery goods, macaroni, and related products, sugar and sugar products, wine making and economics and organization of the food-products industry are the specific courses offered at the Institute.

Name: Moscow Textile Institute
(Moskovskiy tekstil'nyy institut--MTI)

Address: Moscow, Donskaya ulitsa, 62

Director: A. P. Basilov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. M. Bogoslovskiy
 N. V. Kats, Doctor, Head of Chair of Technology of Metals
 A. I. Makarov, Professor, Head of Chair
 Z. A. Rogovin, Professor, Head of Chair of Synthetic Fibers
 A. A. Rogovina
 F. I. Sadov, Professor, Head of Chair of Chemistry of Fibers
 V. Ye. Zotikov, Professor, Head of Chair

Description:

This institute, established in 1919, conducts research on synthetic fibers, including polypropylene, polyethylene, polyamide, nylon, rayon, and fluorine-compound (Ftorlon) fibers. Polymer, organic-silicon, and dye chemistry represents another area of major research, as does the field of metallurgical properties of fiber-processing machines.

The courses offered at the Institute include textile machines, light industry and textile machines, automation, chemistry of fibrous materials, synthetic fibers, applied art, and consumer economics and organization. The Institute confers the Degree of Candidate and publishes a Trudy.

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Name: Mountain Astronomical Station
 (Gornaya astronomicheskaya stantsiya)

Address: Shat-Zhat-Mas Mountain, 30 km from Kislovodsk

Director: N. N. Gnevyshev, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Main Astronomical Observatory, Academy of Sciences, U.S.S.R. (1960)

Selected Staff Members: R. S. Gnevysheva

Description:

The Mountain Astronomical Station was established in 1948. It is located at an altitude of 2,136 meters and was built for the observation of the sun's corona. The surrounding low-topped mountain ranges and the absence of turbulent air currents facilitate the photographic work of the Observatory.

The station is equipped with apparatus for the observation of the chromo- and photosphere. Apart from a coronagraph, the station is equipped with a photoheliograph, a chromosphere telescope, a large diffraction spectrograph, and a radio interferometer for a wavelength of 1.7 meters, and as of February, 1962, a radio-astronomical laboratory was being built. Radio transmissions from the upper and medium layers of the sun's atmosphere will be studied. Systematic observations of sun spots, sun eruptions, flocculi, the magnetic fields of sunspots, etc., are made.

Graduate students from the universities in Moscow, Leningrad, Kiyev, and L'vov and personnel from observatories in Soviet-bloc countries are trained at this station.

Name: Mountain Astrophysical Observatory
(Gornaya astrofizicheskaya observatoriya)

Address: In the foothills of the Trans-Ali Ala-Tau, 12 km from Alma-Ata

Director: M. G. Karimov (1960)

Deputy Director: --

Administrative Affiliation: Astrophysical Institute, Academy of Sciences, Kazakh S.S.R. (1960)

Selected Staff Members:

L. M. Gindilis
Z. V. Karyagina
N. N. Pariyskiy

Description:

The elevation of this observatory is 1,450 meters. Construction taking five or six years was begun on a second part of the Observatory in 1959. It was to consist of a three-story pavilion with a 15-meter-diameter cupola, which would accommodate a large reflector incorporating a 1.5-meter-diameter mirror. The observatory was also to be provided with special equipment for taking photographs of artificial earth satellites and cosmic rockets, an interferometer, and a powerful radio telescope which would include a series of 12- and 16-meter-diameter cups. The radio telescope was put into operation in 1962, the first such instrument in Kazakhstan. Older equipment at the Observatory includes a 500-mm telescope, a Komet-A camera, and a meniscus astrograph.

Name: Murmansk Higher Maritime School
(Murmanskoye vyssheye morekhodnoye uchilishche)

Address: Murmansk, Sportivnaya ulitsa, 13/6

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. V. Bleskina
G. D. Silukov

Description:

This institute's research program includes investigations of various types of marine engines. The Institute publishes a Trudy and offers courses in maritime navigation, shipbuilding and ship repair, and ship power installations.

Name: Murmansk Pedagogical Institute
(Murmanskiy pedagogicheskiy institut)

Address: Murmansk, ulitsa Stalina, 43

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

The Institute provides training in the arts and sciences. It offers courses in Russian language, literature, and history, mathematics, and physics, and presumably pedagogy. It publishes a Uchenyye Zapiski.

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Name: Murom State Pedagogical Institute
(Muromskiy gosudarstvennyy pedagogicheskiy institut)

Address: Murom, ulitsa Karla Marksa, 18

Director: --

Deputy Director: V. N. Morokhin, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: D. I. Pozdnyakov, Candidate, Head of Chair

Description:

The Institute supports research in the fields of mathematics and physical chemistry (spectroscopy). The courses of study it offers include Russian language, literature, and history, and the physics and fundamentals of production. A Uchenyye Zapiski is published.

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Name: Namangan State Pedagogical Institute imeni Khamza Khadim-Zade
(Namanganskiy gosudarstvennyy pedagogicheskiy institut imeni
Khamza Khakim-Zade)

Address: Namangan, Kommunisticheskaya ulitsa, 63 (1960)

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special
Education of the Council of Ministers, Uzbek
S.S.R. (1960)

Selected Staff Members: M. N. Gafurov, Head of Chair (1961)

Description:

The Institute publishes a Uchenyye Zapiski. It offers courses in Russian language and literature, native language and literature, elementary-school instruction methods, and mathematics and physics.

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Name: Natural Sciences Institute
(Yestestvenno-nauchnyy institut)

Address: Perm', ulitsa Genkelya, 7

Director: V. V. Kuznetsov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Perm' State University imeni A. M. Gor'kiy
(1961)

Selected Staff Members: --

Description:

The Institute staff has conducted research in electrolytic chemistry. The influence of electrolytic hydrogen on the microhardness of metals and the effect of mercury chloride additions to electrolytes on the absorption of hydrogen by steel during cathodic polarization have been investigated.

In the area of analytic and theoretical chemistry, colorimetric methods have been developed, solid electrodes for polarography have been studied, and ultramicroscopic investigations have been conducted.

The Institute publishes an Izvestiya.

Name: Nezhin State Pedagogical Institute imeni N. V. Gogol'
(Nezhinskiy gosudarstvennyy pedagogicheskiy institut imeni
N. V. Gogolya)

Address: Nezhin, Kommunal'naya ulitsa, 2

Director: M. I. Povod, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. A. Belan, Docent, Head of Chair (1961)
N. A. Leskevich, Head of Chair (1961)

Description:

Courses are offered in Russian language, literature, and singing, native language, literature, and singing, mathematics and physics, and biology, chemistry, and agriculture. A Naukovi Zapysky is published.

Name: Nikolayev Pedagogical Institute imeni V. G. Belinskiy
(Nikolayevskiy pedagogicheskiy institut imeni V. G. Belinskogo)

Address: Nikolayev, ulitsa Rozy Lyuksemburg, 24

Director: N. Ye. Buryak, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: --

Description:

In addition to the preparation of teachers, research has been done at this institute on hydrodynamics and shock-wave phenomena. Courses of study include mathematics, physics, physical education, and Russian language, literature, and singing. A Nauchnyye Zapiski is published.

Name: Nikolayev Section of the Main Astronomical Observatory
(Nikolayevskoye otdeleniye glavnoy astronomicheskoy observatorii)

Address: Nikolayev

Director: --

Deputy Director: --

Administrative Affiliation: Main Astronomical Observatory, Academy of Sciences, U.S.S.R. (1959)

Selected Staff Members:

Ya. Ye. Gordon
A. S. Kharin
Ye. M. Sereda

Description:

This branch of the Main Astronomical Observatory at Pulkovo does work in positional astronomy and maintains a time service.

Name: Nikolayev Shipbuilding Institute imeni Admiral S. O. Makarov
(Nikolayevskiy korablestroitel'nyy institut imeni admirala
S. O. Makarova)

Address: Nikolayev, ulitsa Skorokhodova, 5

Director: Ye. F. Chubov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. M. Basanets, Docent
 V. M. Buznik, Professor, Head of Chair
 A. V. Drogrushchenko
 P. N. Fedoseyev
 A. A. Sagarda
 M. Ya. Sobko
 V. K. Titov
 P. Ye. Tkacheva, Docent, Head of Chair
 A. P. Yushchenko
 A. Ya. Zolotarev, Docent, Head of Chair

Description:

The Institute is one of the largest institutions of higher learning in the Ukraine. Its interests lie largely in ship-structure research. Applied theory of elasticity, plate and hull design, bending of three-layer cylindrical shells, mechanical calculation of intermediate beams, the effect of using high-strength steel in ship building, longitudinal strength of tanks, construction and calculation of the stability of parts of marine engines and application of the theory of similitude to the investigation of marine multiple-expansion steam engines, calculation of strength of rotating discs (taking into account thermal stresses), stress analysis of rotating discs, calculation of the roll of ships, strength of shells reinforced by transverse longitudinal ribs, contact fatigue of ship drive gears, dynamic compression of metals, impressions of conical and wedge-shaped punches in soft metal, penetration of dynamic deflectors with elastic-plastic deformation, plastic compression of cones (alloy steel, carbon steel, and nonferrous metals), and sliding friction of cast iron all have been the subject of research at the Institute.

In the field of metallurgy, the Institute has made studies of carburizing in an organic liquid media, case carburizing by a glow-discharge method, carburizing by heating in an electrolyte (electrolytic heating), residual stresses in hardening of cast iron, graphitization of cast iron, electrical resistance of cast iron at elevated temperatures, radiographic investigation of the thermal expansion of Ni-Cr alloys, characteristic features of electrical-resistance alloys, electrical resistance of Ni-Cr-Al alloys, the problem of the "K state" in Ni-Cr alloys, and the diffusion of antimony in iron and steel.

Mathematical studies have been made, as have studies in heat exchange and estimation of heat exchangers of gas turbines in ship building and studies in hydromechanics and theory of ships. Some work in analytical chemistry has been accomplished. Reports have been issued on finish grinding and on wear resistance of plastics.

A Trudy is published frequently.

The Institute offers courses in shipbuilding, ship repair, marine power installations, machine building, welding technology and equipment, technology of metals, general chemistry, resistance of materials, and mathematics.

Name: Nizhniy-Tagil State Pedagogical Institute
(Nizhne-Tagil'skiy gosudarstvennyy pedagogicheskiy institut)

Address: Nizhniy-Tagil, ulitsa Mira, 25

Director: M. M. Kozhevnikov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. M. Fedorin, Docent, Head of Chair
P. A. Trifonov, Docent, Dean
M. V. Ushakova, Docent, Head of Chair

Description:

Organic-chemistry research is conducted at this institute, which offers courses in biology and chemistry, drafting, drawing, and manual training, Russian language and literature, foreign language, and mathematics and physics.

Name: North Caucasus Mining-Metallurgical Institute
(Severokavkazskiy gornometallurgicheskiy institut--SKGMI)

Address: Ordzhonikidze, Vtuzgorodok

Director: A. Ye. Guriyev, Docent (1961)

Deputy Directors: I. A. Ostroushko, Professor (1961)
A. M. Davidson, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. G. Ageyenko
 M. I. Alkatsov
 M. S. Baklakov
 M. Ya. Durnev, Docent, Dean
 S. I. Krokhin, Docent, Head of Chair
 B. V. Lipin
 Ya. Ya. Mikhin
 B. D. Nekrasov
 A. D. Pogorelyy
 D. F. Puzoshchatov
 Z. A. Serikov
 P. F. Yeremin
 V. V. Zhukovetskiy
 Ye. I. Zhukovskiy, Professor, Head of Chair

Description:

In 1961, this institute, founded by Professor V. Ya. Mostovich, celebrated its 30th Anniversary. The primary work of the Institute concerns nonferrous metallurgy and the beneficiation of nonferrous ores. The metals studied include gold, platinum, copper, bismuth, lead, selenium, tellurium, manganese, and molybdenum.

The Institute has done work on blast drilling and the development of mineral deposits. Methods of winning alkaline-earth metals have been studied. Much work has been done on the calculation of flow sheets and in hydro- and pyrometallurgy. Courses are offered in mining, geology, prospecting, development of mineral deposits, ore beneficiation, mining and metallurgical equipment, and nonferrous metallurgy. It publishes a Trudy.

Name: Northeastern Branch of the Permafrost Institute imeni V. A. Obruchev (Severo-vostochnoye otdeleniye instituta merzlotverdeniya imeni V. A. Obrucheva)

Address: Yakutsk

Director: --

Deputy Director: --

Administrative Affiliation: Permafrost Institute imeni V. A. Obruchev, Academy of Sciences, U.S.S.R. (1958)

Selected Staff Members: --

Description:

The Yakutsk Branch of the Permafrost Institute was organized in 1956. It conducts glaciological and geocryological research in the territory of the Yakutsk S.S.R., through both laboratory studies and expeditions. Investigations include surveying permafrost conditions in mineral-deposit areas and the preparation of plans for the industrial exploitation of these deposits.

The Institute publishes a Trudy.

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Name: North-Ossetian Pedagogical Institute imeni K. L. Khetagurov
(Severo-Osetinskiy pedagogicheskiy institut imeni K. L. Khetagurova)

Address: Ordzhonikidze, ulitsa Markusa, 24

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

- F. S. Churikov
- V. G. Dyad'kin, Docent, Head of Chair
- D. A. Dzagurov, Professor, Head of Chair
- B. A. Tsutsiyev, Professor, Head of Chair

Description:

Research activities at this institute include studies of the determination of the strength of concrete by resonance methods, modulus of elasticity and internal friction in metals, and effect of coloration and decoloration processes on the electrical conductivity of alkali-metal halide crystals. In mathematics, equations have been derived for problems in plasticity and supersonic gas flow. Courses of study at the Institute include Russian and native languages and literature, foreign languages, physics and fundamentals of production, mathematics, drafting, biology, chemistry, agriculture, and physical education.

A Uchenyye Zapiski is published.

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Name: North-Western Correspondence Polytechnic Institute
(Severo-zapadnyy zaochnyy politekhnicheskiy institut)

Address: Leningrad, ulitsa Khalturina, 5

Director: A. S. Zav'yalov, Professor (1961)

Deputy Director: R. G. Finkel'shteyn (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

A. Ya. Berger, Professor, Head of Chair
 O. B. Bron, Doctor
 N. N. Kostarev, Professor, Head of Chair
 A. V. Lukin, Docent, Head of Chair
 S. A. Polikarpov, Candidate, Dean
 V. K. Vasil'yev, Professor, Head of Chair

Description:

The North-Western Correspondence Polytechnic Institute trains under-graduate and graduate students in areas such as welding technology, electronics, electrical engineering, physics, and machine construction. It publishes a Zapiski.

Courses of Study: Geology and exploration of mineral deposits
 Mining
 Electric power stations, networks, and systems (thermal and hydroelectric power stations)
 Electrification of industrial enterprises and installations
 Thermal power installations of electric power stations (boilers and turbines)
 Industrial thermal power engineering (oven and gas heat engineering; heat-transfer installations)
 Ferrous metallurgy
 Casting of ferrous and nonferrous metals
 Thermal processing of metals (metallography, equipment, and technology)
 Corrosion and protection of metals
 Powder metallurgy
 Metalworking (forging, stamping, rolling, and sheathing)
 Machine building, metal-cutting tools, and instruments
 Welding
 Mining machinery
 Automobiles and tractors
 Shipbuilding and ship repair
 Chemical industry machinery and installations (including machinery for inorganic and organic processes, silicates, cellulose and wood-pulp processes, and liquid and gaseous fuels)

Boiler construction
 Turbine construction
 Ship power installations
 Precision-mechanics instruments (measuring, control, and timing devices)
 Electrical machinery and equipment
 Automatic, telemechanical and electric measuring instruments and systems
 Electronic instruments
 Radio engineering
 Radio equipment
 Inorganic compounds
 Electrochemical processes
 Silicates (binders and cementitious materials, ceramics and refractories, and glass)
 Organic synthesis and synthetic-rubber manufacturing
 Rubber
 Automotive transport

Name: Novaya Vil'nya Teachers Institute
 (Novo-Vil'nyaskiy uchitel'skiy institut)

Address: Novaya Vil'nya, ulitsa Palidovo, 29

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Lithuanian S.S.R. (1960)

Selected Staff Members: --

Description:

The Institute's curriculum includes courses in Polish language and literature, physics and mathematics, and natural science and geography.

Name: Novgorod Pedagogical Institute
 (Novgorodskiy pedagogicheskiy institut)

Address: Novgorod, poselok Antonovo

Director: I. I. Kostikov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

Z. P. Basmanova, Candidate, Head of Chair
D. L. Berman

Description:

The Institute, opened in 1953, provides training for teachers in the arts and sciences, offering courses in Russian language, literature, and history, and mathematics and physics. Many articles have been published in connection with work in interpolation mathematics. Recent work has considered the problem of photon structure and the red shift. It publishes a Uchenyye Zapiski.

Name: Novochoerkassk Order of Labor Red Banner Polytechnic Institute imeni Sergo Ordzhonikidze
(Novochoerkasskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii institut imeni Sergo Ordzhonikidze)

Address: Novochoerkassk, ulitsa Prosveshcheniya, 120

Director: B. N. Avilov-Karnaikhov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. M. Alekhin, Docent, Head of Chair
L. I. Antropov, Professor
K. P. Azarov, Docent
B. S. Belovidov, Professor
A. Ya. Berlovich, Professor
F. I. Chernyavskiy, Candidate
A. D. Drozdov, Professor, Dean
S. A. Durov, Professor
M. A. Frolov, Docent, Head of Chair
G. M. Kayalov, Candidate
V. V. Kleymenov, Head of Laboratory
A. G. Kobilev, Professor
A. S. Lyshevskiy, Docent
V. G. Mikhaylov, Professor
V. P. Mikhaylov, Docent, Head of Chair
A. V. Pek, Professor, Head of Chair

I. I. Pekker, Docent
 V. I. Petrashen, Professor
 I. F. Ponomarev, Corresponding Member (Academy of
 Construction and Architecture of the U.S.S.R.)
 G. I. Popov, Docent
 S. Ya. Popov, Docent
 Ye. V. Posokhov, Professor
 V. P. Sabadashev, Docent
 Ye. M. Sinel'nikov, Professor, Head of Chair
 N. S. Siunov, Professor, Head of Chair
 M. V. Titova, Head of Chair
 N. S. Tokarev, Professor
 O. V. Tozoni, Docent
 G. V. Yakimov, Professor, Head of Chair
 G. M. Yefremov, Professor
 T. S. Zhuravleva

Description:

The Institute was founded in 1907 under the name of Don Polytechnic Institute. It was repeatedly reorganized, serving as a basis for a number of new institutes, which were transferred to other cities. In 1933, it became the Novocherkassk Industrial Institute, but was renamed in 1943 the Novo-cherkassk Polytechnic Institute.

More than 1,200 students graduate every year from the faculties of mining, geology, mechanics, electromechanics, power engineering, construction, and chemical engineering. The Institute grants Candidate's Degrees.

The Institute's scientists have conducted research in areas such as the utilization of iron and cast-iron shavings, enameling of metals, construction of electric locomotives, oxygenous combinations of chlorine, mine ventilation, mining machines, technology of silicates, and the kinetics of electrode processes. It publishes a Trudy.

Courses of Study: Geology and exploration of mineral deposits
 Hydrogeology and engineering geology
 Mine surveying
 Mining
 Mining construction
 Electric power stations, networks and systems (thermal
 and hydroelectric power stations)
 Electrification of industrial enterprises and installations
 Mining electromechanics
 Thermal power installations (boiler and turbine)
 Machine building, metal-cutting tools, and instruments
 Internal-combustion engines
 Chemical-industry machinery (inorganic and organic
 chemical processes, silicates, cellulose and wood-pulp
 processes, liquid and gas fuels)

Electrical machinery and equipment
 Automatic, telemechanic, and electric measuring instruments and systems
 Control instruments for chemical processes
 Inorganic chemistry
 Electrochemical processes
 Silicates (binders and cementitious materials, ceramics and refractories, and glass)
 Industrial and civil construction
 Water supply and sewerage systems
 Automotive transport

Name: Novosibirsk Agricultural Institute
 (Novosibirskiy sel'skokhozyaystvennyy institut)

Address: Novosibirsk, Bol'shevistskaya ulitsa, 172

Director: Z. D. Krasikov, Docent (1961)

Deputy Director: V. S. Boyko, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

I. V. Borodin, Professor, Head of Chair
 S. M. Kabalkin
 Ye. N. Korushkin, Docent, Dean
 G. P. Stovpovy
 Ch. I. Zgirskiy, Docent, Head of Chair

Description:

The Institute publishes a Trudy which includes reports of research in metallurgical engineering, gas dynamics, and repair and maintenance of agriculture equipment. The courses of study offered include agronomy, animal husbandry, and mechanization of agriculture.

Name: Novosibirsk Construction-Engineering Institute imeni V. V. Kuybyshev
 (Novosibirskiy inzhenerno-stroitel'nyy institut imeni V. V. Kuybysheva)

Address: Novosibirsk, Leningradskaya ulitsa, 57

Director: D. A. Kuleshov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. A. Ashchepkov, Professor, Head of Chair
P. I. Kudryavtsev
N. S. Makerov, Professor, Head of Chair
A. A. Pichugin, Docent, Head of Chair
G. V. Zavadskiy, Dean

Description:

This institute provides academic training in civil engineering, offering courses in architecture, hydroconstruction, reinforced-concrete structures, and prefabricated construction. Research has been done in geodesy, structural mechanics, and hydraulics. The Candidate's Degree is granted, and a Trudy of the Institute is published.

Name: Novosibirsk Electrical Engineering Institute
(Novosibirskiy elektrotekhnicheskiy institut)

Address: Novosibirsk, 34, Kvartal 69, 36

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. M. Alabuzhev, Professor, Head of Chair
Z. D. Chernyshev, Head of Laboratory
K. B. Karandeyev, Corresponding Academician (U.S.S.R.)
I. G. Kolker, Professor
P. N. Obukhov, Docent, Party Secretary
S. P. Pazukhin, Docent, Head of Chair
I. V. Rodionov, Docent, Head of Chair
V. P. Sigorskiy, Docent
L. I. Tushinskiy, Docent

Description:

This institute was organized about 1953 to train electrical engineers. This institute is not, as the name implies, engaged solely in

the area of electrical engineering, but also branches out into other phases of science, such as aerodynamics, mechanical engineering, and physics. A considerable amount of work is conducted in the area of physics, as opposed to pure electrical engineering.

The Institute offers courses in a wide variety of fields, including radio engineering, design and production of radio equipment, dielectrics and semiconductors, electric measuring technology, automation and remote control, industrial electronics, electrical engineering, electric power stations, machine building, machine tool, and mathematical machines and computers.

Name: Novosibirsk Electrical Engineering Institute of Communications
(Novosibirskiy elektrotekhnicheskiy institut svyazi)

Address: Novosibirsk, ulitsa Kirova, 58

Director: N. V. Naumov, Docent (1961)

Deputy Director: V. G. Bosenko, Decent (1961)

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

- I. A. Chaplinskiy, Docent
- Yu. E. Garin, Candidate, Dean
- N. M. Nemchenko, Docent
- A. F. Plonskiy, Docent, Head of Laboratory for Transmission Equipment
- N. S. Rukin, Docent, Head of Chair
- B. A. Shvarts, Docent, Head of Laboratory for Radiobroadcasting and Acoustics
- I. M. Vilenskiy, Candidate, Head of Chair of Antennas and Radio-Wave Propagation
- A. G. Zyuko, Docent, Head of Chair of Radio-Receiving Equipment

Description:

This institute opened for the 1953-1954 school year with an initial enrollment of more than 300 students. By 1958, at least five research laboratories had been established. Equipment under development included an electronic telegraph apparatus and a TV-synchronizing generator using semiconductors and ferrites. Research was under way on the self-modulation of powerful radiowaves in the ionosphere. A Uchenyye Zapiski appears each month.

Radio communications, telephone and telegraph communications, and communications economics and organization are among the available courses of study.

Name: Novosibirsk Institute of Engineers of Geodesy, Aerial-Photographic Surveying, and Cartography
(Novosibirskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii--NIIGAIK)

Address: Novosibirsk, Potaninskaya ulitsa, 27

Director: K. L. Provorov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. V. Butkevich, Docent
V. V. Buzuk, Docent, Dean
G. A. Meshcheryakov, Docent
N. V. Shubin, Docent

Description:

NIIGAIK was established in 1939 from the Geodesy Department of the Novosibirsk Construction-Engineering Institute to train geodesists, aerial photographers, and cartographers. It offers courses in geodesy, astro-geodesy, aerial-photographic surveying, and cartography. The Institute publishes a Trudy.

Name: Novosibirsk Institute of Railroad Transportation Engineers
(Novosibirskiy institut inzhenerov zheleznodorozhnogo transporta)

Address: Novosibirsk, ulitsa Dusi Koval'chuk, 181

Director: N. P. Kondakov, Docent (1961)

Deputy Director: V. V. Lakhanin, Professor (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

A. M. Karpov, Docent, Head of Chair
 K. N. Korzhavin, Professor, Head of Chair
 A. Ye. Kuz'mina, Docent, Head of Chair
 A. A. Savelov, Docent, Head of Chair
 V. Ya. Skorov, Docent
 L. N. Roznikov, Docent, Head of Chair
 K. K. Yakobson, Professor, Head of Chair

Description:

Technical training is provided for students of railroad engineering. Some of the Institute's research has been concerned with nonferrous metallurgy, corrosion of steel, structural mechanics and analysis, and aerial surveying for railroad layouts. A Trudy is published by the Institute. The Doctor's Degree is granted, and courses are offered in utilization of railroads, railroad construction, civil engineering, bridges and tunnels, construction equipment, and railroad economics and organization.

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Name: Novosibirsk Institute of Water-Transportation Engineers
 (Novosibirskiy institut inzhenerov vodnogo transporta)

Address: Novosibirsk, prospekt Stalina, 18

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of the River Fleet, R.S.F.S.R. (1961)

Selected Staff Members:

L. G. Kharitonov
 A. P. Nesterenko
 V. G. Vlasov
 Yu. V. Zakharov

Description:

This institute studies nondestructive testing methods for low-carbon steel, turbulent gas flow, and the use of semiconductor devices for temperature measurement. It offers courses in ship engines and mechanisms, hydrotechnical construction of maritime waterways and harbors, internal-waterways navigation, and maritime and waterway shipping of water transport. A Trudy is published.

Name: Novosibirsk Pedagogical Institute
(Novosibirskiy pedagogicheskiy institut)

Address: Novosibirsk, Komsomol'skiy prospekt, 20

Director: Yu. L. Lobachev, Docent (1961)

Deputy Director: M. A. Zolotov, Candidate (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. A. Baturina, Docent, Head of Chair
Yu. V. Sharov, Docent, Head of Chair

Description:

This institute, opened in 1939, provides teacher training in the arts and sciences, and in some aspects of engineering. Courses are offered in foreign languages (English, French, and German), Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and geography and biology. The results of investigations in physics, electronics, and mathematics have been published by Institute personnel in its Uchenyye Zapiski.

Name: Novosibirsk State Institute of Measures and Measuring Instruments
(Novosibirskiy gosudarstvennyy institut mer i izmeritel'nykh priborov--NGIMIP)

Address: Novosibirsk

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Standards, Measures, and Measuring Devices (1957)

Selected Staff Members:

Yu. Ye. Bondarev
A. L. Grokhol'skiy, Candidate

Description:

Some of the measuring devices developed by NGIMIP are a measuring bridge, a summing chronoscope, the KB-1 quality meter, and three-terminal

condensers of small capacitance. Other studies at the Institute have concerned the determination of waveguide parameters, the plastic elongation of metals, the microhardness of ferrite in carbon steel, and methods for checking optical dividing heads.

The Institute was organized in 1944 and has a Time and Frequency Laboratory.

Name: Novosibirsk State University
(Novosibirskiy gosudarstvennyy universitet)

Address: Novosibirsk

Director: I. N. Vekua, Academician (U.S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

S. A. Khristianovich, Academician (U.S.S.R.)
M. A. Lavrent'yev, Academician (U.S.S.R.)
B. V. Ptitsyn, Corresponding Academician (U.S.S.R.)
Yu. N. Rabotnov, Academician (U.S.S.R.)
S. L. Sobolev, Academician (U.S.S.R.)

Description:

Novosibirsk State University opened in 1959 as a part of the current expansion of scientific activity in Siberia. During the 1960-1961 school year, about 600 students were enrolled. Prominent scientists from the various institutes of the Siberian Department, Academy of Sciences, U.S.S.R., spend part of their time teaching at the University. Beginning with the third year of study, academic studies are transferred to the laboratories of particular institutes, where the students continue to work and study with the latest equipment. So far, the University has established courses in mathematics, mechanics, physics, chemistry, and biology.

Name: Novozybkov State Pedagogical Institute
(Novozybkovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Novozybkov, Leninskaya ulitsa, 11

Director: P. P. Solov'yev, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. S. Miller, Docent, Head of Chair
O. Ya. Samochatova, Docent, Head of Chair

Description:

Research in structural mechanics and physics (electrodynamics and field theory) has been conducted at the Institute. Geography is also a field of study. Courses are offered in Russian language and literature, foreign language, mathematics and physics, biology, chemistry, and agriculture.

Name: Odessa Agricultural Institute
(Odesskiy sel'skokhozyaystvennyy institut)

Address: Odessa, ulitsa Sverdlova, 99

Director: S. A. Mel'nik, Professor (1961)

Deputy Director: N. K. Murashchenko, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

M. Ye. Braslavets, Professor, Dean
K. O. Chernov, Docent, Head of Chair
V. V. Fedenko, Docent
S. V. Mokrov, Docent, Dean
V. N. Zhedenov, Professor, Head of Chair

Description:

This institute offers courses in agronomy, fruit and vegetables, viticulture, and animal husbandry. Research has been conducted in viticulture and soil enrichment by both microbiological and chemical methods. Investigations of a vaccine for chronic sheep brucellosis were also carried out. Candidate's Degrees are granted, and a Trudy is published.

Name: Odessa Construction-Engineering Institute
(Odesskiy inzhenerno-stroitel'nyy institut)

Address: Odessa, ulitsa Didrikhsona, 4

Director: P. L. Yeremenko (1961)

Deputy Director: N. K. Zakharov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

P. P. Argunov, Professor, Head of Chair
A. I. Burlak, Candidate, Head of Chair
M. G. Kreyn
N. Lakinskaya
G. Ya. Popov, Candidate
A. I. Ukhin, Docent, Dean
A. F. Zholudev, Docent, Head of Chair

Description:

The Institute offers training in civil engineering. Construction, reinforced-concrete structures, prefabricated construction, plumbing, and heating and ventilation are among the courses offered. Some research work has been published on structural analysis and hydrodynamics. The Candidate's Degree is granted.

Name: Odessa Credit-Economics Institute
(Odesskiy kreditno-ekonomicheskii institut)

Address: Odessa

Director: S. Ya. Ogorodnik, Docent (1961)

Deputy Director: N. G. Bazhal, Docent (1961)

Administrative Affiliation: --

Selected Staff Members:

V. D. Slutskiy, Docent, Head of Chair
B. V. Sorochinskiy, Docent

Description:

This institute helped the kolkhozes to improve their financial and productive activity in accordance with a scientific plan established in 1956-1957. It also investigated the practice of short-term credit and loans to district kolkhozes. Beginning with 1957, the Institute began training highly qualified accountants. In 1957, about 175 students were trained in the section of "Accountancy in Agriculture". The Institute also has a course in finance and credit. It publishes a Nauchnyye Zapiski.

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Name: Odessa Electrical Engineering Institute of Communications
(Odesskiy elektrotekhnicheskiy institut svyazi)

Address: Odessa, ulitsa Chelyuskintsev, 1/3

Director: I. P. Pyshkin (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

V. S. Davydov, Docent, Head of Chair
M. O. Gliklikh, Docent, Head of Chair of Department
of Television
V. I. Gryazev, Docent, Head of Chair
A. I. Khachaturov, Docent
M. F. Kopp, Docent, Head of Chair
M. K. Kromykh, Candidate, Dean
L. N. Kurchikov, Candidate, Head of Chair
A. F. Osadchenko, Docent, Head of Chair
I. E. Sredniy, Docent

Description:

Prior to 1954, this institute offered undergraduate training only in the fields of radio engineering and cable-communication engineering. More recently, advanced training in the fields of telephony, TV, and other communication areas has been available, and an Experimental Training Correspondence Center was organized about 1958. Members of the Institute collaborated on a book titled "Automatic Telephony", which was in second edition by 1954. Various departments have conducted research on TV apparatus and antennas, equipment for transmitting facsimile copies, an automatic telegraph machine, and an instrument to study characteristics of nonlinear elements, transistors, diodes, triodes, etc. In 1958, members of the Institute participated in an experiment transmitting TV from Bucharest to Odessa using a special aircraft as the relay station. The Institute publishes a Trudy. The Candidate's Degree is awarded and the available courses of study include radio communications and telephone and telegraph communications.

Name: Odessa Engineering Institute of the Food and Refrigeration Industry
(Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy
promyshlennosti)

Address: Odessa, ulitsa Petra Velikogo, 1/3

Director: S. G. Il'chenko, Docent (1961)

Deputy Director: V. F. Chaykovskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

S. G. Chuklin, Professor, Head of Chair
I. P. Dolgiy, Docent, Dean
G. K. Filonenko, Professor, Head of Chair
M. D. Khaskind
A. N. Mal'skiy, Head of Chair
A. T. Markh, Professor, Head of Chair
V. S. Martynovskiy, Doctor
V. A. Nayer, Candidate
V. P. Potapov, Professor, Head of Chair

Description:

This institute was founded in 1930 and was known as the Odessa Chemical Institute until 1949. The Institute conducts considerable research on the use of semiconductor thermoelectric elements in cooling systems and on semiconductor materials. Other fields of research are organic chemistry, structural mechanics, metal wear and friction, and hydrodynamics. A Trudy is published.

The Institute grants Candidate's Degrees and offers courses in machinery and installations of the food industry, refrigeration and compressor machinery and installations, technology of wine making, technology of preserved and canned goods, and technology of meat and dairy products.

Name: Odessa Higher Engineering Maritime School
(Odesskoye vyssheye inzhenernoye morskoye uchilishche)

Address: Odessa, ulitsa Perekopskoy pobedy, 20

Director: --

Deputy Director: G. S. Dragomaretskiy (1961)

Administrative Affiliation: Ministry of the Merchant Marine, U.S.S.R. (1960)

Selected Staff Members:

P. V. Bordovskiy
 A. A. Broytman
 A. Z. Gutsol, Docent, Head of Chair
 V. F. Kovalenko, Candidate
 A. A. Miryushchenko, Professor, Head of Chair
 V. K. Zakharov, Docent, Dean

Description:

Research conducted at this institute includes metallurgical studies, problems in mechanical structures, and problems of marine engines.

The Institute publishes a Nauchnyye Trudy. Courses are available on electric installations on ships, ship power installations, and maritime navigation.

Name: Odessa Hydrometeorological Institute
 (Odesskiy gidrometeorologicheskii institut--OGMI)

Address: Odessa, ulitsa Chkalova, 2-a

Director: G. L. Kobus, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. N. Befani, Professor, Head of Chair of Hydrology
 I. F. Burlay, Professor, Head of Chair of Water Study
 E. A. Burman, Professor, Head of Chair of Meteorology
 M. S. Lifshits, Professor, Head of Chair of Mathematics
 Ye. G. Mukhina, Professor, Head of Chair of Agrometeorology
 A. N. Rayevskiy, Docent, Head of Chair
 V. P. Tverdyy, Docent

Description:

This institute was originally established in 1932 in Khar'kov to train meteorologists and hydrologists. The Institute was moved to Odessa in 1944. It trains hydrologists, meteorologists, oceanologists, and agricultural meteorologists.

Research has been done in friction and wear resistance of metals, mathematics, ionic potentials, and radiation equilibrium in the lower strata of the atmosphere. A Trudy is published frequently. The Institute offers courses in hydrology of land, meteorology, and agricultural meteorology.

797

Name: Odessa Hydrotechnical Institute
(Odesskiy gidrotekhnicheskiy institut)

Address: Odessa, ulitsa Didrikhsona, 4

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

G. S. Belorussov
F. P. Dovzhenko
S. D. Gritsyvta
I. S. Iokhvidov
M. G. Kreyn
I. E. Prokopovich
A. N. Shirshov
I. A. Tyagunov

Description:

This institute has done extensive research on the structure of materials and the state of stress of these materials. Emphasis is placed upon the theoretical rather than the practical aspects of research.

In 1952, a branch of the Institute opened in Novaya Kakhovka.

The Institute publishes a Trudy.

798

Name: Odessa Institute of Engineers of the Merchant Fleet
(Odesskiy institut inzhenerov morskogo flota)

Address: Odessa, ulitsa Mechnikova, 34

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of the Merchant Fleet, U.S.S.R. (1961)

Selected Staff Members:

Ya. Z. Kazavchinskiy, Doctor
 P. M. Kessel'man
 A. S. Kovbasyuk, Candidate
 L. A. Kozdoba, Candidate
 V. I. Nebesnyy, Professor, Head of Chair
 P. S. Nikerov, Docent, Dean
 A. I. Pashchenko
 V. A. Rabinovich
 A. I. Risovich
 A. A. Starosel', Docent
 S. A. Vol'skiy, Docent, Head of Chair
 V. A. Zagoruchenko, Candidate

Description:

Thermodynamic properties and equations of state have been determined for methane, ethane, ethylene, liquid ammonia, natural gases, real gases, deuterium, and carbon dioxide. Electric simulators and resistor networks have been developed to solve heat-conduction problems. Flexural stability and bending of welded I-beams and strength of cast-iron welds have been studied. The efficiency of streamlined ribs for regenerators in gas-turbine plants and ship boiler repair methods have been investigated.

The Institute publishes a Trudy.

Courses are available in lifting, hoisting, and transportation machinery and equipment, shipbuilding and ship repair, ship engines and mechanisms, hydrotechnical construction of maritime waterways and harbors, and maritime and waterway shipping of water transport.

Name: Odessa Institute of Maritime Engineers
 (Odesskiy institut inzhenerov morskogo flota)

Address: Odessa, ulitsa Mechnikova, 34

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of the Merchant Marine, U.S.S.R. (1960)

Selected Staff Members:

Ya. Z. Kazavchinskiy, Doctor
 P. M. Kessel'man
 A. S. Kovbasyuk, Candidate
 L. A. Kozdoba, Candidate
 V. A. Rabinovich
 A. A. Starosel', Docent
 A. A. Vasserman
 V. A. Zagoruchenko

Description:

This institute conducts research in marine engineering. It has studied problems such as gas-turbine and diesel installations, ship structures (plating, welding, and corrosion), and ship machinery. It has recently completed research on the application of ultrasonics to prevent the formation of scale in steam boilers. The Institute publishes a Nauchnyye Trudy.

The courses of study available at the Institute include ship engines and mechanisms, shipbuilding and ship repair, lifting, hoisting, and transportation machinery and equipment, hydrotechnical construction of maritime waterways and harbors, and maritime and waterway shipping of water transport.

800

Name: Odessa Laboratories of the Institute of General and Inorganic Chemistry
 (Laboratorii v Odesse instituta obshchey i neorganicheskoy khimii)

Address: Odessa

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1960)

Selected Staff Members:

L. I. Konovenko
 R. S. Lauer
 V. A. Nazarenko
 M. P. Nikonova
 N. S. Poluyektov
 S. B. Popova

Description:

The work at the Odessa Laboratories of the Institute of General and Inorganic Chemistry seems to be oriented toward the analysis of metals by

various methods: chromatography, colorimetry, photometry, and flame photometry. They have published several articles on the extinguishing influence of metals on the intensity of radiation in a flame. Publications from this facility began as early as 1956.

Name: Odessa Polytechnic Institute
(Odesskiy politekhmicheskiy institut)

Address: Odessa, Novo-Arkadiyskaya doroga, 1

Director: S. M. Yampol'skiy, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. G. Bol'shakov, Professor, Dean
 V. A. Dobrovol'skiy, Professor, Head of Chair
 G. N. Kostenko, Professor, Head of Chair
 A. V. Kuzovnikov, Candidate, Head of Chair
 P. P. Lopat, Docent, Head of Chair
 K. V. Olesevich, Docent, Head of Chair
 V. A. Parail, Docent, Dean of Department of Electrical Engineering
 A. L. Rchachev, Doctor, Head of Chair
 P. R. Rodin, Docent, Head of Chair
 A. I. Smirnov, Docent, Head of Chair
 M. L. Varlamov, Professor, Head of Chair of Technology and
 Automation of Chemical Production
 A. P. Voloshchenko, Candidate
 K. I. Zablonskiy, Docent, Head of Chair of Applied Mechanics

Description:

This institute has existed since 1920. It was known as The Odessa Industrial Institute until 1945. It publishes a Nauchnyye Zapiski.

Personnel at this institute have done research in mathematics, aerohydrodynamics and gasodynamics, the cooling of gas-turbine blades, mechanical engineering, friction gears, friction and surface deformation of metals, surface quality of machine parts, surface properties of metals, the effect of ultrasonics on the nitriding of steel, stress analysis, radio and electrical engineering, the automation of production processes, and alpha particles and light nuclei.

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Courses of Study: Electrification of industrial enterprises and installations
Thermal power installations of electric power stations
(boilers and turbines)
Industrial thermal power engineering (oven and gas heat
thermal engineering; heat-transfer installations)
Machine building, metal-cutting tools, and instruments
Casting machinery and processes
Lifting, hoisting, and transportation (machinery and
equipment)
Chemical industry machinery and installations (organic
and inorganic chemical processes, silicates,
cellulose and wood pulp processes, and liquid and
gaseous fuels)
Automatic, telemechanic, and electric measuring
instruments and systems
Control instruments for chemical processes
Organic synthesis and synthetic rubber manufacture

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Name: Odessa State Pedagogical Institute imeni K. D. Ushinskiy
(Odesskiy gosudarstvennyy pedagogicheskiy institut imeni
K. D. Ushinskogo)

Address: Odessa, Komsomol'skaya ulitsa, 26

Director: I. A. Vlasenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

S. P. Dudkin, Professor, Head of Chair
A. K. Ponrytan, Docent, Head of Chair
E. Ye. Vaynshteyn
S. F. Zbanduto, Docent, Head of Chair

Description:

This institute trains teachers. It publishes a Nauchnyye Zapiski, which has reported on X-ray spectral studies and studies in metallurgy, physics, chemistry, and mathematics. The Institute has an X-ray laboratory and a luminescence laboratory.

Technical courses of study at the Institute include mathematics, drafting, physics, and fundamentals of production. Courses are also offered in physical education and Russian and native language, literature, and singing.

Name: Odessa State University imeni I. I. Mechnikov
(Odesskiy gosudarstvennyy universitet imeni I. I. Mechnikova)

Address: Odessa, ulitsa Shchepkina, 12

Director: A. I. Yurzhenko, Professor (1961)

Deputy Director: S. M. Kovbasyuk, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. V. Bogatskiy, Docent, Head of Chair
I. M. Duz', Docent, Dean
D. G. El'kin, Professor, Head of Chair
R. O. Faytel'berg, Professor, Head of Chair
V. A. Fedoseyev
M. I. Gavrilov
O. D. Knab
I. G. Leonov, Docent, Head of Chair
A. G. Lobunets, Docent, Head of Chair
N. E. Ovander, Docent, Head of Chair
O. J. Panich
G. B. Petrazhitskiy
A. K. Plisov
D. I. Polishchuk
T. Ya. Ser, Docent
V. V. Serdyuk
P. L. Tranchenko, Professor, Head of Chair
V. P. Tsesevich, Professor, Head of Chair
I. Ya. Yatsko, Docent, Head of Chair

Description:

Odessa State University had an enrollment of about 8,200 students for the 1960-1961 year. It has an extensive evening and correspondence program. Publications include Pratsi Zbirnyk Molodykh Uchenykh Universytetu; Pratsi Prirodnichi Nauki; Trudy, Seriya Obshchestvennykh Nauk; Trudy, Sbornik Molodykh Uchenykh Universiteta; Trudy, Seriya Filologicheskikh Nauk; and Nauchnyy Yezhegodnik. Candidate's and Doctor's Degrees are granted.

A foremost area of research in the University is gas dynamics. Particular studies have concerned combustion and evaporation of drops of liquid fuel, sprayed-fuel drops in fuel-air mixture, heat-transfer determination in a drop by boundary-layer method, and flame propagation of two-phase mixtures. In mathematics, the University has worked on differential equations, quantum mechanics, and the boundary-value problem.

Chemical investigations include studies of malonic esters, crotonic esters, diacyl peroxides, alkyl acrylic acids, styrene polymerization,

chromium sulfate complexes, supercooled organic liquids, silver halides and bromides, naphthol, and problems in analytical chemistry.

Other areas of study at the University include hydrogenation and electrochemical combustion of solid catalysts, oxygen electrodes with chromium-nickel carrier, sorbents, ultrasonics, aerosols, photosynthesis, and semiconductors and dielectric, i.e., radiation effects on cadmium sulfide single crystals and photoconductivity of cadmium selenide and other semiconducting materials.

Work on synthetic latexes has been performed at the Laboratory of High-Molecular Compounds (Laboratoriya vysokomolekulyarnykh soyedineniy), an associated facility. Other affiliated facilities are the Scientific-Research Institute of Physics and the Astronomical Observatory.

The curricula of the University provide for courses of study in history, Russian language and literature, native language and literature of peoples of the U.S.S.R., mathematics, astronomy, physics, chemistry, biology, and physical geography.

Name: Odessa Technological Institute imeni I. V. Stalin
(Odesskiy tekhnologicheskii institut imeni I. V. Stalina)

Address: Odessa, ulitsa Sverdlova, 112

Director: P. N. Platonov, Doctor (1961)

Deputy Director: K. I. Kutsenko, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. Ya. Beletskiy, Professor
P. G. Demidov, Professor, Head of Chair
D. P. Gokhshteyn, Professor, Head of Chair
Ye. B. Lunts, Professor
I. L. Roykh
G. G. Tsybul'skiy, Docent, Dean
A. P. Yegipko, Docent, Head of Chair

Description:

Prior to 1953, the Institute was known as the Odessa Institute for Engineers of the Milling Industry and Grain-Elevator Management. It conducts basic research in areas such as chemistry and machine-construction technology, and has conducted numerous studies on atmospheric corrosion.

The Institute publishes the Trudy Odesskogo Tekhnologicheskogo Instituta imeni I. V. Stalina. Candidate's Degrees are granted, and courses are offered in machinery and installations of the food industry, grain processing and storage, and economics and organization of the food-products industry.

Name: Oka Radio-Astronomy Station
(Okhkaya radioastronomicheskaya stantsiya)

Address: Near Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Physics Institute imeni P. N. Lebedev (1961)

Selected Staff Members: --

Description:

At this station, a 22-meter-diameter radio telescope, designed by P. D. Kalachev and A. Ye. Salomonovich, has been in operation since 1959. The largest radio telescope in the world, designed by Kalachev, V. V. Vitkevich, and I. F. Kalkin, is still under construction. This telescope, in the form of a huge, cross-shaped antenna and consisting of two intersecting parabolic cylinders, will reportedly be completed and installed at this station in 1962.

Name: Omsk Agricultural Institute imeni S. M. Kirov
(Omskiy sel'skokhozyaystvennyy institut imeni S. M. Kirova)

Address: Omsk, Zagorodnaya Roshcha

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

K. K. Besspalov, Head of Chair
L. S. Chernukhin, Head of Chair
N. M. Dobrodeyev, Head of Chair
A. V. Fedyushin, Head of Chair

A. A. Filin, Head of Chair
 D. N. Fyalkov, Docent
 A. S. Gints, Head of Chair
 K. P. Gorshenin, Professor
 A. R. Kozhevnikov, Head of Chair
 L. S. Neshchadimov
 I. I. Samsonov, Head of Chair
 M. Z. Zhuravlev, Head of Chair

Description:

The Institute publishes a Trudy and awards higher academic degrees. Published work refers principally to geodesy, cartography, and aerial photo-geodesy, although, publications also appear on geology of the region, soil science, astronomy, architectural engineering, and machinery maintenance and repair. The Institute grants Candidate's and Doctor's Degrees. The courses of study offered include agronomy, fruits and vegetables, viniculture, animal husbandry, mechanization of agriculture, hydromelioration, engineering geodesy, meat and dairy products, agricultural economics and organization, and bookkeeping.

Name: Omsk Machine-Building Institute
 (Omskiy mashinostroitel'nyy institut)

Address: Omsk, ulitsa Dolgireva, 60

Director: N. S. Sevast'yanov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

M. M. Feygin
 Yu. A. Gopp, Doctor, Professor
 M. S. Kolmakova, Docent
 V. V. Kondashevskiy, Docent, Dean
 L. I. Kuznetsov, Candidate, Head of Chair
 A. K. Mashkov
 P. A. Pakidov, Docent

Description:

The Institute, founded in 1942, offers both day and evening courses. The total enrollment in 1957 was approximately 2,000 students.

The research of the Institute is concentrated mainly on machinery, especially control systems, both automatic and manual, for use in mills, foundries, etc. As evidenced by their Trudy, most research pertains to this field, or associated ones, e.g., the mathematical and physical parameters of control systems, the use of radiation in these systems, autopilot systems, etc. Some metallurgical research has been reported.

The academic program of the Institute includes courses in machine-building technology, machine tools, welding equipment and technology, foundry equipment and technology, equipment and technology for pressure working metals, automation, design and production of radio equipment, and electrical measuring techniques.

Name: Omsk Pedagogical Institute imeni A. M. Gor'kiy
(Omskiy pedagogicheskiy institut imeni A. M. Gor'kogo)

Address: Omsk, Partizanskaya ulitsa, 4-a

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. B. Bashkin, Docent, Head of Chair
M. P. Savchenko, Professor, Head of Chair
G. G. Shestel', Docent, Head of Chair

Description:

Teacher training is given in the arts and sciences, and in some aspects of engineering. The technical staff has published frequently in the field of mathematics. Courses of study are offered in foreign languages (English, French, and German), Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and physical education. It publishes a Uchenyye Zapiski.

The Institute was opened in 1932.

Name: Order of Labor Red Banner Institute of Physical Problems imeni
S. I. Vavilov
(Ordena Trudovogo Krasnogo Znameni institut fizicheskikh problem
imeni S. I. Vavilova--IFP)

Address: Moscow, Vorob'yevskoye shosse, 2

Director: P. L. Kapitsa, Academician (U.S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

A. A. Abrikosov, Doctor
 N. Ye. Alekseyevskiy, Corresponding Academician (U.S.S.R.)
 A. S. Borovic-Romanov
 I. Ye. Dzyaloshinskiy, Candidate
 V. A. Fok, Academician (U.S.S.R.)
 L. P. Gor'kov, Candidate
 M. S. Khaikin, Doctor
 I. M. Khalatnikov, Professor
 L. D. Landau, Academician (U.S.S.R.), Head of Theoretical Division
 Ye. M. Lifshits, Professor
 N. N. Mikhaylov, Head of Engineering Division
 I. V. Obreymov, Corresponding Academician (U.S.S.R.)
 V. P. Peshkov, Doctor
 I. Ya. Pomeranchuk, Corresponding Academician (U.S.S.R.)
 A. I. Shal'nikov, Corresponding Academician (U.S.S.R.)
 Yu. V. Sharvin, Doctor
 S. A. Vorob'yev

Description:

This institute, founded in 1934, is recognized internationally as an outstanding center for research in fundamental and high-energy physics. Landau's contributions in the application of quantum mechanics to cosmic radiation, theories of ferromagnetism, and superconductivity are well-known, as is Kapitsa's work on liquid helium and superfluidity. This institute has also been foremost in cryogenic work in the U.S.S.R. Research is also conducted on the physics of high-molecular-weight compounds.

Name: Orekhovo-Zuyevo State Pedagogical Institute
 (Orekhovo-Zuyevskiy gosudarstvennyy pedagogicheskiy institut)

Address: Orekhovo-Zuyevo, Zelenaya ulitsa, 10

Director: --

Deputy Director: S. V. Nazar'yev, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. Y. Asribekov, Docent, Head of Chair of Physics
 V. P. Barannik, Professor, Head of Chair of Chemistry and Chemical
 Engineering
 S. M. Geydel'man, Docent, Head of Chair of Mathematics
 N. P. Iroshniko, Docent
 A. A. Kayyev, Docent, Head of Chair

Description:

The Institute publishes Uchenyye Zapiski Orekhovo-Zuyevskogo Pedagogicheskogo Instituta. The staff is interested in organic coatings as corrosion inhibitors, in addition to mathematics and dielectric materials. Courses are offered in Russian language and literature, mathematics and physics, chemistry, biology and fundamentals of agriculture, and methods of elementary-school education.

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Name: Orel State Pedagogical Institute
 (Orlovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Orel, Komsomol'skaya ulitsa, 95

Director: G. M. Mikhalev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. A. Aleksandrov, Candidate, Dean
 G. M. Domrachev, Docent, Head of Chair
 S. I. Yefremov, Docent, Head of Chair

Description:

Research is carried out in geology and is published in the Nauchnyye Zapiski of the Institute. Some work in ultrasonic vibrations is also done here.

Foreign language (English, French, and German), elementary-school instruction methods, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and biology, chemistry, and agriculture are included in the curriculum.

Name: Orenburg Agricultural Institute imeni A. A. Andreyev
(Orenburgskiy sel'skokhozyaystvennyy institut imeni A. A. Andreyeva)

Address: Orenburg, ulitsa Chelyuskintsev, 18

Director: V. P. Petrov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

I. P. Ioanidi, Docent, Dean
N. V. Sadvskiy, Professor, Head of Chair
I. N. Simonov, Professor, Head of Chair

Description:

The Institute offers courses in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

Name: Orenburg Pedagogical Institute imeni V. P. Chkalov
(Orenburgskiy pedagogicheskiy institut imeni V. P. Chkalova)

Address: Orenburg, Sovetskaya ulitsa, 19

Director: V. I. Anan'yev, Candidate (1961)

Deputy Director: S. Ya. Proskurin, Candidate (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. Ye. Matviyevskiy, Docent, Head of Chair
V. V. Serkov, Docent, Head of Chair
V. Ya. Slavyanovich, Docent, Head of Chair
A. S. Vetrov, Docent, Head of Chair
A. M. Vezhlev, Docent, Head of Chair

Description:

Training is provided for students following teaching careers. The arts, sciences, and some aspects of production engineering are covered by the curriculum, which includes courses in foreign languages (English, French, and German), Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and geography and biology.

Name: Osh State Pedagogical Institute
(Oshskiy gosudarstvennyy pedagogicheskiy institut)

Address: Osh, Raboche-Dekhkanskaya ulitsa, 340

Director: --

Deputy Director: A. L. Kats, Docent (1961)

Administrative Affiliation: Ministry of Education, Kirgiz S.S.R. (1960)

Selected Staff Members:

Zh. Beshimov, Head of Chair
I. P. Karaseva, Candidate, Head of Chair
K. V. Piskarev, Docent, Dean
Yu. Ya. Til'mans, Docent, Head of Chair

Description: --

Name: Pacific Ocean Scientific-Research Institute of the Fish Industry and
Oceanology
(Tikhookeanskiy nauchno-issledovatel'skiy institut rybnogo khozyaystva
i okeanologii--TINRO)

Address: Vladivostok

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: G. M. Biryulin, Head of Laboratory of Oceanography
and Hydrology

Description:

The Institute has collaborated with several other oceanographic institutes in research on hydrology, hydrochemistry, sedimentation, and geology of the ocean. During the IGY, the Institute participated in the investigation of the Pacific Ocean polar front. The Institute publishes an Izvestiya.

Name: Penza Agricultural Institute
(Penzenskiy sel'skokhozyaystvennyy institut)

Address: Penza, poselok Akhuny

Director: G. V. Gulyayev, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

I. G. Gumenyuk, Docent, Dean
K. A. Kuznetsov, Professor, Head of Chair

Description:

In addition to work in the agricultural sciences, the Institute does some research in metallurgy. A Sbornik Trudov was published in 1958. Courses are available in animal breeding, agronomy, and mechanization of agricultural production processes.

Name: Penza Pedagogical Institute imeni V. G. Belinskiy
(Penzenskiy pedagogicheskiy institut imeni V. G. Belinskogo)

Address: Penza, Sadovaya ulitsa, 37

Director: --

Deputy Director: K. G. Glinkova (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. K. Artemov, Docent, Head of Chair
V. S. Kharitonova, Docent, Dean
I. P. Yegorov, Professor, Head of Chair

Description:

This institute was formed in 1941.

Students following teaching careers are trained primarily in the arts and sciences, including Russian language, literature, and history, mathematics and physics, geography and biology, and physical education. Some mathematical papers have been published by the staff of the Institute. It publishes Uchenyye Zapiski and Sbornik Studencheskikh Nauchnykh Rabot.

Name: Penza Polytechnic Institute
(Penzenskiy politekhnicheskiy institut)

Address: Penza, Krasnaya ulitsa, 40

Director: I. S. Bulgakov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Artuykhin, Docent
A. V. Filimonov, Docent, Head of Chair
S. A. Gantman, Docent, Head of Chair
A. D. Romanov, Docent, Head of Chair
V. M. Shlyandin, Head of Chair
I. V. Shmelev, Head of Chair
N. B. Sokolov, Docent, Head of Chair

Description:

The Penza Polytechnic Institute educates students in the fields of mechanical and electrical engineering. Academic work is supplemented with practical training in industrial plants.

Many publications by staff members concern computer technology.

Name: Permafrost Institute imeni V. A. Obruchev
(Institut merzlotovedeniya imeni V. A. Obrucheva)

Address: Moscow, Bol'shoy Cherkasskiy pereulok, 2/10

Director: P. A. Shumskiy, Doctor (1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

N. A. Grave, Doctor
P. F. Shvetsov, Corresponding Academician (U.S.S.R.)
N. A. Tsytovich, Corresponding Academician (U.S.S.R.)
K. F. Voytkovskiy
B. I. Vtyurin, Candidate
S. S. Vyalov, Doctor
V. F. Zhukov, Candidate

Description:

Founded in 1939, the Institute is engaged in the following fields of research: (1) eternal and seasonal frozen soil and subsoil; (2) origin and physics of frozen soils; (3) genesis and dynamics of eternally frozen subsoils; (4) means for mastering eternal and seasonal frozen subsoils for the purpose of agricultural and economic expansion; and (5) ice studies.

It maintains experimental stations at Anadyr, Igarka, Vorkuta, and Yakutsk.

Work leading toward the Degrees of Candidate and Doctor of Geographical Sciences is done at the Institute.

The Institute publishes a Trudy.

820

Name: Perm' Agricultural Institute imeni D. N. Pryanishnikov
(Permskiy sel'skokhozyaystvennyy institut imeni D. N. Pryanishnikova)

Address: Perm', Kommunisticheskaya ulitsa, 23

Director: --

Deputy Director: A. A. Yerofeyev, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

- G. G. Dazhin, Docent, Dean
- G. A. Glumov, Professor, Head of Chair
- N. S. Kozlov, Professor, Head of Chair
- A. P. Nikol'skiy, Professor, Head of Chair

Description:

The Institute publishes a Trudy and typical items concern materials and construction of farm machinery. Other publications by staff members concern the synthesis of complex aromatic compounds, suggesting application as insecticides or in soil culture. Candidate's Degrees are granted. Courses in agronomy, soil science and agrochemistry, animal husbandry, and mechanization of agriculture are offered.

821

Name: Perm' Mining Institute
(Permskiy gornyy institut)

Address: Perm', Komsomol'skiy prospekt, 51-a

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. M. Derendyayev
Ye. Kh. Drakhlin
A. S. Khomentovskiy, Corresponding Academician (U.S.S.R.)
B. A. Vertgeym

Description:

This institute was opened in the Fall of 1953 with an enrollment of 200 students. Students and staff members have made numerous studies of heat-convection equations. Also, studies of brittle failure of steel and stresses in machine parts have been performed. Other interests of the Institute include conformal mapping and evaluation of mines and mineral deposits. Courses of study at the Institute include mining, mining construction, mining electromechanics, mining machinery, and industrial and civil construction.

Name: Perm' Pedagogical Institute
(Permskiy pedagogicheskiy institut)

Address: Perm', ulitsa Karla Marksa, 24

Director: S. Ya. Chumakov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. G. Glazyrin, Docent, Dean
I. A. Mal'tsev, Docent, Head of Chair
M. N. Ozhegova, Docent, Head of Chair

Description:

The Institute complements its academic efforts in teacher training with a variety of research programs. Work has included investigations in magnetohydrodynamics, organic and physical chemistry, mathematics, fluid

flow, and heat transfer. Some specific courses of study are Russian language and literature, elementary-school instruction, mathematics and drafting, physics and fundamentals of production, and physical education.

823

Name: Perm' Polytechnic Institute
(Permskiy politekhnicheskiy institut)

Address: Perm', Komsomol'skiy prospekt, 51-a

Director: M. N. Dedyukin, Docent (1961)

Deputy Directors: A. A. Glushkov, Candidate (1961)
Ye. A. Lushnikov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

S. A. Amirova, Docent, Head of Chair
Ye. Kh. Drakhlin, Docent, Head of Chair
I. R. Krivoshlyk, Docent, Head of Chair
V. A. Pashkov, Docent, Dean
G. A. Pinchuk, Docent, Head of Chair
Yu. B. Serebrennik, Docent, Head of Chair
V. V. Slavnov, Docent, Head of Chair
M. S. Ter-Mkhitarov, Docent, Head of Chair

Description:

The Perm' Polytechnic Institute was founded in 1960 as the result of a merger of the Perm' Mining Institute and the Perm' Evening Machine Building Institute. It trains students in fields such as mathematics, electrical engineering, physics, and aerodynamics. Specific courses included mining, mining construction, mining electromechanics, machine building, metal-cutting tools, and instruments, casting machinery and processes, processing metals under pressure, mining machinery, and industrial and civil construction.

It publishes the Sbornik Nauchnykh Trudov Permskogo Politekhnicheskogo Instituta.

824

Name: Perm' State University imeni A. M. Gor'kiy
(Permskiy gosudarstvennyy universitet imeni A. M. Gor'kogo)

Address: Perm', ulitsa Genkelya, 7

Director: V. F. Tiunov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. P. Belinskiy
S. M. Beloglazov
F. S. Gorovoy, Professor, Head of Chair
Yu. L. Rodin
A. V. Rybin, Docent, Head of Chair
I. G. Shaposhnikov, Professor, Head of Chair
A. V. Shcheglov, Professor, Head of Chair
P. A. Sofronitskiy, Docent, Head of Chair
V. S. Sorokin
S. V. Vladimirov, Party Secretary
L. I. Volkovskiy
Ye. F. Zhuravlev, Docent, Head of Chair

Description:

The University has approximately 5,700 students. Staff members are conducting research in a wide variety of subjects.

In the area of chemistry, studies have been conducted on separating iron, titanium, and aluminum. The synthesis of a number of compounds, including quinoline derivates, amines, and complex esters, has been achieved.

In metallurgy, research has been pursued on X-ray diffraction of steel after hydrogen saturation, magnetic-property determination, organic additions to steel and their effect on mechanical properties, effect of superheating on mechanical properties of steels, wire drawing, refining by roasting, and hydrogen absorption in steel and iron.

In fluid mechanics, studies of convective flow have been conducted. Thermodynamic research has been conducted on thermal stability of solids and liquids and thermal convection in pipes and cylindrical cavities. Developments in tensile and compression fatigue machines have been made. Sound absorption in solids and electrolytes and ultrasonic absorption in paramagnetic metals have been studied by the acoustics and metallurgy groups.

The University has assisted in the Soviet space program in studying the placement of satellites in orbits and motion of rockets in space. The mathematics staff has pursued studies in the areas of infinite intervals, boundary-value problems, and Riemannian surfaces.

A Uchenyye Zapiski is published by the University. It also operates a Natural Science Institute.

Name: Petropavlovsk State Pedagogical Institute imeni K. D. Ushinskiy
(Petropavlovskiy gosudarstvennyy pedagogicheskiy institut imeni
K. D. Ushinskogo)

Address: Petropavlovsk, ulitsa Kirova, 97

Director: V. A. Tsaturyan, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers, Kazakh
S.S.R. (1960)

Selected Staff Members:

T. D. Gol'dshteyn, Docent, Head of Chair
G. D. Ovchinnikov, Docent, Head of Chair

Description:

This institute publishes a Uchenyye Zapiski and does research in the field of conductivity of thin layers. Courses are offered in Russian language, literature, and history, mathematics and physics, and geography and biology.

Name: Petrozavodsk State University
(Petrozavodskiy gosudarstvennyy universitet)

Address: Petrozavodsk, prospekt Lenina, 71

Director: V. V. Stefanikhin, Docent (1961)

Deputy Director: V. I. Shuralov, Candidate (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. F. Ipatov
Ye. M. Krashenninnikov, Docent, Dean
A. A. Raykerus, Docent, Head of Chair
O. N. Shivrin
N. N. Shushkin, Docent, Head of Chair
M. A. Slavina, Docent, Head of Chair
Yu. S. Terminasov, Corresponding Academician (Kirgiz S.S.R.)
M. A. Toykk, Docent, Dean
S. D. Vagner

Description:

This university has recently established a computation center to train specialists in the field of electronic computers. Research studies described in published literature focus on mathematics, plasma physics, elasticity, crystallography, and metallurgy, particularly plastic deformation and the working properties of steel and nonferrous metals, such as aluminum and nickel. The University grants the Candidate's Degree, and publishes a Trudy.

827

Name: Physical-Chemical Scientific-Research Institute
(Fiziko-khimicheskiy nauchno-issledovatel'skiy institut)

Address: Irkutsk

Director: V. A. Larina, Professor (1957)

Deputy Director: --

Administrative Affiliation: Irkutsk State University imeni A. A. Zhdanov
(1961)

Selected Staff Members:

A. V. Kalabina
G. I. Nagornyy
N. A. Reshetnikov
M. F. Shostakovskiy
Ye. I. Shuraleva
N. N. Volkov

Description:

This institute is a research facility of Irkutsk University. One of its research aims is to investigate the extraction of liquid fuel from coal. A project related to this objective concerns the synthesis and conversion of vinyl-aryl ethers. Work on alkali-metal salts has included the luminescent properties of sodium chloride crystals electrolytically activated with nickel.

The Institute publishes an Izvestiya.

828

Name: Physical-Technical Institute
(Fiziko-tekhnicheskiy institut)

Address: Minsk, prospekt imeni Stalina, 110

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Belorussian S.S.R. (1962)

Selected Staff Members:

N. S. Akulov, Academician (Belorussian S.S.R.), Head of the
 Laboratory of Physical Problems
 I. A. Bakuto
 K. V. Gorev, Academician (Belorussian S.S.R.)
 Ye. G. Konovalov
 A. I. Makarevich
 V. P. Severdenko, Academician (Belorussian S.S.R.)

Description:

The Institute is active in research on stainless steels, gray iron, austenitic steels, titanium, and aluminum. In particular, its studies have concerned recrystallization, electro-erosion, heat treatment, and stresses produced by rolling. It has also investigated webbed forgings, closed-die stamping, cooling of castings, cutting tools utilizing oscillation techniques, and rigid ball burnishes for honing automotive cylinder heads. Ultra-strong materials, semiconductors, and biophysical processes are also of interest to Institute staff members. The Institute publishes a Sbornik Nauchnykh Trudov.

Name: Physical-Technical Institute
(Fiziko-tekhnicheskiy institut)

Address: Sukhumi

Director: I. F. Kvartskhava, Academician (Georgian S.S.R.) (1960)

Deputy Directors: I. Grendzetely (1960)
P. V. Chelidze (1960)

Administrative Affiliation: Academy of Sciences, Georgian S.S.R. (1961)

Selected Staff Members:

V. M. Blagoveshchenskiy
 R. A. Demirkhanov, Professor, Head of the Institute on Plasma
 Physics and Nuclear Physics
 V. V. Dorokhov
 V. M. Gusev
 M. I. Guseva
 T. I. Gutkin, Doctor

A. G. Kucheryayev, Doctor
 Yu. V. Kursanov
 R. D. Meladze
 K. V. Suladze

Description:

The Physical-Technical Institute of the Georgian Academy of Sciences was constructed at Sukhumi in 1946. It consists of two institutes, one of which concentrates on plasma physics while the other is concerned with nuclear magnetic resonance and isotope separation at low temperatures. The staff consists of several hundred scientists, of whom about 30 are concerned directly with nuclear physics. Scientists at Sukhumi work closely with their colleagues at the various research institutes in Tbilisi. In fact, a portion of the staff commutes between the two cities.

The work of the first institute in Sukhumi is done in plasma physics, plasma acceleration, high-intensity injectors, ion sources, experiments on the collision of particles with walls, and nuclear physics (i.e., the search for new isotopes using cyclotron-bombardment techniques). A 20-Mev deuteron cyclotron and a 30-ton Dempster-type electromagnetic isotope separator comprise the heavy equipment at this institute, which is, incidentally, the focal point of Soviet work on ion sources.

The second institute is more directly the concern of Dr. Grendzetely. Here, an experimental program is carried out on the measurement of nuclear constants by the method of molecular beams and the separation of isotopes by ion exchange and low-temperature distillation.

The Institute confers Candidate's Degrees.

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Name: Physical-Technical Institute
 (Fiziko-tekhnicheskii institut)

Address: Alma-Ata

Director: Zh. S. Takebayev (1956)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kazakh S.S.R. (1960)

Selected Staff Members: --

Description:

This institute, which was founded in 1950, has laboratories for spectral analysis, cosmic rays, metallography and metal physics, and isotopes.

The isotope laboratory conducts research on industrial and agricultural applications of tracer atoms. The spectral-analysis laboratory was the first in the U.S.S.R. to compile and publish atlases of spectral lines. The metallurgical laboratories have developed heat-resistant alloys and new devices to regulate metal rolling, and studied the plasticity of alloys. In 1956 a laboratory for electronics and automatics was organized to conduct research on automation of chemical control in Kazakhstan nonferrous-metallurgical enterprises.

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Name: Physical-Technical Institute
(Fiziko-tekhnicheskiy institut)

Address: Ashkhabad

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Turkmen S.S.R. (1961)

Selected Staff Members: R. G. Annayev, Academician (Turkmen S.S.R.)

Description:

This institute has a spectrum research laboratory which is investigating ultrasound. An apparatus has been developed for measuring ultrasonic absorption in liquids, and another device, for treating seeds with ultrasound to increase their yield. The Semiconductor Laboratory of the Institute is studying applications of solar energy. One project involves conversion of solar energy into heat and cold through the use of semiconductors. An installation has also been designed to use the sun's rays to produce fresh water from salt water. A number of references discuss observations of meteors at the Astrophysical Laboratory of this institute. An observatory at Vannovskiy which has made astronomical observations is attached to the Institute. A Trudy is published.

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Name: Physical-Technical Institute
(Fiziko-tekhnicheskiy institut)

Address: Tashkent, Astronomicheskiy tupik, 11

Director: G. Ya. Umarov, Academician (Uzbek S.S.R.) (1962)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1961)

Selected Staff Members:

G. M. Avak'yants
 S. A. Azimov, Corresponding Academician (Uzbek S.S.R.)
 N. V. Kurdub, Head, Polymer Physics Group
 A. S. Sadykov, Corresponding Academician (Uzbek S.S.R.)
 M. D. Yagudayev, Candidate, Head, Helio-Engineering Laboratory

Description:

A variety of projects in the fields of theoretical and applied physics has been carried out at this institute. A semiconductor battery for direct conversion of solar into electrical energy has been developed, and a solar furnace 15 to 20 meters in diameter is to be built for studying heat-resistant alloys and ceramics at high temperatures. The Institute also developed new high-voltage selenium rectifiers able to withstand frequent overloads. Research was conducted for the Soviet silk industry on the killing of silkworm pupa and preservation of silkworm cocoons with gamma rays. The effect of these rays on properties of natural silk are also being investigated at the Institute. In 1946, the Division of Theoretical Physics was formed as an independent unit within the Institute, and in 1948, the Laboratory of Cosmic Rays was organized to study the interaction of cosmic rays with matter.

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Name: Physical-Technical Institute
 (Fiziko-tehnicheskii institut)

Address: Kazan'

Director: Kh. M. Mushtari, Doctor (1960)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, R.S.F.S.R., for Coordination of Scientific Research (1962)

Selected Staff Members:

A. S. Alt'shuler, Professor
 N. S. Garif'yanov
 B. M. Khabibullin
 B. M. Kozyrev
 A. I. Rivkind
 G. S. Salikhov

Description:

Most of the work at this institute is in electron paramagnetic resonance and nuclear magnetic resonance. Electron paramagnetic resonance

has been investigated in soot, in alloys, in crystals, and in electrolyte solutions. There is a section for mathematics within the Institute. Some work has been done on structural-shell theory and filtration theory.

Name: Physical-Technical Institute of Low Temperatures
(Fiziko-tehnicheskii institut nizkikh temperatur)

Address: Khar'kov, ploshchad' Tevelyeva, 11

Director: B. I. Vyerkin, Doctor (1960)

Deputy Director: A. Galkin, Doctor (1960)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1960)

Selected Staff Members:

I. Dmitrenko, Candidate

I. M. Livshits, Corresponding Academician (U.S.S.R.)

A. V. Pogorelov, Corresponding Academician (U.S.S.R.), Head
of a Division

Description:

This institute was organized in 1960 to carry out investigations in the fields of low-temperature electronics, resonance phenomena in solids, electrical conductivity and superconductivity, plasticity, strength of solids, luminescence, thermodynamic properties of rarefied gases, and physical properties of gas-mixture separation. It is also working on the development of computer elements for-temperature operation.

Graduate training is offered in the physics of low temperatures, theoretical physics, mathematical physics, theory of functions, and geometry.

Name: Physics Institute imeni P. N. Lebedev
(Institut fiziki imeni P. N. Lebedeva--FIAN)

Address: Moscow, Leninskiy prospekt, 53

Director: D. V. Skobeltsyn, Academician (U.S.S.R.) (1960)

Deputy Director: N. G. Basov, Doctor (1962)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

S. A. Abramson
A. I. Alikhan'yan, Corresponding Academician (U.S.S.R.)
E. D. Andryukhina
V. V. Antonov-Romanovskiy, Doctor
A. M. Baldin
P. A. Bazhulin, Doctor, Head of Laboratory
K. I. Britzin
A. N. Charakhch'yan, Candidate
P. A. Cherenkov, Doctor
A. Ye. Chudakov, Candidate
N. A. Dobrotin, Doctor
Ye. L. Feynberg, Doctor
V. A. Fok, Academician (U.S.S.R.)
Ye. S. Fradkin
I. M. Frank, Academician (U.S.S.R.), Head of Laboratory
M. D. Galanin, Doctor
V. L. Ginzburg, Corresponding Academician (U.S.S.R.)
V. I. Goldonskiy
S. Ye. Grebenshchikov
S. G. Kalashnikov, Doctor
N. V. Karlov
Ye. A. Konorova, Doctor
A. A. Korchak
Z. B. Korobova
L. M. Kovrizhnykh, Candidate
L. D. Landau
V. L. Levshin, Academician (U.S.S.R.), Head of Laboratory
V. A. Lyubimov
V. M. Malovetskaya
S. L. Mandel'shtam, Doctor, Head of Laboratory
I. S. Mukhtarov
A. I. Nikishov
I. B. Okun', Candidate
V. Ye. Oranovskiy
S. V. Pokrovskaya
A. M. Prokhorov, Corresponding Academician (U.S.S.R.), Head of
Laboratory
M. S. Rabinovich, Doctor
S. M. Rytov, Doctor
A. V. Rzhanov, Doctor
G. I. Skanavi, Academician (U.S.S.R.), Head of Laboratory
N. N. Sobolev, Candidate
L. A. Sorokina
S. I. Syrovatskiy, Candidate
I. Ye. Tamm, Academician (U.S.S.R.)
V. S. Vavilov
Yu. N. Vavilov
V. I. Veksler, Academician (U.S.S.R.), Head of Laboratory
V. V. Vitkevich, Candidate, Head of Radio Astronomy Laboratory
B. M. Vul, Corresponding Academician (U.S.S.R.), Head of Laboratory

Description:

This institute is one of the largest and best equipped in the Soviet Union. The research staff ranges from 300 to 400 plus about 1,500 technical assistants. Among its most outstanding scientists are the 1958 Nobel Prize winners, Frank, Tamm, and Cherenkov.

The Institute's research activities are very broad. Some of them are theoretical physics, cosmic radiation, solid-state physics, nuclear physics, especially particle acceleration, radioastronomy, semiconductors, spectroscopy, and parametric amplification. This institute is the center of Soviet research on lasers and masers.

The Radio Astronomy Laboratory is the leading facility in the U.S.S.R. in the field of radioastronomy. The majority of the research of the Laboratory is conducted at the Oka Radioastronomical Station and the Crimean Scientific Station.

The Dolgoprudnaya Scientific Station near Moscow is conducting research on cosmic rays. In addition, a cosmic radiation observatory and laboratory has been established in the Pamir Mountains. Construction has begun of a scientific high-altitude station in the Transilialatau Mountains 50 kilometers from Alma Ata. This facility will study the interrelations of particles of cosmic radiation with matter.

Name: Planning-Design Technological Institute
(Proyektno-Konstruktorsko-tehnologicheskii institut--PKTI)

Address: Dnepropetrovsk

Director: --

Deputy Director: --

Administrative Affiliation: Dnepropetrovsk Sovnarkhoz (1962)

Selected Staff Members: --

Description:

This design institute has participated in several programs on the development of mechanization and automation in the ferrous metallurgy industry. They have also designed the technical plans for a pipe-coating shop.

Name: Planning-Design Technological Institute
(Proyektno-konstruktorskiy tekhnologicheskii institut)

Address: Odessa

Director: --

Deputy Director: --

Administrative Affiliation: Odessa Sovnarkhoz (1959)

Selected Staff Members: --

Description:

The Institute was organized in 1958-59 by the Odessa Council of the National Economy to advance technological processes and to develop automation and mechanization techniques for the machine-construction, food, chemical, and light industries and the manufacture of building materials.

Name: Planning-Technological and Scientific-Research Institute
(Proyektno-tekhnologicheskii i nauchno issledovatel'skiy institut)

Address: Gor'kiy

Director: --

Deputy Director: --

Administrative Affiliation: Gor'kiy Sovnarkhoz (1961)

Selected Staff Members: V. K. Nikolayev, Head of Section of High-Tension
Technology

Description:

This institute is engaged in research on metals, metalworking, welding, and machines to form and process metals. Investigations in regard to producing bimetallic strip by continuous casting, new alloys, metal treatment, plating, welding processes, and anticorrosion protection of metal parts by plastics have been made at this institute.

A system of coding the data of drawings has been developed to automate the design planning of technological processes. An automatic rolling-forging mill intended for automatic and semiautomatic stamping lines was developed by this institute.

Name: Polar Geophysics Institute
(Polyarnyy geofizicheskiy institut)

Address: Murmansk

Director: S. I. Isayev (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
R.S.F.S.R., for Coordination of Scientific
Research (1962)

Selected Staff Members: --

Description:

Formerly known as the Murmansk Branch of the Scientific-Research Institute of Terrestrial Magnetism, Ionosphere, and Radio-Wave Propagation this institute was established in 1960 to conduct studies in meteorology and physics of the upper atmosphere. A seismic station is maintained at Apatity. Interests of the Institute include terrestrial magnetism, aurora phenomena, cosmic rays, ionosphere characteristics, and high-latitude propagation of radio waves.

Name: Poltava Agricultural Institute
(Poltavskiy sel'skokhozyaystvennyy institut)

Address: Poltava, ulitsa Skovorody, 1/3

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

Ye. S. Gurzhiy, Docent
V. A. Ivashchenko, Docent, Head of Chair
A. V. Tishchenko, Docent, Head of Chair

Description:

Courses in agronomy and animal husbandry are taught at this institute. It publishes a Trudy.

Name: Poltava Gravimetric Observatory
(Poltavskaya gravimetricheskaya observatoriya)

Address: Poltava, ulitsa M'iasoyedova, 27/29

Director: Z. N. Aksent'yeva, Corresponding Academician (Ukrainian S.S.R.)
(1961)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

P. S. Matveyev, Doctor
Ye. A. Obrezkova, Candidate
N. I. Panchenko, Candidate
N. A. Popov
Ye. I. Yevtushenko

Description:

The Poltava Gravimetric Observatory was founded in 1926. In 1953, a Central Bureau of the Soviet Latitude Service was established here. The Observatory is the chief institution in the U.S.S.R. for the problem of latitudinal variations and movement of the earth's poles. The Poltava latitude program is complete with star observations for the adjustment and control of instruments. Data have been obtained on the deviation of latitude at Poltava. In addition, studies on tidal deformation of the earth have been made, and in 1958, photographs of the moon were reportedly begun, for the solution of certain problems of an astronomical-geodesic character that are pertinent to the rotation and shape of the earth. The available equipment includes Zeiss, Bamberg, and Zenith telescopes.

The Observatory offers graduate training in the physics of the earth's crust. A Trudy is published by the Observatory.

Name: Poltava State Pedagogical Institute imeni V. G. Korolenko
(Poltavskiy gosudarstvennyy pedagogicheskiy institut imeni
V. G. Korolenko)

Address: Poltava, ulitsa Ostrogradskogo, 2

Director: M. V. Semivolos, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. P. Karishin, Candidate, Dean (1961)
 V. G. Yevtushenko, Candidate, Dean (1961)

Description:

This institute trains teachers, performs organic-chemistry research, and publishes a Nauchnyye Zapiski. The curriculum includes mathematics, physics, fundamentals of production, biology, chemistry, agriculture, and Russian and native language, literature, history, and singing.

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Name: Power Engineering Institute imeni G. M. Krzhizhanovskiy
 (Energeticheskiy institut imeni G. M. Krzhizhanovskogo--ENIN)

Address: Moscow, Leninskiy prospekt, 19

Director: G. N. Kruzhilin, Corresponding Academician (U.S.S.R.) (1961)

Deputy Directors: V. A. Baum, Professor, Doctor (1960)
 V. I. Popkov, Corresponding Academician (U.S.S.R.) (1961)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

R. R. Aparisi, Candidate
 Z. F. Chukhanov, Corresponding Academician (U.S.S.R.)
 A. Ya. Gliberman
 V. A. Golubtsov, Corresponding Academician (U.S.S.R.)
 M. I. Ismailov, Doctor
 N. A. Kalakutskaya, Candidate
 L. N. Khitrin, Corresponding Academician (U.S.S.R.)
 M. A. Mikheyev, Academician (U.S.S.R.)
 L. R. Neyman, Corresponding Academician (U.S.S.R.)
 N. A. Nikol'skiy, Candidate
 A. S. Okhotin, Candidate
 I. M. Pchelkin
 A. S. Predvoditelev, Corresponding Academician (U.S.S.R.)
 S. G. Pyarkov
 L. N. Pyatnitskiy
 M. B. Ravich, octor
 I. S. Stekol'nikov, Doctor
 M. A. Styrikovich, Corresponding Academician (U.S.S.R.)
 V. I. Veyts, Corresponding Academician (U.S.S.R.)
 A. K. Zaytseva

Description:

ENIN was organized in 1930 on the foundation of the Branch of Power Engineering of the Commission for the Study of Natural Productive Forces. It is composed of 10 faculties with 60 chairs, including thermal-power engineering, power-engineering design, industrial use of power, electric-power engineering, and computing machines. There are numerous supporting facilities, for example, Laboratories of Combustion Physics, High-Voltage Gas Discharge, Intensification of Furnace Processes, Heat Exchange and Transfer, Electrical Mechanics imeni K. I. Shenkser, Fuel Utilization, and Electrical Systems, and a Heliotechnical Laboratory. A Power Engineering Laboratory in Leningrad is also subordinate to the Institute.

The highly specialized research of the Institute is concentrated on the study of scientific problems of power engineering, questions of electrical engineering, heat exchange, methods for thermal molding, scientific bases for determining the usability of fuels, and the use of new energy sources.

The Laboratory of High-Voltage Gas Discharge research on the physics of lighting has resulted in the development of means for the protection of buildings and electrical transmission lines during storms. This research also necessitated the development of methods for the production of artificial lightning.

Surface (flameless) combustion, thermodynamics and propagation of flames, and heat exchange and transfer in molten and liquid metals have been studied by various groups within the Institute.

In its search for new power sources, the Institute has given considerable attention to the development of solar energy. The Heliotechnical Laboratory has developed several thermal facilities utilizing solar energy, for example, kitchen ranges, boilers, heaters, etc. Current plans indicate that an electric power station utilizing solar energy will be erected in Armenia. In the course of their attempts to solve the problems of direct transformation of radiant energy into electricity, the possible use of silicon photocells and methods for the improvement of solar batteries have been investigated.

ENIN issues Trudy and a Sbornik Statey, and in April, 1959, commenced publication of the journal Elektroenergetika. The Candidate's and Doctor's Degrees are granted by the Institute.

Name: Power Engineering Institute imeni I. G. Yes'man
(Energeticheskiy institut imeni I. G. Yes'man--ENIN)

Address: Baku, ulitsa 28 Aprelya

Director: A. A. Efendizade, Corresponding Academician (Azerbaijdzhan S.S.R.)
(1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaijdzhan S.S.R. (1960)

Selected Staff Members:

A. S. A. G. Alizade, Professor, Head of a Laboratory
Ch. M. Dzhuvarly, Professor, Head of a Laboratory

Description:

This institute is active in the research and development of automatic-control mechanisms for use in the petroleum industry. Research has involved investigations in petroleum chemistry and geology, hydraulics, automatic control, optical measuring techniques, thermal mechanics, and electrical engineering.

A Trudy is published by the Institute.

Name: Primorsk Agricultural Institute
(Primorskiy sel'skokhozyaystvennyy institut)

Address: Ussuriysk, Zheleznodorozhnyy prospekt, 42

Director: K. A. Myasnikov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

Z. V. Alekseyeva, Docent, Head of Chair
A. V. Perov, Docent, Head of Chair
A. T. Purtova, Head of Chair
V. A. Tyrina, Docent, Head of Chair

Description:

Courses in agronomy, animal husbandry, and forestry are available at this institute.

Name: Przheval'sk State Pedagogical Institute
(Przheval'skiy gosudarstvennyy pedagogicheskiy institut)

Address: Przheval'sk, Sadovaya ulitsa, 11

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, Kirgiz S.S.R. (1960)

Selected Staff Members:

M. Kazakbayev, Dean
M. G. Sharafutdinov, Head of Chair
L. I. Starodubova, Dean

Description:

Members of the Institute's staff have conducted research in the fields of mathematics, physics (electrodynamics and mechanical wave theory), and metallurgy (machining, electrolytic coatings, single-crystal studies, and techniques of X-ray study). The Institute publishes a Trudy. The curriculum includes courses in Russian language and literature, foreign language, mathematics and physics, and biology, chemistry, and agriculture.

Name: Pskov State Pedagogical Institute imeni S. M. Kirov
(Pskovskiy gosudarstvennyy pedagogicheskiy institut imeni
S. M. Kirova)

Address: Pskov, Sovetskaya ulitsa, 21

Director: I. V. Kovalev, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. T. Gomonov, Candidate, Head of Chair
N. I. Kopychev, Docent, Head of Chair
I. N. Pershits, Docent

Description:

Research is mainly in the electrochemical field. Results of experimentation are presented in the Institute's Nauchnyye Zapiski. The Institute offers courses in Russian language, literature, and history, mathematics and physics, and biology, chemistry, and agriculture.

Name: Pyatigorsk Pedagogical Institute
(Pyatigorskiy pedagogicheskiy institut)

Address: Pyatigorsk, prospekt imeni Kirova, 70

Director: R. G. Sarenets, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

O. A. Shestakova-Modenskaya, Docent
E. P. Shubin, Docent, Head of Chair

Description:

Courses are offered in Russian, English, German, and French language, and in Russian literature and history. A Uchenyye Zapiski is published.

Name: Radium Institute imeni V. G. Khlopin
(Radiyevyy institut imeni V. G. Khlopina--RIAN)

Address: Leningrad, ulitsa Roentgena, 1

Director: V. M. Vdovenko, Corresponding Academician (U.S.S.R.) (1961)

Deputy Director: I. Ye. Starik, Corresponding Academician (U.S.S.R.)
(1958)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

M. A. Bak
B. S. Dzelepov, Corresponding Academician (U.S.S.R.), Head of a
Laboratory
G. V. Gorshkov, Professor, Head of a Laboratory
A. A. Grinberg, Academician (U.S.S.R.)
B. P. Nikol'skiy, Corresponding Academician (U.S.S.R.)
N. R. Novikova
N. A. Perfilov, Professor, Head of a Laboratory
Ye. I. Prokof'yeva
I. N. Semenyushkin
A. P. Zhdanov, Head of a Laboratory

Description:

The Institute was founded in 1922 by merging the former Radium Commission and the Laboratories for Mineralogy and Radium Research of the Academy of Sciences. During its history, V. G. Khlopin and B. A. Nikitin, both deceased, have served as Directors. The work of this institute is concerned primarily with radioactivity, its properties, and applications. Some recent studies have dealt with measurement of the cosmogenic isotopes of the Yardymly meteorite, and RIAN scientists have also established the absolute age of Antarctic bed rock. RIAN possessed a cyclotron as early as 1940 and is still active in the development and application of nuclear physical equipment. The Institute publishes a Trudy.

Name: Republic Scientific-Research Institute of Local Building Materials
(Respublikanskiy nauchno-issledovatel'skiy institut mestnykh
stroitel'nykh materialov--ROSNIIMS)

Address: Moscow, Petrovka, 14

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

Yu. M. Butt
A. A. Mayer

Description:

The Institute's research centers on clay and ceramic building materials. In their experimental plant, they have done work on brick, tile, plaster, silicate, and lime-sand materials. A Trudy is published periodically.

Name: Riga Polytechnic Institute
(Rizhskiy politekhnicheskiy institut)

Address: Riga, ulitsa Lenina, 1

Director: A. K. Malmeyster, Academician (Latvian S.S.R.) (1961)

Deputy Directors: E. Yu. Gudrinietse, Docent (1961)
K. K. Tabak, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Latvian S.S.R. (1961)

Selected Staff Members:

E. Zh. Freydenfel'd
 V. Ya. Fritsberg
 V. Ya. Ivanovskiy, Docent, Head of Chair
 A. F. Iyevin'sh, Professor, Head of Chair
 L. K. Lepin, Professor, Head of Chair of Chemistry
 L. V. Nitsetskiy, Docent, Head of Chair of Automation and Computer Technology
 V. N. Panteleyev, Docent, Head of Chair
 A. A. Shmidt, Professor, Head of Chair
 V. A. Shteynberg, Docent, Head of Chair
 Ya. Ya. Ulpe, Docent, Dean
 G. Ya. Vanag, Academician (Latvian, S.S.R.)
 A. R. Vatsiyetis, Docent, Head of Chair
 A. R. Veyss, Docent, Dean

Description:

The Riga Polytechnic Institute was re-established in 1958 after a 40-year lapse. The four faculties of power engineering, machine building, chemical engineering, and correspondence courses train engineers for Latvian industry in 24 branches of technology.

The Chemistry Department has studied the nitration, sulfonation, structure, and azo combination of beta diketones. Theoretical investigations have also been conducted on structure, kinetics, reactive ability, and their interrelations. Synthetic materials, plastics, and artificial fibers have been studied, with special attention being given to artificial and natural high-molecular compounds and polymers.

The Department of Automation and Computer Technology, which was established in 1961, is developing the use of analog computers in problems of structural mechanics, strength of materials, and theory of elasticity and plasticity. The Laboratory of Electric Modeling has built an electronic integrator for analysis of electrical, magnetic, and gravitational fields. This computer, which can solve systems of algebraic linear equations with "thousands of unknowns", will be useful in geological investigations.

The Institute periodically publishes a Uchenyye Zapiski.

The courses available at this institute include electric power stations, networks, and systems, electrification of industrial enterprises and installations, industrial thermal power engineering (oven and gas-heat thermal engineering, and heat-transfer installations), machine building, metal-cutting tools, and instruments, precision mechanical instruments,

automatic, telemechanic, and electric measuring instruments, chemical technology, mechanical technology of fibrous materials (cotton, wool, bast, silk, weaving, and knitting), architecture, industrial and civil construction, gas and heat supply and ventilation, and automobile roads.

Name: Rostov-on-Don Construction-Engineering Institute
(Rostovskiy-na-Donu inzhenerno-stroitel'nyy institut)

Address: Rostov-on-Don, Sotsialisticheskaya ulitsa, 150

Director: A. M. Ivanov, Docent (1960)

Deputy Director: S. Ya. Sadetov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Grigor, Docent, Head of Chair
K. K. Keropyan, Professor
K. N. Maslov, Docent, Head of Chair
V. A. Sushkova, Librarian
A. M. Svistunov, Docent, Head of Chair
M. T. Uznarodov, Docent, Head of Chair

Description:

The Institute prepares students for careers in civil engineering. Research work has included investigations in photogrammetry, halide chemistry of the alkali metals, titanate ceramics, application of computers to problems of structural mechanics, strength of materials and elasticity theory, and semiconductor photoconductivity. The Institute publishes a Trudy.

The Candidate's Degree is granted. Specific courses include construction, railroad construction, heating and ventilation, reinforced-concrete structures, and prefabricated construction.

Name: Rostov-on-Don Finance-Economics Institute
(Rostovskiy-na-Donu finansovo-ekonomicheskij institut)

Address: Rostov-on-Don, ulitsa Fridrikha Engel'sa, 77

Director: P. G. Shumilin, Docent (1961)

Deputy Director: G. V. Komarov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. M. Levitov, Docent
 N. N. Shemelev, Docent
 M. V. Trunina, Candidate, Dean
 M. S. Volobuyev-Artemov, Professor, Head of Chair

Description:

The Institute's curriculum includes courses in industrial economics, agricultural economics, finance and credit, and accounting. It publishes a Uchenyye Zapiski.

Name: Rostov-on-Don Institute of Agricultural-Machine Building
 (Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya--RISKHM)

Address: Rostov-on-Don, prospekt Karla Marksa, 123

Director: L. V. Krasnichenko, Professor (1960)

Deputy Director: V. K. Tepinkichiyev, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. P. Blidin
 N. M. Budnik, Docent, Head of Chair
 K. M. Kholkovskaya, Librarian
 Ya. G. Lifshits, Candidate
 Z. T. Makarova, Docent, Head of Chair
 V. G. Novikova, Docent, Head of Chair
 V. F. Pikhel'son
 V. G. Pustynnikov, Docent
 P. I. Rusin, Candidate
 K. F. Shcherbakov, Docent, Head of Chair
 V. T. Zolotikh, Candidate

Description:

At this institute, much effort has been directed toward the development of antifriction materials from copper-lead alloys and steels. Properties of such alloys obtained by gas-flame metallizing have been studied. Stability of the CO₂-shielded short-arc welding process and metal transfer

during this process has been tested. Studies have been made on the effect of sulfidization on the corrosion process of malleable antifriction cast iron. A process for automatic temperature monitoring during high-frequency heating of metal components has been developed. A device for determining frequency characteristics of mechanical automatic control systems, a combination machine tool, and strain-gage pickups to measure large-scale deformations have been designed at the Institute.

There is a Department of General Electrical Engineering, a Laboratory of Electrometallizing, and a Metal-Casting Laboratory at the Institute. A Trudy is published and the Candidate's Degree is conferred.

The Institute offers courses in machine building, metal-cutting tools and instruments, casting machinery and processes, processing metals under pressure, welding, agricultural machinery, precision mechanical instruments, and automatic, telemechanic, and electric measuring instrument.

Name: Rostov-on-Don Institute of Railroad-Transportation Engineers
(Rostovskiy-na-Donu institut inzhenerov zheleznodorozhnogo transporta)

Address: Rostov-on-Don, Novyy Gorod

Director: M. M. Panfilov, Docent (1961)

Deputy Directors: N. A. Malozemov, Professor (1961)
V. G. Krupp-Zadonskiy, Docent (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

D. E. Karminskiy, Professor, Head of Chair
V. A. Kislik, Professor, Head of Chair
I. N. Pisanko, Head of Chair
P. Ya. Studenikin, Docent

Description:

The Institute prepares students for careers in railroad transportation. Some of the research done by the staff has included investigations in applied mathematics, turbine technology, general mechanics, and electronics. Studies have also been made on the corrosion of steel, heat exchange, and the physical chemistry of foams. A Trudy is published. Steam locomotives, railroad-car construction, thermoelectric power installations, utilization of railroads, and construction equipment are the subjects of courses given by the Institute.

Name: Rostov-on-Don State Pedagogical Institute
(Rostovskiy-na-Donu gosudarstvennyy pedagogicheskiy institut)

Address: Rostov-on-Don, ulitsa Fridrikha Engel'sa, 37

Director: V. M. Shilokhvostov, Docent (1961)

Deputy Directors: Yu. K. Babanskiy, Candidate (1961)
D. I. Dubonosov, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. S. Antoshin, Docent, Head of Chair
P. V. Barchugov, Docent, Head of Chair
V. D. Kivenko, Docent, Head of Chair
Z. V. Lishtvan, Candidate, Dean
A. A. Pristup, Professor, Head of Chair
A. Ya. Zagoruyko, Candidate, Dean

Description:

Research involving physical metallurgy, astronomy, and mathematics is performed at this institute. A Uchenyye Zapiski is published. Foreign language (English, French, and German), pedagogy and psychology, mathematics and drafting, physics and fundamentals of production, biology, chemistry, and agriculture, and physical education are included in the curriculum.

Name: Rostov State University
(Rostovskiy gosudarstvennyy universitet)

Address: Rostov-on-Don, ulitsa Fridrikha Engel'sa, 115

Director: Yu. A. Zhdanov, Professor (1961)

Deputy Directors: P. I. Protsenko, Professor (1961)
V. I. Kuznetsov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. V. Akimtsev, Professor, Head of Chair
N. N. Arkhangel'skiy, Professor
S. Ye. Belozera, Docent, Head of Chair
I. N. Belyayev
M. A. Blokhin, Professor, Head of Chair

F. D. Gakhov, Professor
 F. Ya. Gavriilyuk, Professor
 L. P. Gromov, Docent, Head of Chair
 A. L. Khodakov
 A. B. Kogan, Professor, Head of Chair
 P. N. Kovalenko, Professor, Head of Chair
 G. R. Matukhin, Docent
 A. K. Nikifin, Professor, Head of Chair
 N. S. Novosil'tsev, Docent
 O. A. Osipov
 I. I. Potapov, Professor
 P. V. Semernin, Professor, Head of Chair
 I. A. Shamray, Docent
 M. A. Tarasov, Docent, Head of Chair
 V. A. Tishchenko, Party Secretary
 I. I. Vorovich, Docent
 A. I. Yegorov, Professor

Description:

Rostov State University was founded in 1917. It is a medium-size university and had an enrollment of about 6,050 students for the 1960-1961 school year. It confers Candidate's and Doctor's Degrees.

Whenever possible, the University's research policy is to direct its activities toward the local needs of its district. The physics group has done considerable work on piezoelectric and ferroelectric materials, particularly barium titanate. Single crystals having ferroelectric properties have been studied. Staff members at the University designed and developed an X-ray spectrometer which is used in other laboratories in the Soviet Union. Other interests of the physics group include narrow-band oscillatory systems, waveguides, klystrons and travelling-wave tubes, ionospheric layers, electron optics, and neutron scattering in antiferromagnetic materials. Associated with the University is a Scientific-Research Institute of Physics whose activities seem to be focused on the work with piezoelectric materials.

One of the primary interests in chemistry has been to develop new physical-chemical methods of analysis. For example, investigators have worked on problems such as electrolytic analysis and separation, analysis of fine dusts and aerosols, and analysis of trace elements in metals. Other fields of interest include anodizing of metals, plastics, electrolytic reduction of cadmium and other metals, dielectric materials, and the properties of substances such as gadolinium hydroxide, quinoline and its derivatives, zirconium hydroxides, alkali metals, nitrate mixtures, polyphenylene methyl resins, and monosaccharides.

Investigators in mathematics are interested in partial differential equations, integral equations, boundary-value problems, analytical functions, and theory of an ideal incompressible liquid. Their computations of thin-walled shafts, plates, and covers have played a large part in widening their use in industry. The University's URAL I computer has been used for programming structural-analysis problems.

Geologists at the University have contributed to forecasts of industrial coal, oil, and gas deposits in the Eastern Donets Basin.

In the areas of biology and soils, studies range from promoting plant growth in salt-ridden lands and other adverse environments to neuro-physiological research. Other projects include experiments with insect-control methods and parasite-resistant fish. An Institute of Biology is associated with the University. Its research activities are restricted to genetics and radiobiology.

The University offers courses in geology and exploration of mineral deposits, jurisprudence, Russian language and literature, history, electronics, mathematics, mechanics, physics, chemistry, botany, zoology, and physical geography.

A Uchenyye Zapiski and a Sbornik Studencheskikh Nauchnykh Rabot are published.

858

Name: Rovno State Pedagogical Institute
(Rovenskiy gosudarstvennyy pedagogicheskiy institut)

Address: Rovno, Vostochnaya ulitsa, 21

Director: P. V. Yovu, Candidate (1961)

Deputy Director: ---

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: G. I. Khromov, Docent, Head of Chair

Description:

The Institute offers courses in native language, literature, and singing, elementary-school instruction methods, Russian language, literature, and history, and mathematics and physics.

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Name: Ryazan' Agricultural Institute imeni Professor P. A. Kostychev
(Ryazanskiy sel'skokhozyaystvennyy institut imeni professora P. A. Kostycheva)

Address: Ryazan', ulitsa Sverdlova, 26

Director: M. I. Salikov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

P. M. Shestakov, Docent, Head of Chair
I. S. Travin, Professor, Dean

Description:

A collection of scientific reports is published frequently by this institute. Representative areas of work are fluid dynamics, mechanical engineering, geodesy, and cartography. Courses are offered in agronomy, animal husbandry, and mechanization of agriculture.

860

Name: Ryazan' Radio Engineering Institute
(Ryazanskiy radiotekhnicheskiy institut--RRTI)

Address: Ryazan', Yamskoye shosse, 37

Director: I. S. Kovalev, Docent (1961)

Deputy Directors: S. A. Suslonov, Docent (1961)
G. I. Takhvanov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Sh. Yu. Ismailov, Docent, Head of Chair
A. P. Karpushin, Docent
P. V. Poshekhonov, Docent, Head of Chair
A. N. Tekuchev, Professor, Head of Chair

Description:

This institute, founded in 1952, is engaged in research activities as well as teaching. Theoretical and experimental studies have been made on many electronic and mechanical devices, such as gyroscopic mechanisms, control systems, computers, and digital control devices. Its research in physics and chemistry have resulted in some contributions in the area of electronic materials.

The Institute publishes a Trudy and offers courses in Marxism-Leninism and political economy, descriptive geometry and drawing, chemistry, theoretical and engineering mechanics, calculation and design of radio

apparatus, technology and organization of production of radio apparatus, theoretical fundamentals of electronic techniques, radio electronics, theoretical fundamentals of radio engineering, control instruments, telemechanics and automatics, technology of metals and radio electrical materials, physics, higher mathematics, foreign languages, and physical training and sport.

Name: Ryazan State Pedagogical Institute
(Ryazanskiy gosudarstvennyy pedagogicheskiy institut)

Address: Ryazan', ulitsa Svobody, 46

Director: --

Deputy Director: N. A. Preobrazhenskiy, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. P. Grishin, Professor, Head of Chair
E. A. Korzun
I. P. Makarov, Docent, Head of Chair
N. P. Milonov, Docent, Head of Chair
V. I. Selivanov, Professor, Head of Chair
M. I. Zendrikova, Head of Chair

Description:

Research involving physical metallurgy, astronomy, and mathematics is performed at this institute. A Uchenyye Zapiski is published regularly. There is an astronomical observatory here, equipped with AT-1 telescopes.

Foreign language (English, French, and German), Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and biology, chemistry, and agriculture are among the courses taught.

Name: Sakhalin Complex Scientific-Research Institute
(Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut)

Address: Novo-Aleksandrovsk

Director: .G. A. Khel'kvist, Doctor (1958)

Deputy Director: N. V. Razumov (1962)

Administrative Affiliation: Academy of Sciences, U.S.S.R. (1962)

Selected Staff Members:

V. N. Alentanova, Head of Laboratory
E. Fayzulin
G. Nozdrin
A. Sovorov

Description:

This institute, consisting of 12 laboratories with a staff of more than 100 scientists, is engaged in studies of the Earth. It operates a seven-station seismic system to study the Earth's crust in the transition zone between the continent and the ocean in the region of the Kurile-Kamchatka arc and the Pacific Ocean.

Name: Samarkand Institute of Soviet Trade imeni V. V. Kuybyshev
(Samarkandskiy institut sovetskoy trgovli imeni V. V. Kuybysheva)

Address: Samarkand, Kommunisticheskaya ulitsa, 47

Director: --

Deputy Director: --

Administrative Affiliation: Union of Cooperatives of Consumer Societies,
Uzbek S.S.R. (1960)

Selected Staff Members: --

Description:

In addition to its interest in economics, especially trade, the Institute has conducted research in organic and inorganic chemistry. It offers courses in trade economics, accounting, industrial trade, and grocery trade.

Name: Saratov Agricultural Institute
(Saratovskiy sel'skokhozyaystvennyy institut)

Address: Saratov, ploshchad' Revolyutsii, 1

Director: A. I. Smirnov, Professor (1961)

Deputy Director: M. A. Dudorev, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

D. K. Ioanno, Docent
N. Z. Kotelkov
G. V. Medoks

Description:

Members of this institute have published work in the fields of analytical chemistry, soil science, geodesy, complex organic compounds of rare-earth elements, and machinery maintenance. Higher academic degrees are awarded, and courses are offered in agronomy, forestry, agricultural economics and organization, and bookkeeping.

Name: Saratov Institute of Mechanization of Agriculture imeni M. I. Kalinin
(Saratovskiy institut mekhanizatsii sel'skogo khozyaystva imeni
M. I. Kalinina)

Address: Saratov, Sovetskaya ulitsa, 60

Director: D. G. Vadivasov, Professor (1961)

Deputy Director: A. B. Koganov, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

V. S. D'yakov, Docent
Ye. I. Komarov
V. Shurygin, Assistant Head of Chair
P. A. Skvornyuk, Docent, Head of Chair
N. M. Sokolov, Docent, Head of Chair
A. F. Ul'yanov, Professor, Head of Chair

Description:

The Institute is concentrating its research on resistance spot welding. They have not only introduced and developed new equipment, i.e., transformers, pulse generators, and circuits for frequency changers, but have also studied the physical and mechanical properties of spot-welded joints, especially of small parts. They have also done theoretical investigations on a metal-coating process and studies on hardening of bearing rings.

The Institute periodically publishes a Trudy and offers courses on the mechanization and electrification of agricultural production processes.

Name: Saratov Polytechnic Institute
(Saratovskiy politekhnicheskiy institut)

Address: Saratov, Kraynyaya ulitsa, 77 (1960)

Director: I. I. Prokof'yev, Docent (1961)

Deputy Directors: A. I. Andryushenko, Professor (1961)
A. N. Nikitin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. P. Anisimov, Docent, Dean
K. F. Babaytsev, Docent, Head of Chair
V. L. Boynitskiy, Docent, Head of Chair
G. K. Butovskiy, Docent, Head of Chair
P. I. Gavrilov, Docent, Dean
N. N. Gryazev, Professor, Head of Chair
A. I. Klochkov, Docent, Head of Chair
D. A. Lozovoy, Docent, Dean
K. P. Sevrov, Docent, Head of Chair
L. M. Sverdlov, Docent, Head of Chair

Description:

Opened in 1960 as a result of the merger of the Saratov Automobile-Highway Institute and the All-Union Correspondence Automobile-Highway Institute, the Saratov Polytechnic Institute trains students in areas such as heat engineering, machine-technology physics, and metallurgy.

It publishes the Sbornik Nauchnykh Soobshcheniy Saratovskogo Politekhnicheskogo Instituta. Courses are offered in industrial thermal power engineering, machine building, metal-cutting tools and instruments, construction and road-building machinery and equipment, gyroscopic instruments and systems, industrial and civil construction, automobile roads, bridges and tunnels, and automotive transport.

Name: Saratov State Pedagogical Institute
(Saratovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Saratov, ulitsa Michurina, 14

Director: N. M. Andreyev, Candidate (1961)

Deputy Director: A. I. Strel'tsova, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. F. Kovalev, Docent, Head of Chair
 V. A. Labzin
 M. P. Mokhnatkin
 Y. I. Mysouskaya
 V. S. Potapov, Docent, Head of Chair
 I. V. Strakhov, Professor, Head of Chair
 A. F. Yefremov, Professor, Head of Chair

Description:

Research appears to be restricted to the fields of mathematics and chemistry, particular emphasis being placed on structural and crystallographic studies. A Uchenyye Zapiski is published by this institute. Courses of study include foreign language (English, French, and German), Russian language and literature, mathematics and drafting, physics and fundamentals of production, biology, chemistry, and agriculture, and physical education.

Name: Saratov State University imeni N. G. Chernyshevskiy
 (Saratovskiy gosudarstvennyy universitet imeni N. G. Chernyshevskogo)

Address: Saratov, Astrakhanskaya ulitsa, 83

Director: R. V. Mertslin, Professor (1961)

Deputy Director: I. S. Kamenogradskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. A. Artisevich, Director of Science Library
 A. M. Bogomolov
 P. A. Bugayenko, Docent, Head of Chair
 A. A. Chigurayeva, Professor
 L. A. Derbov, Docent, Head of Chair
 S. V. Fal'kovich, Professor, Head of Chair
 A. V. Fortunatov
 G. M. Gershteyn

A. I. Ivanov, Docent, Head of Chair
V. I. Kalinin, Professor
V. G. Kamysheva-Yel'pat'yevskiy, Professor, Head of Chair
M. L. Kats
Z. I. Kir'yashkina, Docent, Head of Chair
V. Ya. Krasil'nikov, Docent
I. S. Mustafin, Professor, Head of Chair
V. B. Ostrovskiy, Docent, Head of Chair
Ye. I. Pokusayev, Professor, Head of Chair
A. A. Ponomarev, Professor
A. P. Shvetsov, Docent, Head of Chair
A. N. Sus

Description:

Saratov State University was founded in 1909. During the 1960-1961 school year, about 5,800 students were enrolled. The University confers Candidate's and Doctor's Degrees.

Recently, the University has been responsible for carrying out a program of testing furan compounds. Other fields of chemical research in which staff and students at the University have been active include polymerization of styrene, techniques of analytical chemistry, fluorescence spectra of crude oils, and thermal cracking of hydrocarbons. The University has carried out investigations of aldehydes and ketones, praseodymium and other rare earths, catalytic dehydrogenation of isopentene to isoprene, the viscosity of liquids, degassing of nickel, electropolishing of metals, and adsorption of electrolytes by nickelous hydroxide.

Students and staff in the field of mechanics have performed research in subjects such as flow of liquids of varying viscosity, thermodynamics of irreversible processes, aerodynamic flow around wings, and plates and shells, particularly stresses and deformations in plates and shells, theory of anisotropic thick plates, and theory of shallow shells. Mathematicians at the University have investigated differential equations, theory of analytical functions, and universal classes of algebras. The University has a computer center and is interested in computer engineering and applications.

The University has an active radiophysics research section which is interested in fields such as waveguides, delay systems, klystron electronics, magnetrons, electron-wave oscillators with a retarding field, and equations for travelling-wave tubes and backward-wave oscillators. The University has performed research on semiconductors, including investigation of P-N junction diodes and measurement of permittivity and resistance of semiconductors. Considerable effort has been expended in the field of luminescence and absorption spectra of alkali halide crystal phosphors. Other fields of interest include electric-field simulation, focusing of electron beams, and interactions of charged particles with an electric field.

The University has a Scientific-Research Institute of Geology under the direction of L. A. Nazarkin and a Scientific-Research Institute of Mechanics and Physics, whose director is P. V. Golubkov, Professor.

The curricula of the University provide for courses in geological surveying and prospecting for mineral deposits, geophysical prospecting methods, gyroscopic instruments and systems, radiophysics and electronics, electronics, history, Russian language and literature, mathematics, mechanics, physics, chemistry, botany, zoology, physical geography, and economic geography.

Name: Scientific-Research and Experimental Institute of Motor-Vehicle
Electrical Equipment and Instruments
(Nauchno-issledovatel'skiy i eksperimental'nyy institut avtomobil'nogo
elektrooborudovaniya i priborov--NIIAvtopriborov)

Address: Moscow, Elektrozavodskaya ulitsa, 21

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1960)

Selected Staff Members:

N. A. Patrina, Candidate
Ye. A. Shumskaya

Description:

The Institute has investigated the mechanical and electrical properties of metals and alloys used in electrical contacts. The Laboratory of Solid Dielectrics has examined the electrical properties of plastics to determine their usefulness as insulators. A method for the economical production of magnetic materials for use in electric-motor stators has also been developed.

The staff has cooperated in the formulation of requirements of electrical equipment of automobiles, and has established norms for the selection of voltage and current systems. They have also cooperated on the development of a non-nickel-bearing chromium-base alloy for spark-plug electrodes.

Name: Scientific-Research and Planning Institute of Plastics
(Nauchno-issledovatel'skiy i proyektnyy institut plasticheskikh
mass--Giproplast)

Address: --

Director: M. Akutin (1958)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

Ye. Ye. Gulkhov

V. A. Kargin

Description:

The Institute has designed a deformometer for recording the effects of pure shear on plastics and an apparatus for testing light resistance, thermal resistance, and aging of cable plastics. An analysis method for phosphoric acid chloroanhydrides was found, and analysis by ultraviolet absorption spectra was investigated. Production of low-pressure polyethylene on metal-organic catalysts, sorption processes on polytetrafluoroethylene (Ftoroplast-4), behavior of thermosetting plastics, thermomechanics of epoxy resins, and interaction of butyric aldehyde with sodium butylate solution have been studied.

Name: Scientific-Research and Planning-Technological Institute of Machine Building
(Nauchno-issledovatel'skiy i proyektno-tekhnologicheskiy institut mashinostroyeniya)

Address: Stalino

Director: --

Deputy Director: --

Administrative Affiliation: Stalino Sovmarkhoz (1961)

Selected Staff Members: --

Description:

Established in 1948, the Institute is active in a broad range of studies related to the technology of industrial machinery. The Institute's study has indicated work in areas such as metal casting, metal flow, automatic control, bearing friction, molding sands, metal plating, and applied mathematics.

Name: Scientific-Research Autotractor Institute
(Nauchno-issledovatel'skiy avtotraktornyy institut--NATI)

Address: Moscow, Verkhnyaya ulitsa, 34

Director: S. I. Akopyan (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1960)

Selected Staff Members:

Ye. N. Firsanova
O. M. Malashkin, Candidate
T. N. Nazarova, Candidate
A. I. Niskevich, Candidate
G. I. Skundin
I. N. Velichkin, Candidate

Description:

This institute has developed a radioactive-isotope method to test the wear characteristics of engines, chromium-plated aluminum cylinders for air-cooled engines, piston rings from steel strip, an aluminum-base anti-friction alloy for bearing inserts, and fuel-pump designs. New developments such as low-pressure plastic fuel pipes and engine oils containing various additives are tested at the Institute. Research has also been conducted in related areas such as powder metallurgy and automatic welding equipment. The Institute publishes a Trudy.

Name: Scientific-Research Economics Institute
(Nauchno-issledovatel'skiy ekonomicheskii institut--NIEI)

Address: Moscow

Director: A. Yefimov, Doctor (1961)

Deputy Director: --

Administrative Affiliation: State Economic Council, U.S.S.R. (1961)

Selected Staff Members: --

Description:

Developing methods of planning the national economy is the main endeavor of NIEI. The Labor Resources Balance Sector is investigating the use of economic-statistical analysis for computation of long-range growth in labor productivity. The Institute publishes a Nauchnyye Trudy and a Uchenyye Zapiski.

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Name: Scientific-Research Electrical Engineering Institute
(Nauchno-issledovatel'skiy elektrotekhnicheskiy institut)

Address: Tallin

Director: --

Deputy Director: --

Administrative Affiliation: Estonian Sovmarkhoz (1959)

Selected Staff Members: --

Description:

This institute was established in 1959 to develop electrical engineering measurement instruments. Work also has been done to develop methods of polishing metals by use of an electrolyte jet.

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Name: Scientific-Research Institute
(Nauchno-issledovatel'skiy institut)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: V. V. Usov, Doctor

Description:

This institute, formerly the Scientific-Research Institute of the Ministry of Electrical Engineering Industry (NIIMEP), is engaged in research and development in a wide variety of electrical and related subject areas. This institute has branches in Moscow, Leningrad, Yerevan, and Tomsk.

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The M-3 computer was developed at this institute. Other research investigations have concerned electric-spark machining and materials for solid-state devices and insulation for underwater electrometers.

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Name: Scientific-Research Institute
(Nauchno-issledovatel'skiy institut)

Address: Moscow

Director: A. D. Fortushenko (1957)

Deputy Director: L. A. Kopytin (1959)

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1961)

Selected Staff Members:

S. P. Belousov, Candidate
I. Ye. Goron, Professor
G. A. Grebo, Candidate
N. I. Kalashnikov, Candidate
A. A. Metrikin
V. K. Paramonov, Candidate
N. N. Shergin

Description:

This institute conducts extensive research in the fields of radio communications and television. It is responsible for the development of automatic communications equipment. It has investigated problems in phototelegraph communications, automatic telephone exchanges, and coaxial cables, and has developed many pieces of equipment for communications engineering. It developed a radio-relay apparatus for television. One of its principal developments has been the R-600 Vesna radio-relay equipment, which makes it possible to transmit 600 telephone conversations simultaneously or to transmit television programs over long distances. Intermediate stations utilizing this equipment can forego any operating personnel. Extensive research is now being done on color television.

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Name: Scientific-Research Institute
(Nauchno-issledovatel'skiy institut)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Radio Electronics (1961)

Selected Staff Members:

A. Breytbart, Chief Engineer of Moscow Branch
E. A. Gaylisha, Chief Engineer
A. L. Zakharov

Description:

This institute is engaged in research on radio and television electronics and components. A considerable amount of effort is conducted in the area of vacuum tubes and cathode-ray tubes. Airborne television broadcasting has been done.

This institute has a television laboratory in Moscow, which does most of the television work of this institute. The main section at Leningrad is concerned more with basic and component research.

Name: Scientific-Research Institute for Construction
(Nauchno-issledovatel'skiy institut po stroitel'stvu)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Construction, R.S.F.S.R. (1961)

Selected Staff Members:

A. M. Gofner, Candidate
Ye. A. Ivleva

Description:

The Institute, in conjunction with NII-200, has been investigating electrodes for high-speed welding. They have also considered argon-arc welding methods for aluminum. In addition, results of research to develop better cements and concretes have been published.

Name: Scientific-Research Institute for Foundry-Equipment Construction and Foundry Technology
(Nauchno-issledovatel'skiy institut liteynogo mashinostroyeniya i liteynoy tekhnologii--NILITMash)

Address: Moscow, Rastorguyevskiy pereulok, 14

Director: I. P. Yegorenkov (1961)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1960)

Selected Staff Members:

V. N. Bobrov
A. S. Darer
G. R. Nikol'skiy
B. G. Shpital'nyy
G. S. Taburinskiy
A. L. Tumanskiy

Description:

NILITMash, organized in 1951, is the Institute responsible for expanding automation of the Soviet foundry industry. It is the basic organization for standardization of molding materials and foundry equipment. Its research has included casting loam, synthetic mold binders, sand blowers, sand-molding machines, core-blowing machines, machine tools, and the micro- and macro-relief of casting surfaces.

Name: Scientific-Research Institute for Labor
(Nauchno-issledovatel'skiy institut truda)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute performs investigations and compiles information on mechanization, automation, working conditions of workers, living conditions of workers, and wages in the U.S.S.R., its satellites, and the West. It publishes Byulleten' Nauchnoy Informatsii i Trud i Zarabotnaya Plata (Bulletin of Scientific Information on Work and Wages).

Name: Scientific-Research Institute for Light Sources
(Nauchno-issledovatel'skiy institut istochnikov sveta)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: L. N. Aleksandrov

Description:

Members of the staff have conducted research in physical metallurgy, studying the kinetics of recrystallization of pure-metal wires. Radiometric determination of isotopes in various metals has been pursued.

Name: Scientific-Research Institute for the Automation of Production
Processes in the Chemical and Nonferrous-Metallurgy Industries
(Nauchno-issledovatel'skiy institut avtomatizatsii proizvodstvennykh protsessov khimicheskoy i tsvetnoy metallurgicheskoy promyshlennosti--NIIAvtomatika)

Address: Kirovakan, proyezd Kirova, 7

Director: Ya. Sarkisyan (1956)

Deputy Director: O. Arutyunov (1959)

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building (1959)

Selected Staff Members: N. Kolosov, Deputy Chief Engineer

Description:

NIIAvtomatika was organized in 1956 to work on the automation of processes in the chemical and nonferrous-metallurgical industries. These efforts have been expanded and the Institute is studying automation in the mining and food industries. The Institute has developed six instruments which were displayed at the exhibition of the Achievements of the National Economy in Moscow. The Institute's staff conducts research on the theory of automatic control, relay circuits, industrial electronics, computer techniques, telemechanics (remote control) and automatic instruments for analyzing the composition of gases and liquids, and organic and inorganic chemistry.

The Institute publishes a Trudy.

Name: Scientific-Research Institute for the Operation and Maintenance of Aircraft Equipment of the Air Force
(Nauchno-issledovatel'skiy institut ekspluatatsii i remonta aviatsionnoy tekhniki voyennykh vozdushnykh sil)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: S. I. Kalashnikov

Description:

This institute conducts research on improving aircraft equipment and repair machinery. It has developed a portable flaw detector for detecting surface defects on machine parts.

Name: Scientific-Research Institute of Aeroclimatology
(Nauchno-issledovatel'skiy institut aeroklimatologii--NIIAK)

Address: Moscow, ulitsa Vorovokogo 33/35

Director: P. K. Yevseyev (1958)

Deputy Director: --

Administrative Affiliation: Main Administration of the Meteorological Services (1960)

Selected Staff Members:

I. G. Guterman
 L. A. Kozalkov
 A. N. Radchenko
 V. S. Samoylenko
 S. A. Sapozhnikova
 V. V. Sidel'nikov
 F. N. Stel'makh
 D. A. Tarasenko
 R. F. Usmanov
 P. A. Vorontsov

Description:

This institute studies the circulation of the atmosphere and analyzes atmospheric conditions over large territories. After being processed for forecasting purposes, weather data arrive at the Institute from hydrometeorological observation stations throughout the Soviet Union. The Institute has a large computer center into which this weather data are regularly fed. Various studies have been performed by staff members at the Institute on statistical, mathematical, and computer problems associated with processing weather data into climatological information. The Institute has developed computer methods and techniques for evaluation of hydrometeorological observations from ships. These ship-board observations have enabled the Institute to compile climatic and hydrologic atlases of the seas. An example of the detail of such atlases is a map of the temperature of the air in November for the Aral Sea. Other activities of the Institute include studies of wind and cloud characteristics in various Soviet regions, aerologic maps, thermal structure of arctic anticyclones, structure of the tropopause, and climatology of the upper atmosphere. The Institute publishes a Trudy.

Name: Scientific-Research Institute of Automobile Transportation
 (Nauchno-issledovatel'skiy institut avtomobil'nogo transporta--NIIAT)

Address: Moscow, Dekabr'skaya ulitsa, 23

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: T. I. Avilov, Candidate

Description:

This institute, which has branches in Kiyev and Leningrad, is responsible for research in all areas connected with automobiles, including materials used in servicing and repairing them. They have worked on fuels, such as gasoline and diesel fuels, lubricants, antifreeze, and brake fluids; this has also included cooperating on the development of standards.

Research on the treatment of metals has included methods of welding and surfacing aluminum and zinc alloys. They have not only improved the processes for the usual auto-part materials, but have also developed different materials, for example, a compound of fiber plastics and fluoroplast-4 (Ftoroplast-4) for use as plastic bearings.

Name: Scientific-Research Institute of Aviation Technology
(Nauchno-issledovatel'skiy institut aviatsionnoy tekhniki--NIAT)

Address: Moscow

Director: V. V. Boytsov, Professor (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

T. I. Avilov, Candidate
 N. T. Azarenko, Candidate
 M. I. Baranov, Candidate
 P. L. Chuloshnikov
 V. V. D'yachenko, Head of Welding Laboratory
 M. A. El'yasheva, Candidate
 V. V. Kuzmin
 G. A. Maslov
 B. D. Orlov, Candidate
 A. V. Petrov, Candidate
 N. P. Ternov, Head of Laboratory
 N. I. Vorob'yev, Candidate

Description:

This institute is also known as the Scientific-Research Institute of Technology and Organization of Production of the Aviation Industry (Nauchno-issledovatel'skiy institut tekhnologii i organizatsii proizvodstva aviatsionnoy promyshlennosti). It has one of the most outstanding metal-joining groups associated with the Soviet aviation program. Subjects of

NIAT work are quite diversified, covering many phases of welding technology. Covered-electrode, submerged-arc, gas-shielded-arc, and resistance spot- and seam-welding methods have all been reported on.

The Institute has conducted many studies on the economics, organization, and planning of production in the aircraft industry, and has prepared instructions, standards, and technical-information publications in this connection. It has recommended on-the-job training procedures for workers in the industry.

Extensive studies have been carried out on the quality control, automation, and standardization of production processes, particularly welding operations. It has investigated the application of radioisotopes in defectoscopy for quality control of materials and finished products.

Name: Scientific-Research Institute of Basic Chemistry
(Nauchno-issledovatel'skiy institut osnovnoy khimii--NIOKhIM)

Address: Khar'kov, ulitsa Dzerzhinskogo, 25

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

E. M. Mitkevich

L. S. Palatnik

Description:

The Institute has been developing simple flame-filter photometers and devices for measuring sediment. The production and application of micro-filters have been conducted.

Semiconducting compounds of copper have been investigated. Critical condensation temperatures and entropies of crystalline compounds have been measured.

Staff members have investigated basic chemical reactions to permit complete automation of chemical-plant processing utilizing computer-program techniques.

The Institute publishes a Trudy.

Name: Scientific-Research Institute of Calculating-Machine Construction
(Nauchno-issledovatel'skiy institut schetnogo mashinostroyeniya--
NIISChETMASH)

Address: --

Director: V. B. Ushakov, Doctor (1959)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

P. N. Kopay-Gora, Candidate
G. M. Petrov, Candidate
G. M. Zhdanov, Professor

Description:

This institute, engaged in research and development work on computing machines, has developed devices such as EV-80-3, PR-80-2, and MN-11. Some research has also been done on the application of radio-electronics in medicine and biology.

Name: Scientific-Research Institute of Chemistry
(Nauchno-issledovatel'skiy institut khimii)

Address: Gor'kiy, Arzamasskoye shosse, 17

Director: G. A. Razuvayev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Gor'kiy State University imeni N. I.
Lobachevskiy (1961)

Selected Staff Members:

I. M. Korenman
I. B. Rabinovich
V. A. Shushunov

Description:

A vital concern of this facility is the investigation of polymers and polymerization. Chemical properties of materials such as caprolactam,

methylmethacrylate, polypropylene, and polyethylene have been studied extensively. Investigations of the properties and uses of organometallic compounds have been made, particularly of compounds of lead, tin, mercury, titanium, and chromium.

Other substances of interest are organic peroxide compounds, tetraethyl lead and other lead compounds, and deuterium compounds. The Institute is well grounded in radiochemical techniques and has made advances in equipment and techniques for chemical separation and analysis, particularly for polarography, vacuum gas chromatography, ion-exchange chromatography, chemical towers, and radiometric analysis.

Name: Scientific-Research Institute of Chemistry
(Nauchno-issledovatel'skiy institut khimii)

Address: Khar'kov, Universitetskaya ulitsa, 16

Director: --

Deputy Director: --

Administrative Affiliation: Kharkov State University imeni A. M. Gor'kiy
(1961)

Selected Staff Members:

Ya. Ye. Geguzin
A. L. Gershuns
M. Kh. Gluzman
D. N. Gritsan
N. A. Izmaylov, Professor
V. P. Korniyenko
B. M. Krasovitskiy
Z. S. Palatnik

Description:

The work and staff of this facility are closely associated with the Chair of Chemistry at Khar'kov State University. In the field of electrochemistry, the Institute has investigated electrowinning of metals in powder form, electrodeposition of copper, and properties of electrolytes. In metallurgy, the Institute has studied electrospark treatment of iron and the layer structure of carburized steels.

Other studies include production of copper compounds, gas and liquid chromatography, ion exchange and ion-exchange materials, dyestuffs, calcium aluminates, binary systems of solid amines and anhydrides, solid organic substances, physicochemical analysis of molecules in solution, and thermal decomposition of formates. An adsorption pump for high-temperature

metallographic microscopes was developed at the Institute. Diffusion activity of crystalline solids and interactions between vacancies and grain boundaries in polycrystals have been investigated.

The institute publishes a Trudy in association with the Chair of Chemistry.

Name: Scientific-Research Institute of Chemistry
(Nauchno-issledovatel'skiy khimicheskiy institut)

Address: Leningrad, Universitetskaya naberezhnaya, 7/9

Director: A. V. Storonkin, Professor (1961)

Deputy Director: --

Administrative Affiliation: Leningrad Order of Lenin State University imeni A. A. Zhdanov (1961)

Selected Staff Members:

B. V. Ioffe
B. P. Nikol'skiy, Corresponding Academician (U.S.S.R.)
K. A. Ogloblin

Description:

This institute has done research in molecular chromatography. It has also studied reactions of nitrosyl chloride with unsaturated hydrocarbons. A recent investigation concerned the synthesis of dialkylhydrazines.

Name: Scientific-Research Institute of Chemistry imeni A. M. Butlerov
(Nauchno-issledovatel'skiy khimicheskiy institut imeni A. M. Butlerova)

Address: Kazan'

Director: B. A. Arbuzov, Academician (U.S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: Kazan' State University imeni V. I. Ul'yanov-Lenin (1961)

Selected Staff Members:

V. S. Vinogradova
V. M. Zoroastrova

Description:

This institute performs considerable research on phosphorus-organic compounds. Many of the compounds developed here find application in insecticides, medicines, and lubricant additives.

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Name: Scientific-Research Institute of Concrete and Reinforced Concrete
(Nauchno-issledovatel'skiy institut betona i zhelezobetona--NIIZhB)

Address: St. Plyushchevo, M.-Ryazanskoy zheleznoy dorogi, poselok Vyazovka

Director: K. N. Kartashov (1960)

Deputy Director: --

Administrative Affiliation: Academy of Construction and Architecture,
U.S.S.R. (1961)

Selected Staff Members:

- G. I. Berdichevskiy, Head of Laboratory of Prestressed Concrete
- A. E. Desov, Head of Laboratory of Dense Concrete
- A. A. Gvozdiyev, Professor, Head of Laboratory of Theory of Reinforced Concrete and Reinforcement Studies
- N. N. Kiselev, Head of Laboratory of Testing of Cements and Aggregates
- I. G. Lyudkovskiy, Candidate, Head of Laboratory of Special Reinforced-Concrete Structures
- V. V. Mikhaylov, Head of Laboratory of Prestressing Production Methods and Equipment
- A. Mironov, Head of Laboratory of Lightweight Aggregate Cellular Concrete and Accelerated Curing
- B. M. Moskvina, Head of Laboratory of Prevention of Corrosion in Concrete and Reinforcement
- V. I. Murashev, Head of Laboratory of Heat- and Chemical-Resistant Concrete Structures
- K. D. Nekrasov, Head of Laboratory of Heat-Resistant Concrete
- G. N. Sivertsev, Head of Laboratory of Chemical and Physical Research Methods

Description:

NIIZhB conducts research on plain, reinforced, and prestressed concrete. Prestressing materials, systems, and new types of structural elements constitute the major areas of endeavor. Specifically, the staff has worked on ultrasonic testing methods for deformation, tension, and compression. Various forms of welding steels used for reinforcement are studied. Cinder products from waste of electric-power plants, plastic

forms, heat-resistant asbestos cement for use at 1100 C, reinforced concrete for heavy-machine-tool parts and powerful hydraulic presses, and glass-fiber reinforcement of concrete also have been investigated.

The Institute publishes a Trudy and confers the Candidate's and Doctor's Degrees.

Name: Scientific-Research Institute of Construction Materials and Products
(Nauchno-issledovatel'skiy institut stroitel'nykh materialov i izdeliy)

Address: Kiyev

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Construction and Architecture,
Ukrainian S.S.R. (1960)

Selected Staff Members: --

Description:

The Institute is engaged in activities related to construction materials and ceramic technology. In addition to investigations concerning grinding and polishing techniques, interest has been expressed in molding plastic-ceramic masses, the mechanics of disperse systems, and studies on the strength of mortars and concretes. A branch of the Institute is located at Konstaninovka.

Name: Scientific-Research Institute of Diamonds
(Nauchno-issledovatel'skiy institut almaza-NIAlmaz)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Moscow City Council of the National Economy
(1959)

Selected Staff Members:

A. Ye. Gel'fand
E. A. Storchak

Description:

This institute has furnished technological assistance to various factories in designing diamond grinding wheels and diamond dies for particular applications. It has, for example, developed a diamond grinding disc with an organic binder. It also succeeded in experimentally demonstrating the grinding of hard-alloy steel-plant rolls with a mirror finish to a tolerance of 0.005 mm (0.0002 inch).

Name: Scientific-Research Institute of Direct Current
(Nauchno-issledovatel'skiy institut postoyannogo toka--NIIPT)

Address: Leningrad, Yashumovskiy pereulok, 1/39

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Electric Power Stations, U.S.S.R.
(1958)

Selected Staff Members:

A. M. Furman
V. P. Pimenov
L. A. Sena, Doctor
N. N. Shchedrin, Corresponding Academician (Uzbek S.S.R.)
M. G. Shekhtman
N. A. Shipulina
N. N. Tikhodeyev

Description:

This educational research institute was established during the post-war years to study long-distance electrical transmission systems. Much research has been done on current rectification, and high-voltage mercury rectifiers have been studied. The Institute also has worked on the improvement of transformer-station circuits. Some other fields of research are synchronous condensers, electrical insulation, transistors, meteoric electrical discharges, and direct-current electrical equipment. An Izvestiya is published.

The Institute has a branch in Moscow at Bolotnaya naberezhaya, 15.

Name: Scientific-Research Institute of Electrical Engineering Industry
(Nauchno-issledovatel'skiy institut elektrotekhnicheskoy
promyshlennosti--NIIEP)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

T. G. Ambartsumov, Candidate
 S. I. Barskiy, Candidate
 V. A. Bayev
 O. V. Benedikt, Professor
 D. A. Gorodskiy, Professor
 A. G. Iosifyan, Professor, Head of Computer Laboratory
 Ye. M. Kovarskiy, Engineer
 B. I. Kuznetsov
 V. A. Ratmirov, Candidate
 A. A. Ratov, Engineer
 L. R. Shal'man, Engineer
 T. G. Soroker
 A. E. Zorokhovich, Candidate

Description:

This institute, in collaboration with the Power Engineering Institute imeni G. M. Krzhizhanovskiy, is credited with design and development of the N-3, a compact digital computer "suitable for research laboratories, teaching organizations, and design offices". A Computer Laboratory using machines of this type was established here about 1958. The Institute has also been investigating insulating compounds for high-voltage windings, both a-c and d-c generators, and the magnetic properties of powdered ferromagnetic materials. A branch, located at the Yerevan Armelektro Plant, has designed equipment for electric-welding transformers. A Trudy is published monthly. Candidate's Degrees are awarded.

Name: Scientific-Research Institute of Electrography
 (Nauchno-issledovatel'skiy institut elektrografii--NIElektrografii)

Address: Vil'nyus, ulitsa L'vova, 19/18

Director: I. I. Zhilevich (1959)

Deputy Director: --

Administrative Affiliation: Lithuanian Sovnarkhoz (1962)

Selected Staff Members:

F. A. Levina
 N. N. Markevich
 L. I. Nyun'ko
 M. Parkhomenko
 I. Z. Plavina
 B. Vasilyauskayt
 Yu. Vishchakas
 T. Yanauskas
 Yu. A. Zibuts

Description:

The Institute, organized in 1957, works on problems of contactless printing, electrophotography, and high-speed X-ray photography. Among the instruments developed are a device for magnetic image recording, a ferro-magnetic printing press, a photoconductor multiplying machine, an electrographic magnifier for oscillographs and electrocardiographs, an electrophotocamera, and a special machine for applying a photoconductor layer on cotton cloth.

Name: Scientific-Research Institute of Electrophysical Apparatus
 (Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury)

Address: Leningrad

Director: Ye. G. Komar (1960)

Deputy Director: F. K. Arkhangel'skiy (1960)

Administrative Affiliation: --

Selected Staff Members:

M. A. Gashev, Head of Electrical Engineering Department
 V. A. Glushish, Doctor
 V. M. Levin
 I. F. Malyshev, Head of Vacuum-Technology Department
 N. A. Monoszon
 K. K. Sobolev
 A. M. Stolov, Head of Thermonuclear-Research Department

Description:

The Institute was founded in 1946 for the purpose of designing and building particle accelerators. Its most noteworthy research is in fundamental physics, particularly in accelerator technology. Other interests include plasma studies, for which a special research installation known as

"Al'fa" was built. This equipment is capable of producing high-powered pulse discharges in a toroidal chamber and is used to investigate the electric and magnetic characteristics of a plasma discharge.

900

Name: Scientific-Research Institute of Electrotechnical Glass
(Nauchno-issledovatel'skiy institut elektrotekhnicheskogo stekla--
NIIES)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

L. A. Grechanik
V. G. Karpechenko
M. D. Mashkovich
N. V. Petrovykh
V. I. Shelyubskiy

Description:

This institute has studied the electrical, magnetic, and optical properties of conducting and semiconducting glasses, including measurement of dielectric constants and losses. It has also designed and developed glass-testing instruments and has designed tank-type glass furnaces.

901

Name: Scientific-Research Institute of Fertilizers and Insectofungicides
imeni Ya. V. Samoylov
(Nauchno-issledovatel'skiy institut po udobreniyam i insektofun-
gitsidam imeni Ya. V. Samoylova--NIUIF)

Address: Moscow, Leninskiy prospekt, 55

Director: V. S. Sharov (1962)

Deputy Director: S. I. Vol'fkovich, Academician (U.S.S.R.) (1958)

Administrative Affiliation: State Committee for Chemistry, Council of
Ministers, U.S.S.R. (1962)

Selected Staff Members:

A. G. Amelin, Doctor
 M. I. Belyakov
 G. K. Bereskov, Doctor
 L. Grinshpan, Candidate
 B. I. Levi
 N. Mel'nikov, Professor, Head of Section
 N. N. Shumilovskiy, Doctor
 K. D. Shvetsova-Shilouskaya, Doctor
 F. V. Turchin, Doctor

Description:

NIUIF is the leading research institute in the Soviet Union for the development of high-quality fertilizers and herbicides. The Institute has a total staff of 1200 working in 32 laboratories.

For a number of years, this institute has been investigating processes for the stabilization of sulfur trioxide as a sulfonation agent and the processing of various mineral resources for fluorine, phosphorus, and other basic raw materials for the agricultural industry. Research laboratories have been established at the larger plants of the chemical industry for analytical control of fertilizer and insecticide components. Thiosulfonic acids have been exploited as fungicides. In conjunction with metallurgical and chemical research institutes, research on the corrosion resistance of stainless steels, aluminum, and titanium alloys was conducted. A pilot plant is maintained. The Institute awards the Candidate's Degree, and publishes a Trudy.

Name: Scientific-Research Institute of Finance
 (Nauchno-issledovatel'skiy finansovyy institut--NIFI)

Address: Moscow, ulitsa Kuybysheva, 9

Director: G. Kosyachenko, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Finance, U.S.S.R. (1957)

Selected Staff Members: --

Description:

This institute studies financial problems in Western countries, i.e., credits, money turnover, loans and debts, international mutual accounts, etc.

It publishes *Finansy Kapitalisticheskikh Stran* (Finance of Capitalistic Countries).

903

Name: Scientific-Research Institute of Foundations and Underground Structures
(Nauchno-issledovatel'skiy institut osnovaniy i podzemnykh sooruzheniy)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Construction and Architecture, U.S.S.R. (1959)

Selected Staff Members: --

Description:

The Institute is engaged primarily in the investigation of the technology concerned with structural foundations in permafrost regions. Research work has involved design, materials, soil studies, and applied mathematics, and extends through isotope studies of abrasion of hard alloys for cutting rocks.

904

Name: Scientific-Research Institute of Foundry Machine Building and Foundry Technology
(Nauchno-issledovatel'skiy institut liteynogo mashinostroyeniya i liteynoy tekhnologii--NIILTMASH)

Address: Moscow, Rastorguyevskiy pereulok, 14

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

S. Ye. Rozenfel'd
G. S. Taburinskiy, Engineer

Description:

NIILITMASH, established in the 1930's as "Soyuzformlit'ye", is a basic organization conducting standardization and normalization in the field of foundry production, i.e., molding materials, foundry machines, and production equipment for foundries. Since 1956, standards have been developed for tool classification and designation in machine construction, dimensional accuracy of large pig-iron castings, hydraulic and sand hydraulic cleaning of casting, molding, sand, and core-blowing machines, and micro- and macro-relief of castings.

The Institute is also responsible for the supervision of the expansion of automation of foundry equipment. In this area, they have cooperated with several plants in research on pattern production. The Institute's Central Design Bureau (TsKB) has designed various pieces of foundry equipment such as sand-blasting machines and semiautomatic and automatic molding machines for the production of sheet molds and cores.

Name: Scientific-Research Institute of Fuels and Lubricants
(Nauchno-issledovatel'skiy institut goryuchikh i smazovykh materialov--NIIGSM)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Defense, U.S.S.R. (1957)

Selected Staff Members:

Ya. B. Chertkov, Professor
A. A. Gureyev
Z. A. Sablina
Ye. G. Semenido, Professor
V. N. Zrelov

Description:

This institute has existed at least since 1949. Its work has included studies of purification of kerosene and motor fuels, greases, corrosion of gas-turbine engines by sulfur or sediment in the fuel, analysis of lubricating oils, lubrication efficiency of lubricants, antioxidants, and gum formation in aviation gasoline.

Name: Scientific-Research Institute of Gold Mining and Prospecting
(Nauchno-issledovatel'skiy gorno-razvedochnyy institut po zolotu--
Nigrizoloto)

Address: Moscow, Verkhnyye Kotly, 72-a

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: N. G. Klimenko

Description:

The staff has conducted extensive research in ore beneficiation, flotation methods, and ore dressing. Vibration milling of ores has also been studied. Radioactive isotopes have been utilized in assaying ore samples. Chemical analysis by microtechniques has also been studied. The Institute publishes a Trudy.

Name: Scientific-Research Institute of High-Frequency Currents imeni
Professor V. P. Vologdin
(Nauchno-issledovatel'skiy institut tokov vysokoy chastoty imeni
professora V. P. Vologdina--NIITVCh)

Address: Leningrad

Director: M. A. Spitsyn (1959)

Deputy Director: N. I. Glukhanov, Candidate (1960)

Administrative Affiliation: --

Selected Staff Members:

V. N. Bogdanov, Candidate, Head of Laboratory
I. T. Fedorova
A. A. Fogel', Candidate
G. F. Golovin
I. Lunin
A. A. Shekalov, Candidate

Description:

Apparatus developed by this institute includes a machine for welding stainless steel pipe, high-frequency-current induction heaters, equipment for welding plastics, a semiautomatic bending-hardening machine, quenching

machines and induction furnaces, and automatic equipment for casting in shell molds. Welding studies have included mechanization and automation of welding and resistance welding of longitudinal tube seams by radio-frequency current; other interests of the Institute are high-frequency inverters using gas-filled and vacuum tubes, industrial applications of high-frequency currents, cooling capacity of fluids, hardening of tubes of glass-reinforced plastics by high-frequency heating, hardening of crankshaft journals, bearing links, and steel parts, cutting tubes by rupture using zonal induction heating, and high-frequency heating for core drying.

The Institute publishes a Trudy.

908

Name: Scientific-Research Institute of Hydrometeorological Instrument
Building
(Nauchno-issledovatel'skiy institut gidrometeorologicheskogo
priborostroyeniya--NIIGMP)

Address: Moscow, pereulok Pavlika Morozova, 12

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. Asbel', Chief Engineer
L. L. Dashkevich
K. N. Manuilov
S. I. Nepomnyashchiy
I. A. Savikovskiy
I. M. Shenderovich
N. I. Shteyn
D. Ya. Surazhskiy
V. A. Ulsol'tsev
N. S. Varzhenevskiy

Description:

This institute is primarily involved in the design and construction of prototypes of measuring instruments. Emphasis is currently placed on the automation of hydrometeorological measurements. The staff of the Institute has developed an automated, telemetered, meteorological aircraft station (TMAS) designed for remote-control servicing to airdromes, hydrometeorological offices, and weather stations to create a system for higher accuracy in weather data. Various forms of radiosondes and aircraft meteorographs are being developed.

The Institute's Isotope Laboratory has developed instruments for investigating the melting of snow using radioactive isotopes. The instruments were supplied to the Institute of Geography, Academy of Sciences, U.S.S.R.

The Institute publishes a Trudy.

Name: Scientific-Research Institute of Language, Literature, History, and Economics
(Nauchno-issledovatel'skiy institut yazyka, literatury, istorii i ekonomiki)

Address: Cheboksary

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute deals particularly with problems in the history, linguistics, and economy of the Chuvash A.S.S.R. It publishes Materialy po Istorii Chuvashskoy ASSR (Materials on the History of the Chuvash A.S.S.R.).

Name: Scientific-Research Institute of Local and Fuel Industry
(Nauchno-issledovatel'skiy institut mestnoy i toplivnoy promyshlennosti--NIIMestoprom)

Address: Kiyev

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, Ukrainian S.S.R. (1960)

Selected Staff Members: --

Description:

Investigative efforts of this institute have been generally restricted to the fields of organic fuels, plastics, and metallurgy. Recently

published work has reflected a preponderant interest in plastics. Research has been performed on polydine-based synthetic binders for oil-free core reinforcements used in casting processes, polyamide resins as casting materials, and the use of nylon as a lining for metallic parts of sliding bearings and as components for food machinery. Interesting raw materials studied here are powdered wastes from feathers and down and from horn and hoof residues. Plastic articles have been produced by both injection molding and pressure casting. Of interest, also, is a process for drying varnish coatings on metal surfaces by infrared radiation. Thermodynamic and combustion properties of lignite fuels have been studied to exploit the region's peat deposits. Welding, foundry, and metal-deposition processes have been investigated. A Trudy appears periodically.

911

Name: Scientific-Research Institute of Machine-Building Technology
(Nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya--
NITPEKhMASH)

Address: Chelyabinsk

Director: --

Deputy Director: --

Administrative Affiliation: Chelyabinsk Sovnarkhoz (1961)

Selected Staff Members: G. P. Klekovkin, Head of Laboratory for Build-Up
Welding

Description:

The Institute was organized around 1960 and is primarily concerned with welding technology, particularly automatic processes. Recently, responsibility for standardization and normalization of machine construction was transferred to the Institute.

912

Name: Scientific-Research Institute of Machine-Building Technology
(Nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya--
NIITMASH)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: Leningrad Sovnarkhoz (1961)

Selected Staff Members: --

Description:

The Institute is very active in industrial automation processes and the standardization of parts. Recent work has concerned lathe programming, automation of smith forging, a mechanized flow line for gang machinery of twisting and spinning rings, and application of pickup-preventing zirconia paints.

913

Name: Scientific-Research Institute of Machine-Building Technology
(Nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya)

Address: Rostov-on-Don

Director: --

Deputy Director: --

Administrative Affiliation: Rostov Sovmarkhoz (1961)

Selected Staff Members: --

Description:

Recent research efforts by this institute have been concerned with subjects such as the development of travelling welding apparatus and flowmeters using radioactive isotopes, and the production of cylindrical rollers. Other work has involved corrosion-fatigue studies, properties of Zn-Al-Mn alloys, and protective coating of steel parts. A Sbornik Rabot is published annually.

914

Name: Scientific-Research Institute of Mathematical Machines
(Nauchno-issledovatel'skiy institut matematicheskikh mashin)

Address: Yerevan

Director: S. N. Mergelyan, Academician (Armenian S.S.R.) (1957)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R.

Selected Staff Members: --

Description:

This institute was organized to design and develop computing equipment. One of the first attempts of this institute was to design a computer that would perform 100,000 operations per second. Specialized computer designs are made for automatic-control systems, such as the operating processes of the Armenian power system.

Name: Scientific-Research Institute of Mathematics and Mechanics
(Nauchno-issledovatel'skiy institut matematiki i mekhaniki)

Address: Leningrad, Universitetskaya naberezhnaya, 7/9

Director: S. V. Vallender, Professor (1960)

Deputy Director: --

Administrative Affiliation: Leningrad Order of Lenin State University
imeni A. A. Zhdanov (1962)

Selected Staff Members:

A. N. Baluyev
V. A. Bulavskiy
V. M. Chebanov
D. K. Faddeyev, Professor
S. Ya. Fitialov
M. K. Gavurin
O. A. Ladyzhenskaya
S. K. Mikhlin
M. L. Tsetlin

Description:

This institute provides instruments and equipment for research by students and faculty of Leningrad State University. Work is done in computer mathematics and numerical analysis. For research in mechanics, stress-analysis equipment and instruments for optical-polarization investigations are available. In the mechanical-testing laboratory, work has been done on theory of deformation and stresses in welding.

Name: Scientific-Research Institute of Mechanics
(Nauchno-issledovatel'skiy institut mekhaniki)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Moscow State University imeni M. V. Lomonosov
(1961)

Selected Staff Members:

G. I. Barenblatt
V. V. Gogosov
L. I. Sedov, Academician (U.S.S.R.)
Ya. B. Zel'dovich, Academician (U.S.S.R.)

Description:

The interests of this institute include subjects such as magneto-hydrodynamics, shock waves, plasticity, elasticity, and gyroscoy. Recently, the Institute has performed considerable work on the mechanical properties of metals, investigating phenomena such as precipitation mechanisms, brittle cracks under longitudinal shear, and dislocation structure and its effect on mechanical properties of metals.

Name: Scientific-Research Institute of Mechanics and Physics
(Nauchno-issledovatel'skiy institut mekhaniki i fiziki)

Address: Saratov

Director: P. V. Golubkov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Saratov State University imeni
N. G. Chernyshevskiy (1960)

Selected Staff Members:

V. F. Bogolyubov
V. P. Frontas'yev
Ye. A. Ridel'

Description:

Research projects associated with this institute include the study of degassing of nickel, determination of the temperature dependence of heat conductivity of liquids, and development of a coefficient of variability in the lowest layer of the atmosphere.

Name: Scientific-Research Institute of Monomers for the Synthesis of Rubber
(Nauchno-issledovatel'skiy institut monomerov dlya sinteza kauchuka--
NIIMSK)

Address: Yaroslavl'

Director: V. M. Sobolev (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. F. Frolov
E. G. Lazaryants
I. Ya. Tyuryayev

Description:

This institute is engaged in research and development of new technological procedures and production of monomers for synthetic rubber. This institute has helped to develop a method for producing butadiene-methylvinylpyridine latex which has high adhesive properties. The work of this institute is concerned with chemistry as it applies to the production of synthetic rubber.

Name: Scientific-Research Institute of Physics
(Nauchno-issledovatel'skiy institut fiziki)

Address: Odessa

Director: --

Deputy Director: --

Administrative Affiliation: Odessa State University imeni I. I. Mechnikov
(1961)

Selected Staff Members:

Zh. L. Broun
Ye. A. Kirillov, Professor
Ye. A. Nesterovskaya
Ye. A. Pozigun

Description:

This institute has done considerable work on photographic emulsions. Associated investigations have considered the effect of infrared on the luminescence of silver chloride and the absorption spectrum of thin layers of thallium bromide. The Institute has done work on semiconductors.

920

Name: Scientific-Research Institute of Plastics
(Nauchno-issledovatel'skiy institut plasticheskikh mass--NIIPM)

Address: Moscow, Perovskiy proyezd, 35

Director: M. S. Akutin (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

Ye. L. Gefter
A. V. Gordiyevskiy
L. A. Igonin, Candidate
V. I. Itinskiy
I. V. Kamenskiy
I. F. Kanavets
V. N. Kotrelev
P. Z. Li
N. N. Oster-Volkov
K. D. Petrov, Doctor
I. I. Porzhitskiy
S. B. Ratner
G. Sagalaye
P. N. Shcherbak
N. S. Tikhomirova
V. S. Titov
A. B. Tsfasman
B. P. Yershov

Description:

One of the major Soviet plastics research institutes, NIIPM has conducted research in the following areas:

- (1) Phenolic and modified phenolic resins
- (2) Production of glass fibers
- (3) Fluoropolymers
- (4) Organometallic and organoelemental polymers (containing silicon, germanium, aluminum, tin, phosphorus, etc.)

- (5) Polyester laminates
- (6) Adhesives
- (7) Electrical-insulation materials
- (8) Urea-Formaldehyde resins
- (9) Ion-exchange resins
- (10) Heat-resistant polymers
- (11) Interfacial polymers
- (12) Diffusion of gas through plastic film.

The development work of the Institute has included studies of:

- (1) A process for producing polyformaldehyde from natural gas
- (2) The production of high-pressure polyethylene pipes
- (3) Centrifugal casting of polyamide and polycarbonate gears and bearings
- (4) Lubrication with polycaprolactam
- (5) The use of furan resins as concrete binders
- (6) Films, particularly polyethylene terephthalate
- (7) The impregnation of graphite with furfural ketone resins
- (8) The fabrication of parts from glass-reinforced laminates
- (9) The Kanavets displacement "plastometer" for testing rubber and plastic mixtures
- (10) A foundry mold binding material made from sulfite-alcohol distillation waste
- (11) Honeycomb plastics based on paper, cotton tissue, and glass fiber.

The Institute has a branch in the Lugansk region for reinforced-glass-fiber research, and a branch in Fergana that has worked on the plastoconcrete development. There also is a Laboratory for Ion-Exchange Resins in Nizhniy Tagil.

Name: Scientific-Research Institute of Polymerization Plastics
(Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass--NIPPM)

Address: Leningrad

Director: N. M. Yegorov (1959)

Deputy Director: A. Golubeva, Doctor (1961)

Administrative Affiliation: --

Selected Staff Members:

- Z. V. Arkhipova
- D. D. Chegodayev
- L. V. Chereshevich, Head of Laboratory of Fluoroplastics

V. I. Gribkova
 L. Lel'chuk
 N. S. Losev
 B. I. Sazhin
 V. I. Sedlis
 P. N. Shcherbak
 K. A. Sivograkova
 A. I. Yelyashevich

Description:

The main function of this institute is to develop a polymeric product of a research laboratory through the pilot-plant stage until it is ready to turn over to a full-scale chemical plant. These studies may be carried out in the Institute's own pilot plants or in various chemical plants.

Besides this, the Institute does laboratory studies of processes and materials, supplies samples to other institutes, and develops testing methods and testing apparatus. It was instrumental in the development of fluorine polymers and polyethylene.

Name: Scientific-Research Institute of Printing Equipment Construction
 (Nauchno-issledovatel'skiy institut poligraficheskogo mashinostroyeniya--NII Poligrafmash)

Address: Moscow, Kaluzhskiy pereulok, 4

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: V. M. Fridkin

Description:

This institute was established in 1946 to conduct research and development of modern photomechanical equipment. Among the accomplishments of this institute is work on the development of latent electrophotographic images. Studies have been made of the spectrum photosensitivity of photographic films with chromates. Some work has also been done on automatic machines and machine control for photographic processing. The Institute published a Sbornik Trudov.

Name: Scientific-Research Institute of Radiophysics and Electronics
(Nauchno-issledovatel'skiy institut radiofiziki i elektroniki)

Address: --

Director: E. Mirzabekyan, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1960)

Selected Staff Members: --

Description:

This institute was created in 1960 within the system of the Armenian Academy of Sciences from the Departments of Astronomy and Radio-physics of the Byurakan Astrophysical Observatory. The staff of approximately 130 conducts research on problems of ultra-long-range communications (radio telescope), design of ultrasensitive radio equipment, and new electronic equipment.

Name: Scientific-Research Institute of Rock and Silicates
(Nauchno-issledovatel'skiy institut kamm'ya i silikatov)

Address: Yerevan, ulitsa Barekamutyan, 14

Director: --

Deputy Director: --

Administrative Affiliation: Sovnarkhoz of the Armenian S.S.R. (1961)

Selected Staff Members: --

Description:

This institute was established in 1961. It will do research on natural rock, search for new building materials, and develop the production technology of silicates, ceramics, and light fillers from local raw materials.

Name: Scientific-Research Institute of Rubber and Latex Articles
(Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh
izdeliy--NIIR)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. V. Chernaya
 D. L. Feydyukin
 A. A. Korotkova
 A. R. Makeyeva
 Kh. E. Malkina
 A. A. Pozin
 V. N. Provorov
 D. M. Sandomirskiy
 Ye. P. Taraday
 A. I. Tsvetkov
 S. A. Vorona

Description:

The Institute has developed apparatus for the continuous production of rubber pipes, an instrument for determining vulcanization kinetics, and transmitters for measuring deformations in latex films.

Analytical studies have concerned the qualitative analysis of accelerators, quantitative control of free sulfur during vulcanization of light-colored rubbers, analysis of age resistors in rubber, and the use of radioactive indicators to study latex gelatin. Other studies considered the effect of degree of gel expansion on the tear elongation of vulcanized meteorological radiosonde balloons, gelation of carboxylate latexes, vulcanization of chloroprene latex films, vulcanization activity of furfurylhydramide, properties of latex foams, thermosensitization of natural and synthetic latexes, luminescence properties of natural rubbers, liberation of gases during rubber vulcanization, use of elastic vibrations in processing, drying of latex sponge, dustless accelerator melts, manufacture of colored-rubber articles, frost-resistance coefficient of rubber, germination of spongy mixtures, composition of X-ray-protective rubbers, effect of ultrasonics on chloroprene latex, foaming capacity of butadiene-styrene latexes, and catalyst suppression by metals in rubber.

The Institute publishes a Trudy and has a chemical laboratory and a laboratory for physical and mechanical testing.

Name: Scientific-Research Institute of Rubber Consumer Goods
 (Nauchno-issledovatel'skiy institut rezinovykh izdeliy shirokogo potrebleniya--NIIR)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

D. L. Fedyukin

S. A. Vorona

Description:

Research has been conducted at this institute on plasticizers for natural-rubber formulations, methods for determining trace elements such as sulfur in rubber, and new methods for determining the moisture content of rubber. New methods and instruments for the physical and mechanical property testing of rubber and rubber goods have been developed. Development studies have also been conducted on X-ray-protective rubber, foam-rubber products, and the use of radioactive isotopes to coagulate rubber latexes.

Name: Scientific-Research Institute of Synthetic Alcohol and Organic Products
(Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov--NIISS)

Address: Moscow, B-5, ulitsa Radio, 12

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Chemistry (1959)

Selected Staff Members:

M. E. Aerov

L. M. Bukreyeva

V. I. Ginzburg

L. A. Ivanova

K. I. Karasev

M. Ye. Klimenko

L. S. Klyaynshteyn

V. A. Markevich, Candidate

A. B. Neyman

P. G. Sergeev

Ye. P. Shchukin
A. M. Sladkov
N. I. Zelentsova

Description:

Synthesis and production methods of interest to the Institute pertain to the synthesis of phenylene diacetic acids and their amines, extraction of isobutylene from butane-butylene mixtures, production of acetaldehyde from ethylene, suitability of low octane gasolines for producing ethylene and propylene, production of ethanol by direct hydration, synthesis of primary fatty aromatic alcohols using tri-isobutyl aluminum, synthesis of higher olefins, oxidation of hydrocarbons in the liquid phase, synthesis of p-nitroacetophenone, production of primary camphenyl alcohol, manufacture of synthetic glycerine, use of benzene as a solvent in the Friedel-Crafts reaction, and reaction of hydrogen peroxide with allyl alcohol and acrolein in the presence of tungstic acid. Analytical work has concerned the determination of microadmixtures in pure ethylene, determination of hydroperoxide compounds in resin, use of C^{14} for determination of the fractioning effect of gaseous hydrocarbons, volt-amperometric determination of phenol in isopropyl benzene, quantitative determination of dimethyl-phenylcarbinol, and determination of propylene admixtures in ethylene and ethane-ethylene fractions. Other investigations include corrosion studies of steels in concentrated acids, and kinetic studies of the physical adsorption of ethylene from mixtures and of gas adsorption.

The Institute has a branch in Novokuybyshev and publishes a Trudy.

928

Name: Scientific-Research Institute of Synthetic Resins
(Nauchno-issledovatel'skiy institut sinteticheskikh smol)

Address: Vladimir, suburb of Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute was founded in 1958 with the goal of improving methods of synthesis and the production technology for polymers and copolymers. Recent research has involved plastic-to-metal adhesives, polycondensation at the liquid-gas interface, gamma-radiation polymerization, and polyamide chemistry.

Name: Scientific-Research Institute of the Cable Industry
(Nauchno-issledovatel'skiy institut kabel'noy promyshlennosti-NIIKP)

Address: Moscow, 2-ya Kabel'naya ulitsa, 2

Director: D. V. Bykov (1960)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1960)

Selected Staff Members:

Ye. G. Fedoseyeva
E. E. Finkel
E. A. Koloss
V. A. Privezentsev, Professor

Description:

The Institute has investigated various types of materials for insulating cables, including polyethylene, polymethane, polyamide resins, epoxy compounds, and rubber. The electrical properties of polyvinyl chloride, its preparation, and mechanical properties have been investigated. Polyethylene has been studied as a porous insulating material. The thermal-stability properties of irradiated polyethylene have been investigated.

Modernization projects for a 16-spool winding machine, a wire-sheathing machine for well-logging cables, and other equipment have recently been completed.

The Tashkent Branch produces flexible cable. Investigations by branch staff members have centered around rubber insulation. Radioactive-sulfur-isotope techniques have been developed for determining the distribution of rubber insulation on cables.

The Tomsk Branch has investigated the mechanical properties of free-flowing material used for rubber in cables.

The Institute publishes a Trudy.

Name: Scientific-Research Institute of the Electrical Industry
(Nauchno-issledovatel'skiy institut elektropromyshlennosti)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. A. Bayev
 A. S. Eysurovich
 R. S. Kuznetsov, Candidate
 M. L. Orzhakhovskiy
 G. N. Petrov, Professor
 A. L. Pisarev
 A. A. Pogosov, Candidate
 A. K. Vardenburg, Candidate

Description:

This institute has studied the classification of electrical insulating materials with respect to heat resistance, the tropicalization of electrical equipment, the mass production of metal-ceramic electrical products, magnetic phenomena, and various types of electrical apparatus. There is a branch of the Institute in Leningrad.

Name: Scientific-Research Institute of the Electrical Industry
 (Nauchno-issledovatel'skiy institut elektropromyshlennosti)

Address: Kishinev, ulitsa Gor'kogo, 18

Director: --

Deputy Director: --

Administrative Affiliation: Moldavian Sovnarkhoz (1961)

Selected Staff Members: --

Description:

The Institute was created in 1959 to design electric machines, instruments, cable, and insulating materials. The Institute provides assistance to organizations in mastering new production problems. Eleven laboratories are being created at the Institute.

Name: Scientific-Research Institute of the Food Industry of the Moldavian
S.S.R.
(Nauchno-issledovatel'skiy institut pishchevoy promyshlennosti
Moldavskoy SSR)

Address: Kishinev

Director: G. Ya. Rud (1960)

Deputy Director: V. G. Papovskiy (1960)

Administrative Affiliation: --

Selected Staff Members:

G. N. Gasyuk, Head of the Ultrasonics and Physicochemical
Department
A. A. Krofeyev, Head of the Mechanization and Automation Laboratory
L. O. Nutov, Head of Wine Technology Department
Ye. V. Zobov, Head of Packaging Laboratory

Description:

This institute, organized within the last five years, is concerned with canning and packaging technology, wine making, automation and mechanization of food processes, the development of new products, waste-material utilization, economics, and microbiology. Most of the Institute's work is done on grapes. Various applications of ultrasonics are under study.

Name: Scientific-Research Institute of the Geology of the Arctic
(Nauchno-issledovatel'skiy institut geologii arktiki--NIIGA)

Address: Leningrad, naberezhnaya reki Moyki

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Geology and Conservation of Mineral
Resources, U.S.S.R. (1958)

Selected Staff Members:

I. P. Atlasov, Doctor
R. M. Demenitskaya
S. M. Kryukov
R. S. Rubinovich
N. S. Spiro
P. S. Voronov

Description:

The Institute studies the geology and natural resources of the Arctic and Antarctic. Scientists here are compiling the first geological map of the Arctic and sub-Arctic zones of the world. They have also embarked on the compilation of 24 geological maps of individual areas and islands of the Antarctic, and in 190 they published a map of recent tectonics in the Antarctic continent. Seismic work is also being conducted on the Arctic Ocean with the aim of studying the thickness of sedimentary deposits.

The Institute had published 119 volumes of its Trudy by 1961.

934

Name: Scientific-Research Institute of the Rubber Industry
(Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti--NIIRP)

Address: Moscow, Malen'kaya Trubetskaya ulitsa, 28

Director: --

Deputy Director: S. V. Burov (1960)

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Chemistry (1959)

Selected Staff Members:

G. M. Bartenev
O. K. Botvinkin, Professor
B. M. Gorelik
V. L. Karpov
A. S. Kuzminskiy
T. S. Nikitina
A. S. Novikov
V. G. Rayevskiy
R. V. Torner
Yu. S. Zuyev

Description:

The Institute, in developing better rubber materials, has utilized radiation vulcanization, plasticizers, polydimethylsiloxanes, and aging to improve base compounds.

Conveyor belts using new rubber fabrics have been developed. In this connection, the staff has been active in automation and mechanization programs. Heat-resistant rubbers have been developed for machine applications.

New testing instruments have been designed for measuring creep, fatigue, and compression. Molding equipment has also been designed, constructed, and tested.

The effects of various environments have been determined. Frost, ozone, low-temperature, radiation, elevated-temperature, and moisture effects have been determined for a number of rubber formulations.

Crosslinking, structural changes, and sealing properties have been studied. The Leningrad Branch has been active in studying the low-temperature sealing properties of rubber. The Sverdlovsk Branch has conducted research on dimensional changes in rubber-metal parts.

The Institute publishes a Trudy.

Name: Scientific-Research Institute of the Technology of the Automobile Industry
(Nauchno-issledovatel'skiy institut tekhnologii avtomobil'noy promyshlennosti--NIITAvtoprom)

Address: Moscow, Ozerovskaya neberezhnaya, 22/24

Director: E. S. Razaneat (1961)

Deputy Director: --

Administrative Affiliation: State Committee on Automation and Machine Building of the Council of Ministers, U.S.S.R. (1959)

Selected Staff Members:

S. K. Belova, Engineer
P. T. Gorodnov, Candidate
A. A. Kokorev, Engineer
A. I. Korotkov, Engineer
I. I. Krichinskiy
N. Larionov, Head of Department
L. I. Mirkin
V. A. Popov, Candidate
V. V. Saklinskiy, Engineer
A. S. Sarvina, Engineer
V. Ya. Shekhter, Candidate
N. A. Shlyapin, Engineer, Head of the Technological Department
M. I. Slutskiy, Engineer
V. V. Yakimanskiy, Candidate
V. I. Yakimovskiy, Candidate
A. S. Yeuseyev, Engineer
N. S. Zorina

Description:

The Institute has developed numerous systems used throughout the Soviet automotive industry and other metallurgical installations. Emphasis has been placed on the development of automated production processes. Other research has been conducted in metal physics and metal-fabrication processes, including welding, metal forming, forging, powder metallurgical production of automobile parts, hot rolling of gears, precision casting, and metal-coating processes.

The facility has a branch in Minsk and an experimental plant in Moscow.

936

Name: Scientific-Research Institute of Thermal-Power-Engineering Instrument Construction
(Nauchno-issledovatel'skiy institut teploenergeticheskogo priborostroyeniya--NIITeplopribor)

Address: Moscow, Ol'khovskaya ulitsa, 27

Director: K. B. Arutyunov (1959)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Automation and Machine Building, (1960)

Selected Staff Members:

K. S. Furman
Z. M. Shafranovskaya

Description:

Members of the staff have studied the use of nuclear radiation in measuring thermal-power parameters. Gamma-ray-generating instruments have been developed to measure liquid density and solution concentrations. Gages of radioactivity are being developed at this institute.

Automation and mechanization of production processes are being studied for the chemical and ferrous metallurgical industries. Development of equipment for automatic production and instruments for measuring machined surfaces are being pursued. Electromagnetic induction flowmeters and small-size pneumatic instruments for automatic control and regulation are being developed.

The Institute publishes a Trudy.

Name: Scientific-Research Institute of the Technology of Tractor and
Agricultural-Equipment Construction
(Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'-
skokhozyaystvvennogo mashinostroyeniya--NII Traktorosel'khoz mash)

Address: Moscow, Marksistskaya ulitsa, 20

Director: A. K. Ignat'yev (1958)

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1959)

Selected Staff Members: --

Description:

The Institute's primary interests relate to automation technology, with particular emphasis on agricultural needs. Recent research and development work has encompassed studies on control techniques, automatic welding machinery, inspection instrumentation, and special equipment for production processes. A branch operates at Rostov.

Name: Scientific-Research Institute of the Tire Industry
(Nauchno-issledovatel'skiy institut shinnoy promyshlennosti--NIIShP)

Address: Moscow, 1-y proyezd Sokolinoy gory, 25

Director: --

Deputy Director: P. N. Orlovskiy (1958)

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Chemistry (1960)

Selected Staff Members:

G. E. Betts
N. I. Chernozhukov
B. A. Dogadkin, Professor
M. S. Fel'dshteyn
B. I. Gengrinovich
B. K. Karmin, Doctor
M. K. Khromov
A. L. Kryukovaya
Kh. E. Malkina, Candidate
M. I. Novikov

V. I. Novopol'skiy, Candidate
 K. A. Pechkovskaya
 A. P. Pukhov, Candidate
 M. M. Reznikovskiy, Candidate
 I. I. Seleznev, Head of the Experimental Designing Section
 A. G. Shvarts
 R. V. Uzina

Description:

The Institute, which has a Ukrainian Branch, numbers among its laboratories the Physics and Chemistry Laboratory and the Laboratory of Rubber Reclaiming; it has an Experimental Tire-Repair Plant, and an Experimental Designing Section. The Institute publishes a Trudy.

The Institute received awards in 1960 for work on the development of heat-resistant butyl rubbers for diaphragms of vulcanizate formers, development of two-strip rubber-cord pneumatic springs, and the production of soft and thermomasticated rubbers from hard divinyl-styrene rubbers. Other awards were for a hydraulic press for pressing tires and the development of tires with new tread design and increased durability. A subject-bibliography card index of scientific and technical information is maintained at this institute, and translations are made for tire plants in the U.S.S.R. Equipment for automatic processing, for tire build-up, and for rubber testing is designed for the tire plants serviced by the Institute.

Vulcanization methods and accelerators, plasticizers, antifatigue agents, and mastication accelerators are subjects of frequent study at the Institute. Gamma irradiation has been used as an experimental vulcanization technique and to study degradation effects on rubber. Rubber and tire properties of interest include aging, ozone resistance, stability, fatigue, tensile strength, wear resistance, tear resistance, creep, and deformation. The properties of caprone tire cords have been studied, and as a result of these studies, the Institute recommends the use of caprone cords over many other types available in the U.S.S.R. Methods for bonding rubber to metals and to tire cords have been discussed.

Name: Scientific-Research Institute of the Varnish and Paint Industry
 (Nauchno-issledovatel'skiy institut lakokrasochnoy promyshlennosti--
 NIILK)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

S. T. Baybayeva
E. A. Nesvyazhskaya

Description:

This institute has existed since at least 1940. Its work has included development of an apparatus for viscosity determination, and analytical methods for determination of acids, formaldehyde, and hydroquinone in varnish resins. It has also assisted in the development of coatings for aircraft.

The Institute has a branch at Chelyabinsk.

940

Name: Scientific-Research Institute of the Watch Industry
(Nauchno-issledovatel'skiy institut chasovoy promyshlennosti--
NII Chasprom)

Address: Moscow, Golovanovskiy pereulok, 42-a

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., on Automation and Machine Building
(1959)

Selected Staff Members: G. I. Fuks

Description:

This institute is engaged in the research and development of materials and components for the use of the clock industry. Tropical-grade oils have been developed, satisfying the conditions of resistance to humidity, higher ambient temperatures, and micro-organisms. Research into the process of high-speed machining of watch parts is also conducted.

941

Name: Scientific-Research Institute of Urban and Rural Telephone
Communications
(Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefonnoy
svyazi--NIITS)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members: --

Description:

Formerly known as the Leningrad Branch of the Central Scientific-Research Institute of Communications, the organization assumed its present name around 1956. Work at the Institute has involved research in switching devices, automatic control, electrophotography, facsimile systems, and high-frequency studies related to ferromagnetic materials.

Name: Scientific-Research Institute of Weights and Instruments
(Nauchno-issledovatel'skiy institut vesov i priborov--NIIvesprom)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

NIIvesprom, the central institute in the field of weighing and testing devices, has conducted theoretical and experimental investigations. For example, its work has concerned the analysis of errors in dial-type, automatically balanced indicators and methods for designing indicator elements, elastic imperfections in springs used for measuring forces, and analysis of accuracy in dynamic load measurement with high-frequency fatigue-testing machines. They have also developed methods for checking the indicators of hydraulically actuated fatigue-testing machines. Several machines and instruments for testing the mechanical properties of metals have also been developed at the Institute.

Name: Scientific-Research Physical-Chemical Institute imeni L. Ya. Karpov
(Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni
L. Ya. Karpova)

Address: Moscow, ulitsa Obukha, 10

Director: K. A. Kocheshkov, Corresponding Academician (U.S.S.R.) (1960)

Deputy Director: V. L. Karpov (1959)

Administrative Affiliation: --

Selected Staff Members:

A. D. Abkin
 Kh. S. Bagdasar'yan
 G. K. Boreskov, Corresponding Academician (U.S.S.R.), Head of
 Laboratory of Heterogeneous Catalysis
 A. Kh. Breger, Head of a Research Group
 A. I. Brodskiy, Corresponding Academician (U.S.S.R.)
 K. V. Chmutov, Corresponding Academician (U.S.S.R.)
 B. V. Deryagin, Corresponding Academician (U.S.S.R.)
 M. M. Dubinin, Academician (U.S.S.R.)
 V. A. Epel'baum
 L. A. Galata
 V. A. Kargin, Academician (U.S.S.R.), Head of Laboratory of
 Colloidal Chemistry
 I. A. Kazarnovskiy, Corresponding Academician (U.S.S.R.), Head of
 a Research Group
 Ya. M. Kolotyркиn, Doctor
 A. G. Kostyuk
 V. V. Losev, Doctor
 Yu. M. Malinskiy
 S. S. Medvedev, Academician (U.S.S.R.), Head of Laboratory
 L. P. Mezhirova
 B. F. Ormont, Professor
 I. V. Petryanov-Sokolov, Corresponding Academician (U.S.S.R.)
 M. A. Proskurnin
 S. Ya. Pshezhetskiy
 P. A. Rebinder, Academician (U.S.S.R.)
 S. Z. Roginskiy, Corresponding Academician (U.S.S.R.)
 V. T. Serebryanskiy
 A. I. Shatenshteyn, Professor, Head of a Laboratory
 A. P. Sheynker
 D. N. Shigorin
 M. F. Shostakovskiy, Corresponding Academician (U.S.S.R.)
 T. I. Sogolova
 V. I. Spitsyn, Academician (U.S.S.R.)
 G. Sh. Talipov
 M. I. Temkin
 V. D. Ushakov
 V. I. Veselovskiy
 M. K. Yakovleva
 N. M. Zhavoronkov, Corresponding Academician (U.S.S.R.)
 G. S. Zhdanov, Head of Crystal-Structure Laboratory

Description:

The Karpov Institute, one of the leading Soviet scientific-research organizations, was founded in 1918 by L. Ya. Karpov, a chemical engineer who died in 1921. This institute conducts research in many fields of chemistry, with emphasis appearing to be on ionic polymerization, crystalline structure of polymers, radiation chemistry, and the synthesis of radioactive materials. Work on complex compounds and in physical, electro-, and colloid chemistry is done here. Research on products of hexogen detonation, the radiation of fluoro-olefins, the dissociation of large molecules by electron impact, investigation of hard alloys, and the corrosion of metals show the variety of interests and work here. Many of the laboratories of the Institute have become independent institutes. Advanced degrees have been conferred since 1931.

944

Name: Scientific-Research Physics Institute
(Nauchno-issledovatel'skiy fizicheskiy institut)

Address: Leningrad, Universitetskaya naberezhnaya, 7/9

Director: N. P. Penkin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Leningrad Order of Lenin State University imeni A. A. Zhdanov (1962)

Selected Staff Members:

V. M. Chulanovskiy
B. S. Dzhelepov, Corresponding Academician (U.S.S.R.)
V. A. Fok
S. E. Frish, Corresponding Academician (U.S.S.R.)
Ye. P. Grigor'yev
Ye. F. Gross, Corresponding Academician (U.S.S.R.)
L. K. Peker
S. L. Sakharov
A. M. Shukhtin
F. I. Skripov
L. A. Smirnov
A. N. Terenin, Academician (U.S.S.R.)
F. I. Vilesov
M. F. Wuks

Description:

This facility of Leningrad State University has performed a great deal of development work on spectral and other analytical instrumentation, including a star electrophotometer, an auroral spectrometer, infrared

spectrometers, and an ozonograph for ozonometric observations. The Institute specializes in molecular and nuclear spectroscopy. Its research studies include investigations of the hydrogen-bond concept, optical properties of atoms and molecules, electromagnetic waves, photoelectric emission and luminescence, gas-dynamic processes, and nuclear magnetic resonance. Facilities include a Photometric Laboratory and a Laboratory of Photosynthesis.

945

Name: Scientific-Research Planning Institute for Chemistry
(Nauchno-issledovatel'skiy proyektnyy institut khimii--
Armiikhimproyekt)

Address: Kirovakan

Director: Kh. Grigoryan, Candidate (1960)

Deputy Director: --

Administrative Affiliation: Armenian Sovnarkhoz (1958)

Selected Staff Members:

- A. Akoryan, Candidate, Head of Laboratory of Polymerization Processes
- R. Ashastin, Candidate, Head of Laboratory of High-Temperature Processes
- A. Luknitsi, Candidate, Head of Laboratory of Plastics
- Sh. Oganesyanyan, Engineer, Head of Laboratory 2 of Organic Synthesis

Description:

The Armiikhimproyekt, established in 1958, is responsible for solving problems of the chemical industry, the planning and cost estimation of new chemical production, and the reconstruction of existing enterprises in the Armenian S.S.R.

The Laboratories of Polymerization Processes have developed a number of chemical processes for the production of Vinilon-type synthetic fiber and a synthetic electrical insulating film, Masis, from polyvinyl alcohol. The Laboratories of High-Temperature Processes and Organic Synthesis Number 2 have developed the technological process for the production of acetic acid and acetylene from gaseous benzene. The development of synthetic glues and their production has been a continuing project of the Plastics Laboratory.

The planning section of the Institute contributes to the development of the chemical industry by planning new shops, for example, for the production of synthetic ammonia, carbides, and carbamides.

Name: Scientific-Research Planning-Technological Institute of Machine Building
(Nauchno-issledovatel'skiy proyektno-tekhnologicheskiy institut mashinostroyeniya)

Address: Dnepropetrovsk

Director: --

Deputy Director: --

Administrative Affiliation: Dnepropetrovsk Sovmarkhoz (1958)

Selected Staff Members: --

Description:

The Institute was established in 1958 to design machines for the mechanization of metallurgical and mining enterprises. It has an experimental plant to facilitate this research.

Name: Scientific-Research Radiophysics Institute
(Nauchno-issledovatel'skiy radiofizicheskiy institut--NIRFI)

Address: Gor'kiy, Arzamasskoye shosse, 17

Director: M. T. Grekhova, Professor (1961)

Deputy Director: --

Administrative Affiliation: Gor'kiy State University imeni N. I. Lobachevskiy (1961)

Selected Staff Members:

I. L. Bershteyn
N. G. Denisov
V. P. Dokuchayev
V. M. Fayn
A. V. Gaponov
B. N. Gershman
G. G. Getmantsev
V. L. Ginzburg, Corresponding Academician (U.S.S.R.)
A. G. Kislyakov
M. S. Kovner
A. N. Malakhov
M. A. Miller
Yu. I. Neymark
V. O. Rapoport

V. A. Razin
Yu. A. Ryzhov
V. I. Talanov
V. S. Troitskiy, Doctor
V. V. Zheleznyakov
G. M. Zhislin
V. A. Zverev

Description:

Established sometime in the mid-1950's, this institute has distinguished itself as a center for research in radio astronomy and radio-astronomical equipment, physics of the ionosphere, waveguide and antenna problems, and plasma physics.

One of the functions of the Institute is to serve as a laboratory for the design of instruments and techniques for various radiophysics problems. In addition to the design of a high-speed oscillograph and a flow meter for small amounts of gas, techniques have been developed for the measurement of frequency fluctuations in oscillators and molecular generators, measurement of backscattering of sound, calibration of radio-astronomical equipment, measurement of electron concentration in the ionosphere, and determination of noise characteristics of high-frequency amplifiers. A technique for measuring signal intensities in radio astronomy has been developed, together with instruments and techniques for planetary radio observations.

Investigations in plasma physics conducted at the Institute include studies of growth and attenuation of plasma waves and electromagnetic waves in a plasma. In other fields, researchers have investigated surface-wave antennas, low-frequency electromagnetic waves, waveguide systems, and amplification of travelling waves. Some work has been done on ferromagnetic and antiferromagnetic materials, and on the application of ferrite valves in a phase meter for centimeter waves. Other examples of the Institute's diverse research activity include studies of masers and lasers and their applications, uses of klystrons and travelling-wave tubes, waves in transmission lines, capacity of multipath communication channels, magnetic properties of polymers, delay systems, and radiospectroscopy.

Radio-astronomical research at the Institute consists of examining problems such as the origin of cosmic rays, atmospheric noise, upper atmospheric ionized gas, scattering of radio waves in the troposphere, and electrical discharge during meteor flight through the earth's atmosphere. The Institute has made a specialty of ionospheric studies, including problems such as ionospheric layers, ionospheric radio emission, and ionospheric effects from solar eclipses. One interesting study was directed toward determining the physical make-up of the moon's surface. Extensive studies of radio emission have been made, particularly solar, cosmic, lunar, atmospheric, and planetary radio emission. One project studied radio emission from charged particles in the earth's magnetic field. Another project studied cosmic radio emission during a magnetic storm. Close by the Institute, at Zimensk, is located a fully equipped radio-astronomical station to aid in these studies.

Name: Semipalatinsk Pedagogical Institute imeni N. K. Krupskaya
(Semipalatinskiy pedagogicheskiy institut imeni N. K. Krupskoy)

Address: Semipalatinsk, Sovetskaya ulitsa, 84

Director: --

Deputy Directors: T. I. Amanov, Docent (1961)
N. V. Kuznetsova (1961)

Administrative Affiliation: Committee of Higher and Secondary Special
Education of the Council of Ministers,
Kazakh S.S.R. (1960)

Selected Staff Members:

D. Ch. Chakenov, Candidate, Head of Chair
L. M. Pereygin, Docent, Head of Chair

Description:

The Institute offers courses in Russian and native language and literature, elementary-school instruction methods, Russian history, mathematics and physics, physics and fundamentals of production, and geography and biology. It publishes a Uchenyye Zapiski.

Name: Severo-Osetinsk Agricultural Institute
(Severo-Osetinskiy sel'skokhozyaystvennyy institut)

Address: Ordzhonikidze, Timiryazevskiy pereulok, 3/5

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

A. I. Meshkova, Docent, Head of Chair
G. F. Mukhin, Professor, Head of Chair
A. B. Salamov, Professor, Head of Chair
V. S. Soroker, Docent, Head of Chair

Description:

The Institute's curriculum includes agronomy, animal husbandry, and mechanization of agriculture. It publishes a Trudy.

Name: Shadrinsk State Pedagogical Institute
(Shadrinskiy gosudarstvennyy pedagogicheskiy institut)

Address: Shadrinsk, ulitsa K. Libknekhta, 4

Director: D. A. Panov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: A. N. Sokolova, Docent, Head of Chair

Description:

The Institute offers courses in Russian language and literature, foreign language, and mathematics and physics.

Name: Shemakha Astrophysical Observatory
(Shemakhinskaya astrofizicheskaya observatoriya)

Address: In the eastern spurs of the Caucasian Mountains, 20 km from the town of Shemakha and 150 km from Baku

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Azerbaydzhan S.S.R. (1961)

Selected Staff Members:

A. G. Gasanalizade
R. E. Guseynov, Candidate
M. B. Kerimbekov
G. Sultanov, Candidate
T. E. Zade

Description:

The Observatory is located at an altitude of 1,500 meters above sea level. The site is noted for its excellent astroclimatic conditions for various kinds of observations of the sun, stars, and planets of the solar system.

By June, 1960, the foundation of the two-story main block of the Observatory had been laid. (The Observatory was already operating by this time.) The building site covers 26 hectares. The plans provided for an

observatory with five telescope pavilions, and it will be the largest astrophysical observatory in Azerbaydzhan. The largest telescope, with a 2-meter mirror, was being made by the Carl Zeiss works in East Germany.

So far, research has been performed on the origin of small planets in the solar system, on the internal structure of stars, on spectrophotometry of solar-flare fields, and on radio-optical properties of the solar atmosphere. Further work is planned on the physical processes in active formations on the sun, the physical composition of the solar atmosphere, solar radio emission, etc. Also, a study has been made of the scientific legacy of the Maraginsk Astronomical Observatory. The Shemakha Observatory is one of the scientific institutions that participated in observations made of the sun and space rockets during the International Geophysical Year.

Name: Shuya State Pedagogical Institute
(Shuyskiy gosudarstvennyy pedagogicheskiy institut)

Address: Shuya, Sovetskaya ulitsa, 40

Director: --

Deputy Director: ---

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

G. S. Maneyev
T. S. Voroshilova, Docent, Head of Chair
V. M. Zakurenov

Description:

Research has been conducted on molecular ultrasonics; included in this study was ultrasonic-wave absorption in formic acid esters. The Institute has made a circuit for producing slow electric oscillations, and studies of the fluidity of liquids have been made. A Uchenyye Zapiski is published.

Courses are offered in elementary-school instruction methods, Russian language, literature, and history, and mathematics and physics.

Name: Siberian Automotive-Highway Institute imeni V. V. Kuybyshev
(Sibirskiy avtomobil'no-dorozhnyy institut imeni V. V. Kuybysheva)

Address: Omsk, ulitsa Lenina, 20

Director: K. Kh. Tolmachev, Docent (1961)

Deputy Directors: T. V. Alekseyeva, Docent (1961)
N. T. Nikitin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. N. Chudnovskiy, Candidate, Head of Chair
A. K. Gavrilov, Docent
V. Ye. Kaganovich, Docent, Dean
Ye. I. Lavrov, Docent, Head of Chair

Description:

Highway construction, civil engineering, utilization of automotive transportation, and construction and highway-construction equipment are the subjects of courses available at this institute.

Name: Siberian Institute of Terrestrial Magnetism, Ionosphere, and
Radio-Wave Propagation
(Sibirskiy institut zemnogo magnetizma, ionosfery i rasprostraneniya
radiovoln)

Address: Irkutsk

Director: --

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
U.S.S.R. (1960)

Selected Staff Members: E. S. Kazimirovskiy

Description:

This institute is located approximately 30 km. from Irkutsk. Established by the Presidium of the Academy of Sciences, U.S.S.R., in 1960, it superseded the Irkutsk Ionospheric Station and the Irkutsk Rayon Bureau of Radio Forecasting. The work of the Institute includes the study of terrestrial magnetism, the ionosphere, radio-wave propagation, and solar activity and related phenomena in the territory of Siberia and the Far East. It consists of five laboratories dealing with terrestrial magnetism and electricity, ionosphere studies, radio-wave propagation, solar studies, and cosmic rays. It also has a design bureau, workshops, libraries, and a network of stations.

A Solar-Service Station, the first in the eastern part of the U.S.S.R., is being established by this institute in the spurs of the Eastern Sayan Mountains at an elevation of 2,000 meters.

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Name: Siberian Metallurgical Institute imeni Sergo Ordzhonikidze
(Sibirskiy metallurgicheskiy institut imeni Sergo
Ordzhonikidze--SMI)

Address: Stalinsk, Kemerovsk oblast', Rudokoprovaya ulitsa, 49

Director: --

Deputy Director: Ye. Ya. Zarvin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. P. Degtyarev, Docent, Head of Chair
P. Dembovetskiy, Docent, Head of Chair
V. M. Finkel'
A. A. Govorov, Docent, Head of Chair
Yu. V. Grdin, Professor, Head of Chair of Physical Metallurgy
and Heat Treatment
I. S. Nazarov, Professor, Head of Chair of Metallurgical Furnaces
P. P. Polukhin, Professor
F. I. P'yankov, Docent, Head of Chair
A. M. Ruchushkin, Senior Scientific Associate
G. A. Rul', Head of Laboratory
L. D. Sokolov, Professor
N. V. Tolstoguzov
N. F. Troshin, Professor
M. A. Zaykov, Docent

Description:

This institute, organized in 1930 from a number of chairs of the Tomsk Polytechnic Institute, is one of the major metallurgical higher educational institutions in the Soviet Union. The enrollment is approximately 4,500 to 5,000. It publishes a Trudy.

The research of the Institute is devoted to the solution of metallurgical production problems, mainly in the following areas: metal physics, foundry practices, steelmaking furnaces and other metallurgical equipment, rolling technology, and quality control.

A laboratory of modern methods of heat treatment has been established in the Institute in recent years.

Name: Siberian Physical-Technical Institute
(Sibirskiy fiziko-tekhnicheskiy institut--SFTI)

Address: Tomsk

Director: M. A. Krivov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Tomsk State University imeni V. V. Kuybyshev
(1960)

Selected Staff Members:

V. I. Bocharov
M. A. Bol'shanina, Professor
V. P. Padin
Ye. I. Fyalko
V. I. Gaman
A. P. Izergin
V. N. Kessenikh, Professor, Head of Ionospheric Laboratory
A. S. Khlystov
Yu. N. Kotyukov
P. P. Kufarov
V. D. Kuznetsov, Academician (U.S.S.R.)
A. I. Liklyachev
V. Ye. Panin
G. A. Petrakovskiy
V. A. Presnov
K. V. Savitskiy, Professor
V. F. Sukhovarov
V. P. Tarasenko
K. A. Vodop'yanov, Professor
O. I. Yakovlev
A. D. Zakrevskiy

Description:

Research facilities associated with this institute include a radio-physics laboratory, an ionospheric laboratory, a radar station, and an astronomical observatory. Research activities include studies in electronics, computers and computer components, information theory, solid-state physics, semiconductors and dielectric materials, luminescence, meteoritics, radio waves, electromagnetic waves, metallurgy, machining of metals, friction and wear of metals, geomagnetics, gamma radiation effects on materials, physics of the atmosphere and ionosphere, ionization in the upper atmosphere, magnetic materials, and radio ceramics, including ceramic-metal seals. The Institute publishes a Trudy.

Name: Siberian Scientific-Research Institute for Geology, Geophysics, and Mineral Ores
(Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i mineral'nogo syr'ya)

Address: Novosibirsk

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: I. V. Derbikov, Professor

Description:

The major portion of the research performed by the Institute has been devoted to the investigation of West Siberian oil potential. Work has been done in petroleum chemistry, spectral analysis of minerals, and seismic modeling and instrumentation. A Trudy is published.

Name: Slavyansk State Pedagogical Institute
(Slavyanskiy gosudarstvennyy pedagogicheskiy institut)

Address: Slavyansk, ulitsa Lenina, 10 (1960)

Director: V. Ya. Goroshko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: D. A. Mikh, Candidate, Head of Chair

Description:

The Institute offers courses in elementary-school instruction methods and mathematics and physics.

Name: Smolensk State Pedagogical Institute imeni Karl Marx
(Smolenskiy gosudarstvennyy pedagogicheskiy institut imeni Karla Marksa)

Address: Smolensk, ulitsa Przheval'skogo, 8

Director: --

Deputy Director: B. I. Argunov, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

L. P. Kholodenko
D. I. Pogulyayev, Professor, Head of Chair
I. M. Uvarenkov, Docent, Dean

Description:

This institute conducts research in the field of physical-inorganic chemistry. Some work on higher mathematical theories is carried out. Scientific notes are published regularly. Courses are offered in English, French, and German, physics and chemistry, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and geography and biology, and presumably also in teaching methods.

Name: Soil-Science Institute imeni V. V. Dokuchayev
(Pochvennyy institut imeni V. V. Dokuchayeva)

Address: Moscow, Pyshevskiy pereulok, 7

Director: I. V. Tyurin, Academician (U.S.S.R.) (1958)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. N. Antipov-Karatayev, Academician (Ladzhik S.S.R.)
K. P. Bogatyrev
V. M. Fridland
V. A. Nosin, Candidate
B. F. Petrov
A. N. Rozanov, Professor, Head of a Laboratory
N. N. Rozov

Description:

This institute does field surveying and mapping of soils in the U.S.S.R. The activity of sodium ions in disperse systems has been determined, and the aging of ferric and aluminum hydroxide gels has been investigated. It publishes a Trudy.

The Institute has a Department of Soil Geography and Cartography.

Name: Solar Laboratory of the Tashkent Astronomical Observatory
(Sluzhba solntsa Tashkentskoy astronomicheskoy observatorii)

Address: --

Director: Yu. M. Slonim (1958)

Deputy Director: --

Administrative Affiliation: Tashkent Astronomical Observatory (1959)

Selected Staff Members:

Z. B. Korobova
K. F. Kuleshova
B. N. Tirmshteyn

Description:

This laboratory conducts systematic studies of the sun's chromospheric flares on the basis of spectroscopic and photometric observations. It works in conjunction with a network of meteorological and other research stations.

Name: Stalinabad State Pedagogical Institute imeni T. G. Shevchenko
(Stalinabadskiy gosudarstvennyy pedagogicheskiy institut imeni
T. G. Shevchenko)

Address: Stalinabad, ulitsa Lenina, 139

Director: --

Deputy Directors: N. Safarov (1961)
N. T. Lolayev, Candidate (1961)

Administrative Affiliation: Ministry of Education, Tadzhik S.S.R. (1960)

Selected Staff Members:

L. A. Bukatina, Head of Chair
K. Sh. Dzhurayev, Candidate, Dean
V. V. Karakulakov, Docent, Head of Chair
N. B. Khaymov, Docent, Head of Chair
M. D. Khansurarova, Docent, Head of Chair
M. Yu. Mamadzhanova, Candidate, Head of Chair
K. U. Sadykov, Docent

Description:

The Institute is concerned with the training of teachers for elementary schools. The staff also is interested in advanced mathematics and physics. Courses in Tadzhik language, literature, and history, Uzbek language, literature, and history, Russian language and literature, mathematics and physics, geography and biology, physical education, and methods of elementary-school education are available.

Name: Staliniri State Pedagogical Institute
(Stalinirskiy gosudarstvennyy pedagogicheskiy institut)

Address: Staliniri, Georgian S.S.R.

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers,
Georgian S.S.R. (1960)

Selected Staff Members: --

Description:

Published research from the Institute includes work on meteorology, chemistry, mathematics, physical metallurgy, and gyroscopes. In connection with its teacher-training work, the Institute offers courses in Russian language and literature, Ossetian language and literature, mathematics and physics, and methods of elementary-school education. A Trudy of the Institute is published irregularly.

Name: Stalino Institute of Soviet Trade
(Stalinskiy institut sovetskoy torgovli)

Address: Stalino, ulitsa Shchorsa, 31

Director: F. D. Fesenko, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Trade, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. N. Popov, Candidate, Dean
Ye. I. Zakharov, Docent, Head of Chair

Description:

Trade economics, accounting, industrial trade, and grocery trade are covered by the Institute's curriculum.

Name: Stalino State Pedagogical Institute
(Stalinskiy gosudarstvennyy pedagogicheskiy institut)

Address: Stalino, Universitetskaya ulitsa, 18

Director: N. F. Khoroshaylov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. I. Borodin, Candidate, Head of Chair
S. A. Ksenofontov, Docent
I. Ya. Omel'yanenko, Candidate, Head of Chair

Description:

Most of the published research of this education institute is in mathematics, elasticity theory, and structural mechanics. The Institute publishes a Trudy.

The Institute offers courses in native language, literature, history, Russian language, mathematics, drafting, physics, and fundamentals of production.

Name: Stanislav State Pedagogical Institute
(Stanislavskiy gosudarstvennyy pedagogicheskiy institut)

Address: Stanislav, ulitsa Stalina, 55

Director: V. M. Kravets, Docent (1961)

Deputy Director: --

966 (Continued)

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: G. K. Pototskiy, Docent, Head of Chair (1961)

Description:

The Institute has done studies in the area of physics. It offers courses in Russian language, literature, and singing, elementary-school instruction methods, Russian history, and mathematics and physics. It publishes a Naukovi Zapysky.

967

Name: State All-Union Design and Planning Institute for Ferrous Metallurgy
(Gosudarstvennyy vsesoyuznyy proyektnyy institut chernoy metallurgii--
Stal'proyekt)

Address: --

Director: R. M. Mantsev (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: A. N. Shabanov, Chief Designer of Steel Casting
Group

Description:

This institute has done research on steel-melting units, multi-groove installations for casting square ingots from 270-ton ladles, electric heating pits for mills, tower furnaces for bright continuous heat treating, automation of steel melting and rolling, and open-hearth furnaces, with special emphasis on computerized remote control. Continuous steel-teeming equipment has been developed by the Institute.

968

Name: State All-Union Planning Institute
(Gosudarstvennyy soyuznyy proyektnyy institut--GSPI)

Address: Moscow, uitsa Kirova, 40

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1962)

Selected Staff Members:

I. I. Govallo, Department Supervisor
 I. V. Ostrovskiy, Chief Planning Engineer

Description:

This institute is engaged in the planning and development of communications systems. Radio relay systems, teletype networks, and other communication modes have been created by this institute. A giant antenna mast for the Moscow TV center is an example of the work carried on at this institute.

The design and creation of TV studios and broadcasting facilities are among the accomplishments of this institute.

Name: State All-Union Scientific-Research Institute for Reinforced-Concrete Products and Nonmetallic Materials
 (Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy institut zhelezobetonnykh izdeliy i nerudnykh materialov--NIIzhelezo-betona)

Address: Moscow, 2-y Khoroshevskiy proyezd, 9

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute specializes in research on the physical and chemical properties of construction materials. The work is both theoretical and applied. A Sbornik Trudov is published.

Name: State All-Union Scientific-Research Institute of Radio Reception and Acoustics
 (Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy institut radioveshchatel'nogo priyema i akustiki--IRPA)

Address: Leningrad, naberezhnaya reki Krestovki, 3

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Radioelectronics (1960)

Selected Staff Members:

L. Yu. Gutin, Doctor
S. G. Kalikhman, Head of Laboratory
V. S. Kissel'gof, Head of Department

Description:

The main fields of interest at IRPA are sound-focusing devices and radio reception. Work has been done on the development of receiving tubes, transistors, transistor amplifier circuits, ferrite rod antennas, and a high-quality VHF receiver. Acoustic systems for both radio receivers and column loudspeakers have been developed. Work has been done to employ a method of standardized "mass" production to the "Lyuks", "Druzhba", "Aktava", "Baykal", "Vostok 57", "Mayak", and "Donets" radio receivers and phonographs. A solar battery was developed for use as the electric power source of small radio receivers such as the "Sputnik".

This institute publishes a Trudy at regular intervals. It was formerly known as the Central Radio Laboratory.

Name: State All-Union Scientific-Research Institute of the Cement Industry (Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy institut tsementnoy promyshlennosti--VNIITs)

Address: Moscow, 1-y D'kovskiy pereulok, 4

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

P. P. Budnikov, Corresponding Academician (U.S.S.R.)
Z. L. Danyushevskaya
Kh. M. Leybovich, Candidate
A. Ye. Sheykin

Description:

The effects of organosilicon additives and gypsum on properties of concrete and cements have been studied at this institute. Studies also have been made of the effects of calcium, fluorine, and magnesium oxide on

refractories, the effect of the surface of raw cements on the granulation and consistency of slurries, and the effect of microstructure of the clinker on the properties of Portland cement.

The Institute publishes Informatsionnyye Soobshcheniya (Information Reports), Nauchnyye Soobshcheniya (Scientific Reports), and Ukazatel' Zhurnal'nykh Statey po Tsementu (Index of Periodical Articles on Cement). It also publishes a Trudy.

Name: State Astronomical Institute imeni P. K. Shternberg
(Gosudarstvennyy astronomicheskiy institut imeni P. K. Shternberga--
GAISh)

Address: Moscow

Director: D. Ya. Martynov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Moscow State University imeni M. V. Lomonosov
(1961)

Selected Staff Members:

V. V. Aksent'yev
V. Davydov, Scientific Secretary
O. S. Dokuchayeva, Head of the Laboratory of Astrophotography
G. N. Duboshin
E. V. Konovich, Doctor
B. V. Kukarkin, Doctor
Yu. N. Lipskiy
A. G. Masevich, Doctor
A. A. Orlov, Candidate
A. S. Sharov, Director of the Observation Station (of artificial
earth satellites)
I. S. Shklovskiy, Professor
G. F. Sitnik, Doctor
B. A. Vorontsov-Velyaminov, Professor

Description:

The State Astronomical Institute imeni P. K. Shternberg, a scientific-research institute of Moscow State University, was founded in 1931. It was based on the University's astronomical observatory, founded about 1830, which was famous for its work on the determination of the exact positions of stars and the study of variable stars. The Institute is an important center of celestial mechanics work, both pure and as applied to orbital mechanics.

Since 1948, GAISH has been an international center for the study of variable stars. In 1929, a time-service laboratory was organized. The Institute also makes observations in the fields of astrometry, stellar astronomy, astrophysics, and other branches of astronomy.

Since 1954, the Institute has had at its disposal an abundant collection of instruments and laboratories at the astronomical observatory in the Palace of Science on the Lenin Hills. Operations are also carried on in observatories at Krasnaya Presnya and in Kuchino, near Moscow. In 1958, observations were also begun in the southern observatory station in the Crimea. In addition, there is a high-altitude station in the Zailiyskiy Alatau Mountains.

The Institute publishes a Trudy and a Soobshcheniya.

973

Name: State Hydrological Institute
(Gosudarstvennyy gidrologicheskiy institut--GGI)

Address: Leningrad, B. O., 2-ya liniya, 23

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

Established in 1919, the Institute has evidenced steady growth in hydrotechnology. Laboratories are maintained at Zelorogorsk and Valdoy, and a separate station exists at Dulovka. In 1943, the State Oceanographic Institute was formed from this institute. In addition to basic interests in hydrochemistry, forecasting, measuring instruments, low tides, lakes and marshes, and river-bed dynamics, the Institute provides for special research programs. In 1959, expeditions were made to study problems such as the hydrometry of mountain rivers, sediment runoff, ice conditions, transformation of river banks, and silting of water basins. The Institute has regularly published a Trudy. The Candidate's Degree is granted.

974

Name: State Institute for Planning Metallurgical Plants
(Gosudarstvennyy institut proyektirovaniya metallurgicheskikh zavodov--Gipromez)

Address: Moscow, prospekt Mira, 101

Director: K. Belyanchikov (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. V. Istomin, Chief, Rolling-Mill Section
 B. V. Kirilov, Chief Engineer of General Designs of Blast Furnaces
 K. Kostenetskiy, Chief of Mechanization Section
 N. K. Leonidov, Chief of Blast Furnace Section
 A. I. Lotarev, Designer of the Blast Furnace Section
 V. M. Piskarev, Chief Engineer
 P. Shirayayev, Chief Economist

Description:

This institute deals with the design of metallurgical plants and processes. Design of rolling mills, production of arc-welded tubes, mechanization and automation of transport and handling operations in iron and steel plants, and development of electromagnetic pump systems and open-hearth furnaces number among the areas embraced by this institute.

Branches include those at Chelyabinsk; Dnepropetrovsk, where conveyor-belt supply of materials to blast-furnace shops is of special interest (Director - M. B. Rozenshrakh); Leningrad, which treats production of basic Bessemer steel; Magnetogorsk, which studies conveyor-belt systems; Nizhniy-Tagil'; and Sverdlovsk; and the Ukrainian.

Name: State Institute for Planning Nonferrous Metallurgical Enterprises
 (Gosudarstvennyy institut po proyektirovaniyu predpriyatiy
 promyshlennosti tsvetnykh metallov--Giprotzvetmet)

Address: Moscow, Smolenskaya Sennaya ploshchad', 30

Director: --

Deputy Director: --

Administrative Affiliation: State Economic Council, U.S.S.R. (1961)

Selected Staff Members: G. A. Sedova

Description:

Giprotzvetmet is one of the many mining and metallurgical institutes founded during the post-revolution period. Its research is centered primarily on the design and technological improvement of processes in ore concentration

and beneficiation. They have designed and perfected numerous innovations for fluidized roasting furnaces, including equipment for their cleaning and cooling, electrothermic methods for electric melting, furnace filters, sintering, cyclone processes, and mechanized pig casting.

They cooperated with other groups in 1959 to develop automation for the Bessemer process. They have also done research on the structure and mechanical properties of bronzes, the theory of bimetalization, and the use of various alloys for the manufacture of secondary electron emitters.

The Institute has several branches scattered across the U.S.S.R. The Armenian, Leningrad, and Siberian Branches of the Institute serve their respective economic areas through research in mining, ore dressing, and smelting. The Altay Branch has also designed units for the improvement of zinc extraction, while considerable research on the automation of furnace charging and casting has been done at the Caucasian branch.

The Kazakh Branch has been active in cooperative plant testing of cyclone melting and the smelting and leaching of various nonferrous metals. In 1956, the Siberian Branch, consisting of 10 departments, was established. It does the planning for new establishments and reconstruction of the old nonferrous industry in Siberia, the Urals, and Kazakhstan.

Located in Tashkent, the Uzbek Branch, in 1959, drew up the plans for an experimental plant and quarry for graphite. It has also worked on automation and reconstruction of smelting plants. The Ukrainian Branch was established in Zaporozh'ye in 1959. They worked on the plans for the first powder-metallurgy plant in the Ukraine.

The Institute periodically publishes a Trudy.

Name: State Institute for Planning, Study, and Testing of Steel Structures and Bridges

(Gosudarstvennyy institut po proyektirovaniyu, issledovaniyu i ispytaniyu stal'nykh konstruktsii i mostov--GPI "Proyektstal'-konstruktsiya")

Address: Moscow, Komsomol'skiy pereulok, 42

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

A. A. Bat', Candidate
N. N. Belous
L. I. Gladshteyn

Description:

This design and construction organization has its headquarters in Moscow, with a branch office in Dnepropetrovsk. The Central Scientific-Research Laboratory of Steel Structures is also under its jurisdiction.

The Institute has studied steel, with projects on heat treatment and its effect on mechanical properties, mechanical aging, corrosion strength, and vibratory strength. The Institute has also been active in welding research, both automatic and semiautomatic, including investigations of the mechanical properties of weld metals.

Items designed at the Institute range from a television tower to a portable tension gage with a temperature-compensated standard for measuring stresses in a blast furnace. They have also completed the designs for a 900-ton-capacity blast furnace.

The Institute also has manufactured a welded blast-furnace jacket and torches for automatic and semiautomatic welding, utilizing the results of its research.

977

Name: State Institute for the Design and Planning of Aluminum, Magnesium, and Electrode Plants
(Gosudarstvennyy institut po proyektirovaniyu alyuminiyevykh, magniyevykh, elektrodnykh zavodov--Giproalyuminiy)

Address: Leningrad, Sredniy prospekt, 80

Director: L. D. Khodyko (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. A. Krochevskiy
A. E. Montvid, Candidate
V. I. Nosikov, Candidate

Description:

The Institute designs plants and equipment and develops new processing techniques for the aluminum industry. Methods to extract aluminum from lean ores has been studied. A new Bayer sintering flow sheet for the treatment of Turgay bauxites has been developed. The effectiveness of welded contacts in the electrometallurgy of aluminum was determined. An electro-thermal method for producing aluminum was developed here. The Institute has a Ural Branch.

Name: State Institute for the Design and Planning of Dairy-Industry Establishments
(Gosudarstvennyy institut po proyektirovaniyu predpriyatiy molochnoy promyshlennosti--Gipromolproyekt)

Address: Moscow, Novo-Basmannaya ulitsa, 23

Director: S. A. Krotov (1960)

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1960)

Selected Staff Members: V. F. Shakhov, Chief Engineer

Description:

This institute is responsible for the planning and design of all types and sizes of dairy plants. It maintains several smaller branches in other large cities of the Soviet Union. Available designs for dairy installations are published annually.

Name: State Institute of Applied Chemistry
(Gosudarstvennyy institut prikladnoy khimii--GIPKh)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Chemistry (1960)

Selected Staff Members:

B. I. Braunshteyn
R. A. Karpova
V. B. Kogan
Yu. D. Kondrashev
L. Ya. Markovskiy
A. G. Oshuyev
A. M. Sukhotin, Doctor
I. P. Tverdovskiy
Zh. L. Vert

Description:

This institute is acknowledged as one of the most important in chemical research in the Soviet Union.

A large percentage of its work has been devoted to applying various methods of radio- and electrochemistry to analytical chemistry. Past research involved developing methods for the radiometric determination of iodides, trilonometric titration of zinc in organic compounds, isotopic determination of small amounts of copper, and adaption of scintillation spectrometers for the determination of radioactive impurities. The Institute's research in plastics and elastomers--including methods of synthesis and studies of properties--resulted in the development in 1932 of methods for the production of synthetic rubber, and the later development of anticorrosive plastic coatings such as Ftoroplast-3.

A laboratory of the Institute has studied and prepared many organic fluorine compounds to the extent that they have been able to supply them to other institutes and laboratories for various research projects.

The metallurgical research staff has worked on the passivity and corrosion of different metals in various media, especially fluorine. They were the first in the U.S.S.R. to develop a process for ornamental and wear-resistant coatings. The Institute's Crimean Laboratory has also developed methods for producing manganese.

Continued research on corrosion and corrosive liquids has resulted in the development of several types of flowmeters to aid their work. Some research, although not too extensive, has been done in powder metallurgy and refractories. Considerable research has been published on hydrogen overvoltage in different palladium alloys.

Recent work of the Institute has considered the luminescence properties of a wide range of compounds (plastics and selenium compounds) with associated studies on the synthesis of phosphors and luminophors.

The Institute publishes a Trudy and also grants both the Doctor's and Candidate's Degrees.

Name: State Natural-Science Institute imeni P. F. Lesgaft
(Gosudarstvennyy yestestvenno-nauchnyy institut imeni P. F. Lesgafta)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. A. Khenokh
Ye. M. Lapinskaya

Description:

The effects of gamma radiation on carbohydrates, proteins, and amino acids have been studied at this institute. Astronomical observations are also made to study lunar and solar eclipses and other astrophysical subjects.

Name: State Oceanographic Institute
(Gosudarstvennyy okeanograficheskiy institut--GOIN)

Address: Moscow, Kropotkinskiy pereulok, 6

Director: I. I. Masyatsev (1960)

Deputy Director: --

Administrative Affiliation: Main Administration of the Hydrometeorological Service of the Council of Ministers, U.S.S.R.
(1960)

Selected Staff Members:

I. S. Brovnikov
A. I. Duvanin, Doctor
B. Kh. Glukhovskiy
Yu. M. Krylov, Doctor
P. S. Lineykin, Doctor
A. M. Muromtsev
Yu. V. Preobrazhenskiy, Professor, Director of Leningrad Branch
G. M. Tauber, Doctor
V. A. Tsikunov
Ya. G. Vilenskiy

Description:

GOIN is the central oceanographic and marine hydrometeorological institute in the U.S.S.R. It specializes in research on the physics of the sea, oceanology, and marine hydrometeorological instruments. It is charged with studying the physical processes and phenomena of the seas and oceans in order to safeguard and solve problems of the fishing industry, maritime transport, maritime hydrotechnical construction, and other branches of the economy.

Investigations of the thermal and dynamic processes of interaction between the seas and the atmosphere have been conducted in both the northern and southern hemispheres. While studying problems of marine climatology, they have used climatological data to determine the characteristics of wind-generated waves and currents in seas and oceans, including the Antarctic. Their studies of the thermal and ice regimes of the sea have covered heat transfer, thermal balance, temperature-layer formation, and the influence of stationary water areas surrounded by sea ice on cyclonic circulation.

Various groups at the Institute have studied the spatial characteristics of tides and developed methods for precalculating tides according to astronomical parameters. The staff has developed several methods to combat methodological problems in the organization of meteorological observations. A photoelectronic tidal-flow-prediction machine and a wave recorder for use in open seas are just two of the instruments developed and produced by GOIN.

The Institute manages a network of stations and observatories for studies of the coastline of the U.S.S.R., while investigations of the open sea are carried out by special expeditions and hydrometeorological stations maintained in seagoing merchant ships. The diesel-powered ship Ob, which was used for IGY expeditions, and other smaller research vessels belong to the Institute.

In addition to its numerous divisions and laboratories (including Tides, Sea Geology, Maritime Chemistry, Study of Estuaries, Construction of New Oceanographic Instruments, etc.), the Institute has a Leningrad Branch. The Branch conducts research to corroborate and support that of the main institute, such as studies of ice formation, bottom topography, currents, and sea-water chemistry. Some of the staff members also participated in a scientific expedition to study the hydrology of the Baltic Sea and the Gulf of Finland.

In addition to publishing a Trudy, the Institute annually compiles and publishes tide tables for important ports. Also, the Institute is currently compiling an oceanographic atlas of the major oceans. Since 1956 it has published Antarktika.

Name: State Optical Institute imeni S. I. Vavilov
(Gosudarstvennyy opticheskiy institut imeni S. I. Vavilova--GOI)

Address: Leningrad

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

F. M. Gerasimov, Head of Laboratory
 B. K. Ioannisianni, Head designer for Astronomical Instruments
 A. A. Lebedev, Academician (U.S.S.R.), Head of Division
 V. P. Linnik, Academician (U.S.S.R.)
 V. K. Prokof'yev, Professor
 M. M. Rusinov, Professor
 A. G. Samartsev, Professor, Head of Laboratory of Corrosion and
 Protective Coatings
 A. N. Terenin, Academician (U.S.S.R.)
 N. E. Tsarevskiy, Professor
 A. I. Tudorovskiy, Corresponding Academician (U.S.S.R.)
 V. V. Vargin, Doctor, Head of Laboratory

Description:

Organized in 1918, the Institute grants both the Candidate's and the Doctor's Degrees. Recent activities have included research or development related to high-speed photography and cinematography, high-speed cameras, photoconductivity and semiconductors, nuclear-emulsion technology, electrophotography, optical range finders, spectral-analysis instrumentation, and optical-glass chemistry. A Trudy is published.

Name: State Planning and Scientific-Research Institute of the Nickel, Cobalt, and Tin Industry
 (Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut nikel'evoy-kobal'tovoy i olovyanyy promyshlennosti--Gipronikel')

Address: Leningrad, Nevskiy prospekt, 30

Director: S. Sheremet'yev (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. L. Kheyfets, Candidate
 D. M. Shvarts

Description:

The Institute, which was established during the post-war period, is one of the better organized in the U.S.S.R., being especially noted for its cooperation with industry and other institutes. Its cooperative ventures have included studies on steel improvement, but the emphasis has

been on the development of processes and methods for the production of very-high-purity metals. The high-pressure laboratory has been especially active in work on autoclave processes.

In 1949, the Institute began experiments on the electrolytic production of cobalt; continued work through the 1950's resulted in the development in 1957 of metal of "the highest standard".

They have conducted several shop experiments on slag processing, with the resultant development of better processes for ferrosilicon in 1956, and for zinc in 1958. They have also worked on the production of pure rare-metal compounds.

Their continued work on the electrolytic preparation and production of high-purity metals, for use in semiconductors and electrical engineering, has involved considerable work in spectral analysis, including the development of standards. Research is also done on metal corrosion.

The Institute periodically publishes a Trudy.

Name: State Planning and Scientific-Research Institute of the Synthetic-Rubber Industry
(Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut promyshlennosti sinteticheskogo kauchuka--Giprokauchuk)

Address: Moscow, Starosadskiy pereulok, 8

Director: A. F. Zinov'yev (1959)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

T. I. Bogolepova
A. B. Feygin
B. S. Korotkevich
A. V. Uvarov, Head of the Technical Department
K. A. Yakovlev, Head of Technical Economics

Description:

This institute received awards at the 1960 Exhibition of the Achievements of the U.S.S.R. National Economy for the development of a technique for ethyl alcohol production by direct hydration of ethylene and for plans for thiokol-type-rubber production. Plants have been designed for production of divinyl from butane, and equipment has been designed for

divinylstyrene-rubber production. A high-temperature-decomposition process for propane and liquid hydrocarbons, a pyrolysis process for gaseous and liquid hydrocarbons, and isotherms for the dehydration of isopropylbenzene have been developed. A high-pressure speed mixer has been designed.

The Institute has a Laboratory of Technical Processes and Apparatus for Organic Synthesis, and has branches in Leningrad, Novokuybyshevsk, Voronezh, Ufa, and Kazan'. The Leningrad branch does design work for all enterprises engaged in production of acetaldehyde. The Novokuybyshevsk branch has studied the oxidation process for use in measuring phenol-acetone production.

Name: State Planning Institute for Plants of the Rubber Industry
(Gosudarstvennyy institut po proyektirovaniyu predpriyatiiy rezinovoy promyshlennosti--Rezinoprojekt)

Address: Moscow, ulitsa Chkalova, 14/16

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. M. Pumpyanskiy
B. M. Smirina, Head Engineer

Description:

This institute is responsible for designing equipment for and supplying processing information to the rubber industry. Mass-production equipment for braided rubber hose was developed. At the Yaroslavl' Branch, a system was designed for the automatic production of active carbon black. The Leningrad Branch has designed a light-duty conveyer. The Sverdlovsk Branch is also working to develop automatic equipment for the industry. Reclamation and regeneration of rubber are being studied.

Name: State Planning Institute for the Heavy Electrical Industry
(Gosudarstvennyy proyektnyy institut Tyazhpromelektroproyekt--GPI TPEP)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Construction, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Krupovich, Chief Engineer
P. V. Safronov, Chief Engineer

Description:

This institute is engaged in the design and manufacture of heavy machinery to be used for industry. Welding equipment, heavy presses for rolling mills, and other heavy machinery are typical of the work done at this institute.

This institute has branches at Khar'kov, Chelyabinsk, Kuybyshev, Leningrad, Moscow, Novosibirsk, and Rostov-on-Don.

Name: State Scientific-Research and Planning Institute for Off-Shore Oil
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut morskoy nefti--Gipromorneft')

Address: Baku

Director: --

Deputy Director: I. P. Kuliyeu, Doctor (1961)

Administrative Affiliation: --

Selected Staff Members:

S. A. Mekhmandarov
D. K. Mzareulov, Section Head
V. F. Negreyev
M. S. Trifel', Candidate

Description:

Gipromorneft' specializes in the study of geology and petroleum-industry equipment for the development of off-shore oil deposits.

It has a Section of Corrosion which has been studying the corrosion and corrosion protection of underground and underwater pipelines. Several plastics applied in thick layers have been studied in this connection. The problem of deep-water and floating foundations for offshore wells is also being studied at the Institute. A Trudy is published.

Name: State Scientific-Research and Planning Institute for Processing
Nonferrous Metals
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut po
obrabotke tsvetnykh metallov--Giprotsvetmetobrabotka)

Address: Moscow, Pyzhevskiy pereulok, 7-a

Director: --

Deputy Director: --

Administrative Affiliation: Supreme Sovnarkhoz (1961)

Selected Staff Members:

A. I. Chipizhenko
L. N. Filimonov
K. V. Gagen-Torn, Candidate
A. Ye. Gopius, Candidate
K. P. Kalinin, Candidate
L. D. Kharitonova
N. N. Kreyndlin
D. I. Layner
N. A. Makulov
I. L. Perlin, Professor
I. L. Rogel'berg, Candidate
A. P. Smiryagin
M. Z. Spiridonova

Description:

Corrosion studies conducted by the Institute have considered the corrosion testing of Cu-Si alloys, alloys for sea-water pipes, impact corrosion of German silver condenser tubes, and the short-time testing of the resistance of brass to corrosion cracking.

Studies also have been made of grain growth and softening of nickel, effect of degree of deformation and annealing on the properties and recrystallization of commercial titanium, annealing of pipes in induction heaters and annealing of wire to various alloys, and low-temperature annealing of brass bellows. The effect of beryllium-bronze composition on spring quality, use of Al-Mg bronzes as secondary-electron emitters, effect of titanium on aluminum bronzes, strengthening of aluminum bronze during recovery, and effect of heat treatment on beryllium bronze also have been studied. The phase diagrams of the Si-Mn-Al, Ni-Mo-Co, and Ag-Mn-Al systems and the solubility of magnesium and aluminum in copper also have been investigated.

Analytical studies conducted at the Institute include determination of impurities in tungsten, spectroscopic-analysis methods, and spectrochemical determination of lithium in copper. Other studies considered the influence of manganese and chromium on the diffusion rate of iron in nickel, the relationship between the heat resistance and diffusion rate of aluminum

alloys, a process for obtaining high-purity nickel sheet and strip, production of catalysts for the direct synthesis of organosilicon monomers, the use of Cu-Ni-Mn alloy for pressure gages, testing methods for thermoelectrodes and thermocouples, structure of oxides on titanium, the influence of alloying elements on the strength of grain boundaries of aluminum alloys, the use of the electron microscope for investigation of metal structure, and the optical thickness of cladding layers in aluminized nickel.

This institute publishes a Trudy.

Name: State Scientific-Research and Planning Institute for the Lacquer and Paint Industry
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut lakokrasochnoy promyshlennosti--GPI-4)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

E. A. Navyazhkaya
M. A. Shtern
M. V. Sukhanova

Description:

The work of this institute relates to the manufacture and application of paints. It has studied the use of pigments and other paint constituents and has developed chemical and physical methods of testing paint films and materials. It also tests paint and varnish films for other investigators.

The Institute has a branch in Leningrad and an experimental plant, also in Leningrad.

Name: State Scientific-Research and Planning Institute of Petroleum Machine Construction
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut neftyanogo mashinostroyeniya--Giproneftemash)

Address: --

Director: --

Deputy Director: V. I. Roshupkin (1961)

Administrative Affiliation: --

Selected Staff Members:

V. G. D'yakov
V. Shtamburg, Director of Irkutsk Test Station

Description:

This institute designs and develops equipment for use in the oil-processing industry. Included are heat exchangers, drilling equipment, drive motors, centrifugal pumps, and rectification and absorption columns.

Low-alloy steels are fabricated, strength properties are determined, and corrosion studies are carried out. The effects of variables (temperature, additives, heat time, etc.) on properties are determined. Steel specifications are devised.

Test stations are operated in Volgograd and Irkutsk. A Trudy is published.

Name: State Scientific-Research and Planning Institute of the Coal, Ore, Oil, and Gas Industries
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy, rudnoy, neftyanoy i gazovoy promyshlennosti--UkrNII Proyeckt)

Address: Kiyev

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

N. Ya. Rudakova
G. V. Sabirova

Description:

Considerable research has been done by the Institute on the problems of production and refining of petroleum. Projects have included studies of various petroleum products: asphalt, tar, paraffin, and hydrocarbons.

The Institute publishes a Nauchnyye Zapiski.

Name: State Scientific-Research and Planning Institute of the Metallurgical Industry
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektyny institut metallurgicheskoy promyshlennosti--Giprostal')

Address: Khar'kov, Gosprom

Director: G. T. Litvinenko, Engineer (1960)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

S. M. Adon'yev, Doctor, Head of Evaporative-Cooling Section
O. V. Filip'yev, Engineer
S. M. Liderman, Head of Department

Description:

Giprostal' has a Zhdanov Branch and a sub-organization known as Proyekstal'.

The Institute proper has done considerable research on the problems of mechanization and automation of the technological processes of open-hearth furnaces, especially the improvement of metallurgical machine designs. They have designed systems for continuous casting, pouring, and rolling of steel. They were also active in designing a gamma-defectoscopy laboratory for the use of the metallurgical industry in the control and investigation of melting processes, charge composition, and alloy structure.

The Evaporative-Cooling Section is especially well-known for the development of a furnace-cooling method using boiling rather than cold water. Other research on cooling processes has included studies of the effects of cooling conditions on mechanical stresses in ingots and on ingot quality, and roller cooling in continuous casting.

The Institute publishes a Sbornik Nauchnykh Trudov.

Name: State Scientific-Research and Planning Institute of the Nitrogen Industry and of Organic Synthesis
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i organicheskogo sinteza--GIAP)

Address: Moscow, ulitsa Chkalova, 50

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers, U.S.S.R., on Chemistry (1961)

Selected Staff Members:

F. P. Ivanovskiy
N. Ye. Khazanova
A. I. Krasil'shchikov
I. R. Krichevskiy
Ye. Ya. Mel'nikov, Chief Technologist
G. A. Sorina

Description:

In the field of nitrogen and nitrogen compounds, the Institute's staff has studied nitrous and nitric oxides, ammonia, and fertilizers. In connection with its work on organic synthesis, this institute has investigated the production of caprolactam through photosynthesis, the production of polyamide fibers, the gasification of heavy petroleum residues, and the pyrolysis of methane for the production of acetylene and carbamide for nitrogen plants. The Institute also studies properties of hydrocarbons, especially the corrosion of metals by hydrocarbons, the diffusion of gases, and catalysts for the conversion of gases.

The Institute has a remote-controlled transmitter camera that makes possible transmission of instrument readings. It designed the first nitrate fertilizer plant in the Belorussian S.S.R. The plant will be located in Grodno.

The Institute has two divisions, one for research and development, the other for design. It has branches at Chirchik, Dzerzhinsk, and Lisichansk.

The Institute publishes a Trudy and grants the Candidate's Degree.

Name: State Scientific-Research and Planning Institute of the Rare-Metals Industry
(Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoj promyshlennosti--Giredmet)

Address: Moscow

Director: --

Deputy Director: N. P. Sazhin, Corresponding Academician (U.S.S.R.) (1962)

Administrative Affiliation: State Economic Council, U.S.S.R. (1962)

Selected Staff Members:

O. V. Bogorodskiy
Yu. A. Chernikhov, Head of Laboratory
V. G. Fomin
L. Ya. Krol'
V. N. Maslov
M. G. Mil'vidskiy
A. Ya. Nashel'skiy, Candidate
N. N. Sirota, Academician (Belorussian S.S.R.)
V. N. Vigdorovich

Description:

The majority of research and development work conducted by Giredmet is aimed at improving processes for separating the rare earths and for producing the individual rare-earth metals. Past investigations have resulted in improved methods of producing high-purity rhenium and gallium, concentrating scandium, and purifying antimony and thallium by recrystallization.

Reports emanating from the Institute indicate an interest in the Chokhral'skiy method for pulling single crystals. Several investigations dealt with the effect of this method on crystal-structure dislocations in silicon single crystals. In addition, the Institute's Design Office has developed an electric vacuum furnace for use in producing crystals by the Chokhral'skiy method.

The Spectral Laboratory has done extensive work on the development and introduction of high-speed methods for studying the rare metals. They have concentrated on the analysis of the difficult-to-determine elements (rare earths, selenium, scandium, germanium, zirconium, rhenium, etc.) using spectroscopic and spectrophotometric methods.

The Institute also provides samples of various rare-earth metals to industrial and research laboratories for experimental purposes.

In 1961, a cooperative venture was conducted for the design of transducers for use in autopilot equipment for river craft.

The Ukrainian Branch, Ukrigredmet, is located in Odessa. It has developed methods of chemical analysis, especially the application of organic reagents, polarography, photocolometry, and luminescence, for the determination of the rare metals. It has also applied spectroscopic methods of analysis, and frequently combinations of spectroscopic and chemical methods.

The parent Institute periodically publishes a Trudy.

Name: State Scientific-Research Ceramics Institute
(Gosudarstvennyy nauchno-issledovatel'skiy keramicheskiy institut--
GKI)

Address: Leningrad, naberezhnaya kanala Krushcheyna, 17

Director: I. Ya. Yurchak (1957)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: Yu. G. Shteynberg

Description:

GKI was founded in 1918 to conduct research and development for the ceramics industry. Materials that have been studied are porcelain and kaolin products. Developmental work has been done on equipment for molding and firing ceramics. Considerable research has been done on strontium glazes.

The Institute publishes a Trudy.

Name: State Scientific-Research Chemical Institute
(Gosudarstvennyy nauchno-issledovatel'skiy khimicheskiy institut)

Address: Moscow

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, R.S.F.S.R. (1961)

Selected Staff Members:

S. A. Gintsberg
K. A. Nesmeyanova

Description:

This institute studies the corrosion of steels, with special emphasis on oxidation protection, ethanalamine derivatives as retarders of corrosion, and vapor-phase inhibitors. Polymers also occupy a major area in its research, i.e., synthetic-rubber development and manufacture of products from latex by vapor-deposition method. In the field of electroplating, the Institute has studied copper plating in a pyrophosphate electrolyte and preparation of brass by electrolysis of an ethanalamine solution of copper-zinc. Graphite dispersion in aqueous media, soda methods for production of calcined magnesia, and the effect of abrasive compositions on polishing ability have been investigated. A Trudy is published by the Institute.

997

Name: State Scientific-Research Electroceramics Institute
(Gosudarstvennyy nauchno-issledovatel'skiy elektrokeramicheskiy institut--GLEKI)

Address: Moscow, ulitsa Pravdy, 33

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1957)

Selected Staff Members:

V. G. Avetikov, Candidate
G. I. Barashenkov
A. I. Dorogush
N. S. Kostyukov
M. D. Mashkovich
B. V. Strizhkov
S. G. Tumanov
Kh. S. Valeyev

Description:

This institute conducts basic and applied research on electroceramic materials. It works on the development of new uses of ceramics for industry. Its facilities include a high-frequency-measurements laboratory and a physicochemical and structural analysis laboratory. It has done extensive research on steatite ceramics. The Institute publishes a Trudy.

Name: State Scientific-Research Institute
(Gosudarstvennyy nauchno-issledovatel'skiy institut)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

G. V. Braude
N. K. Ignat'yev
I. N. Isayeva
A. I. Kalinin
N. M. Sankin
N. A. Semenov
V. N. Troitskiy
V. I. Trunov
A. S. Vladimirov

Description:

This institute conducts research in radio and television communications. It has done extensive research on radio relay lines and waveguide systems.

Name: State Scientific-Research Institute of Electrovacuum Glass
(Gosudarstvennyy nauchno-issledovatel'skiy institut elektrovakuumnogo stekla)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

S. S. Galaktionov
V. V. Gusarov
G. A. Kukarkin
V. I. Shelyubskiy

Description:

This institute has developed test apparatus and test methods for glass. These have included machines to determine bending strength, impact strength, and thermal resistance. Also, a temperature regulator for a thermostat, as well as a resistor furnace to use in the determination of the viscosity of glass, has been developed.

1000

Name: State Scientific-Research Institute of Industrial and Sanitary Gas Purification
(Gosudarstvennyy nauchno-issledovatel'skiy institut po promyshlennoy i sanitarnoy ochistke gazov--NIIOGaz)

Address: Moscow, ulitsa Chkalova, 50

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. Ye. Idel'chik, Candidate
V. P. Kurbin

Description:

This institute was probably organized some time between 1945 and 1950. Substantiating its title, investigations have been carried out on gas scrubbers, heat exchangers, dust and soot precipitators, and acoustic coagulation methods. A Trudy is published.

1001

Name: State Scientific-Research Institute of Mined Chemical Raw Materials
(Gosudarstvennyy nauchno-issledovatel'skiy institut gornokhimicheskogo syr'ya-GIGKhS)

Address: Moscow, stantsiya Lyubertsy, Oktyabr'skiy proyezd, 259

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

B. M. Maslennikov
L. V. Romanova

Description:

This is one of the numerous mining and mining-metallurgical institutes established during the first 40 years of Soviet rule.

The Institute has done research in many phases of mining. Its work in ore analysis has centered on methods of determining selenium, lithium, magnesium, and boron. The Leningrad Branch has been active in the study of the solution of inorganic salts.

In addition to developing an improved system of underground mining and better flotation and ore-dressing processes, the automation laboratory has designed control units for automation of mine conveyor lines.

Not all of the Institute's research is concentrated on mining and refining processes; they have also performed considerable work in improving the methods used in prospecting and geological surveying. To further this end, the Institute's staff has undertaken hydrogeological studies of boron raw materials, cartographic studies to aid in mapping ore fields, and structural studies of ore fields.

The Institute periodically publishes a Trudy.

1002

Name: State Scientific-Research Institute of Nonferrous Metals
(Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh
metallov--GINTsvetmet)

Address: Moscow, ulitsa Durova, 31

Director: D. N. Klushin (1960)

Deputy Director: --

Administrative Affiliation: Gosplan, U.S.S.R. (1958)

Selected Staff Members:

I. V. Babina
N. A. Filippova
L. B. Ginzburg
Ye. I. Gulyayeva
S. D. Gur'yev
G. Ya. Krichevskiy
A. K. Livshits, Candidate

S. I. Mitrofanov, Professor
 I. L. Peysakhov
 N. B. Pletneva
 V. V. Polyakova
 G. S. Rozhavskiy
 S. I. Sobol'
 N. I. Solntsev
 A. A. Solovushikov
 I. M. Spiridonov
 A. V. Troitskiy
 A. A. Tseydler
 R. L. Veller, Head of Chair
 I. Ye. Zimakov

Description:

GINTsvetmet, organized in 1930, concentrates on research pertaining to nonferrous ores and their products and the development of control methods applicable to the processing and quality of the finished products. Investigations on zinc, copper, and lead (especially high purity) are quite extensive. The work on flotation processes has included studies of amines for use as possible flotation reagents. Roasting, smelting, vacuum melting, and other processes have also been investigated and improved.

Various staff members have cooperated with plant staffs on automation studies. For example, they worked out projects for the complete automation of a copper factory and automatic fluidized roaster control.

Their research on analytical methods has included work on improved spectral methods, including the development of an automatic flame spectrometer. In fact, they produce and distribute spectral standard samples to other institutes. Utilization of radioactive isotopes for the development of chemical methods of analysis has resulted in a simplified method for determining minute quantities in mixtures, known as the "method of multi-radioactive dilution."

They have also done research on the improvement of the production of semiconductor materials, especially selenium and tellurium.

The Institute grants the Candidate's Degree.

Collections of staff reports are irregularly published by the Institute.

Name: State Scientific-Research Institute of Organic Intermediates and Dyes
 imeni K. Ye. Voroshilov
 (Gosudarstvennyy nauchno-issledovatel'skiy institut organicheskikh
 poluproduktov i krasiteley imeni K. Ye. Voroshilova--NIOPiK)

Address: Moscow, Bol'shaya Sadovaya ulitsa, 1/7

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of the Council of Ministers,
U.S.S.R., for Chemistry (1960)

Selected Staff Members:

V. M. Dobkin
I. I. Ioffe
A. I. Korolev
V. I. Mur
Kh. A. Tseytlin
A. S. Vigdorov
A. S. Voronov
N. S. Vul'fson

Description:

This institute was founded in approximately 1918. In 1928, it was joined with the experimental factory of Aniltrest and renamed the Central Scientific-Experimental Laboratory. In 1931, the Institute was reorganized and assumed its present name (NIOPIK). Probably at a later date, it was named for Voroshilov.

During World War II and the post-war years, the Institute conducted research on dyes, vulcanization processes, chemicals for plastics, pharmaceuticals, and defense materials. More recent research of the Institute has been in organic chemistry, dyes, chemical equipment, and metallurgy, primarily corrosion resistance of metals. Work has been done on the preparation of complex-action insecticides, automation of processes in the chemical industry, corrosion resistance of stainless steels, titanium alloys, and weldments, improvement of aniline dyes, catalysis research, polymer synthesis, ferrocene and nitro compounds, methods for producing oil-paste pigments and varnishes based on oleic acid, vaseline, oil, and latex, anionic detergents, production technology for maleic anhydride for use as a base for especially strong plastics, bonds for glass and metals, azo and vat dyestuffs, thioindigo, naphthol dyestuffs, and organic isocyanates.

The Institute has a branch in Rubezhnoye.

1004

Name: State Scientific-Research Institute of the Civil Air Fleet
(Gosudarstvennyy nauchno-issledovatel'skiy institut grazhdanskogo
vozdushnogo flota--GosNIIGVF)

Address: Moscow, Valokolamskoye shosse, 73

Director: --

Deputy Director: --

Administrative Affiliation: Main Administration of the Civil Air Fleet
(1959)

Selected Staff Members:

Yu. V. Frid
V. Il'chishin
Ye. Krivousova
I. Markov
A. Nemchinov
S. Ochkov
P. Pavlov
A. Shmel'kov
M. Shtern
V. Sukonkin
A. Teteryukov
L. Yakovleva

Description:

This institute conducts all types of research for civil aviation. It flight tests aircraft and converts aircraft to different needs. It has developed items such as fog-dispersal units for airfields, mechanized baggage-loading and unloading systems, new types of propellers, engine-noise-reduction devices, and anticorrosive platings. It also works on the design of new airports.

Name: State Scientific-Research Technological Institute for Maintenance and Operation of Tractors and Agricultural Machines
(Gosudarstvennyy nauchno-issledovatel'skiy tekhnologicheskiiy institut remonta i ekspluatatsii traktorov i sel'skokhozyaystvennykh mashin--GOSNITTI)

Address: Stantsiya Plyushchevo, Moskva-Ryazanskoy zheleznoy dorogi

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: A. V. Polyachenko, Candidate

1005 (Continued)

Description:

This institute is interested in reconditioning tractor parts by vibration arc hardfacing and pulse welding. A method for vibration arc building-up of metal with a strip electrode has been developed. Fluxless welding of aluminum-alloy parts has been studied. A Sbornik Rabot is published.

1006

Name: Stavropol' Agricultural Institute
(Stavropol'skiy sel'skokhozyaystvennyy institut)

Address: Stavropol', Zootekhnicheskiiy pereulok, 10

Director: A. I. Zhukov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

A. A. Bannikov, Professor, Head of Chair
G. I. Chelyadinov, Docent, Head of Chair
V. I. Lisunov, Docent, Dean
Yu. V. Novikov, Docent, Head of Chair
B. Ya. Slobodov, Docent
A. A. Smirnov, Professor, Head of Chair
A. N. Smirnov, Professor, Head of Chair

Description:

Stavropol' Agricultural Institute was opened in 1932 to prepare agronomists, veterinarians, and mechanical engineers. This institute has published work in metallurgical engineering and hydrodynamics. They publish a Trudy and have also published a Sbornik (Collection) of works of the staff. Courses are offered in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

1007

Name: Stavropol' State Pedagogical Institute
(Stavropol'skiy gosudarstvennyy pedagogicheskiy institut)

Address: Stavropol', ulitsa Pushkina, 1

Director: --

Deputy Director: --

1007 (Continued)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. D. Burenin, Docent, Head of Chair
K. G. Chernyy, Docent
B. S. Dvorkin
V. G. Gnilevskiy, Docent, Head of Chair
P. M. Kuznetsov
Ye. I. Nesis
I. O. Rudenko, Docent, Head of Chair
Ye. M. Ushakova, Docent, Head of Chair

Description:

Stavropol' Pedagogical Institute was founded in 1930. Conducting research in theoretical mathematics, mathematical physics, and kinetics and synthesis of organic compounds, this institute publishes a Trudy frequently. Courses are offered in Russian language, literature, and history, Kalmyk language and literature, mathematics and drafting, physics and general science, geography and biology, and physical education.

1008

Name: Sterlitamak State Pedagogical Institute
(Sterlitamakskiy gosudarstvennyy pedagogicheskiy institut)

Address: Sterlitamak, Komsomol'skaya ulitsa, 67

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: M. M. Farztdinov, Docent, Head of Chair

Description:

Members of the Institute's staff have published on research in the fields of mathematics and physics (thermodynamics). The academic program includes courses in Russian and native language and literature, history, and mathematics and physics.

1009

Name: Sukhumi State Pedagogical Institute imeni M. Gor'kiy
(Sukhumskiy gosudarstvennyy pedagogicheskiy institut imeni M. Gor'kogo)

Address: Sukhumi, ulitsa Stalina, 21

Director: --

Deputy Director: Sh. I. Basilaya, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Georgian S.S.R. (1960)

Selected Staff Members:

Kh. Sh. Argun, Docent, Head of Chair
N. E. Basiliya, Docent, Head of Chair
V. I. Narsiya, Docent, Head of Chair

Description:

In its Trudy, the Institute publishes results of research in theoretical mathematics, physics, and astronomy. The courses available at the Institute are Russian language and literature, Abkhaz language and literature, mathematics and physics, biology and fundamentals of agriculture, and methods of elementary-school education.

1010

Name: Sumy State Pedagogical Institute imeni A. S. Makarenko
(Sumskoy gosudarstvennyy pedagogicheskiy institut imeni
A. S. Makarenko)

Address: Sumy, ulitsa Dzerzhinskogo, 3 (1960)

Director: F. M. Yalovyy, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R.

Selected Staff Members: N. Ye. Karpenko, Docent, Head of Chair

Description:

This institute is doing work in basic physics, astronomy, chemistry, and stress analysis, in addition to training teachers. The Institute publishes a Nauchnyye Zapiski. Courses are offered in native language and literature, foreign language, Russian language and literature, mathematics and physics, and biology, chemistry, and agriculture.

1011

Name: Sverdlovsk Agricultural Institute
(Sverdlovskiy sel'skokhozyaystvennyy institut)

Address: Sverdlovsk, ulitsa Karla Libknekhta, 42

Director: N. S. Turayev, Docent (1961)

Deputy Director: G. I. Selyanin, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

A. N. Men'³
N. P. Patrakhin
G. V. Zhukov, Professor, Head of Chair

Description:

The Institute was established in 1940. It publishes a Trudy, probably on a monthly basis. Recent publications concern the Nernst-
Ettinghausen effect in ferromagnetic materials and mathematical analysis of the Thomas-Fermi model for an atom. Other publications concern the fields of solid-state physics, metallurgical engineering, analytical chemistry, and soil science.

The Institute's curricula offers courses in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

Name: Sverdlovsk Jurisprudence Institute imeni A. Ya. Vyshinskiy
(Sverdlovskiy yuridicheskiy institut imeni A. Ya. Vyshinskogo)

Address: Sverdlovsk, ulitsa Malysheva, 2-b

Director: D. D. Ostapenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

S. S. Alekseyev, Docent, Head of Chair
D. N. Isupov, Docent, Head of Chair
V. S. Yakushev, Docent
K. S. Yudel'son, Professor, Head of Chair

Description:

This institute offers a law curriculum and publishes a Uchenyye Zapiski.

Name: Sverdlovsk Mining Institute imeni V. V. Vakhrushev
(Sverdlovskiy gornyy institut imeni V. V. Vakhrusheva)

Address: Sverdlovsk, ulitsa Kuybysheva, 30

Director: G. P. Sakoytsev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

K. B. Afonin
I. A. Blashkevich
A. N. Bredikhin
S. A. Fedorov
N. A. Ivanov, Head of Chair of Geophysical Methods of Surveying
V. N. Kalachnikov, Docent, Dean
A. N. Khodalevich
A. G. Loshkarev
A. Ye. Malakhov
I. K. Ovchinnikov
D. L. Polikarpov, Head of Chair
D. G. Stadukhin, Docent, Head of Chair
S. A. Stoylov
G. N. Vertushkov, Professor, Head of Chair
S. A. Volotkovskiy
M. D. Yushchenko, Head of Laboratory

Description:

The geological, mineralogical, and geophysical work of the Institute has included investigations of the distribution of cobalt, nickel, and copper in hydrothermally altered rocks, magnetic studies of ore bodies, studies of electric prospecting of pyrite deposits, gravitational and electrical surveys, electrode probing of ore bodies, drill checking on the reliability of geological structural maps of lignite deposits plotted according to gravitational research, solution of some two-dimensional problems of geophysical exploration, studies of the geology of the Bokal group of deposits, chemical investigations of gaseous inclusions in quartz, studies of minerals in meteorites, some data on meteorites found in the Urals, and investigations of the geological structure of the Tagil-Kushova iron-ore district.

In the field of mining technology, studies have been made on open-pit working of deposits occurring at great depths.

In the field of ore dressing, studies have been made on rock crushing, determination of a sensible degree of work fragmentation by detonation, and tailings and granulated slag for an embedding material in some Ural copper mines.

Analytical research of the Institute has covered investigations of nondestructive analysis of metals and alloys, determination of microamounts of selenium, determination of nickel, copper, and selenium in pyrites, and study of the solubility of magnesium, zinc, tin, and iron in hydrochloric acid.

Some research has been done on intercrystalline phase analysis of transformer steels and properties of high-chromium and carbon steels used for mining equipment. Other research done by the Institute includes studies of the effect of heat conduction on sound absorption in crystals, cooling of spherical bodies during radiation, electrical instrumentation, and heat transfer in the cylinder of a compressor.

Courses offered by the Institute cover geology and mining science, prospecting, geophysics, development of mineral deposits, mining, mining equipment, automation, beneficiation, mine construction, physics, mineralogy and crystallography, seismology, and geophysical methods of surveying.

The Institute publishes a Trudy.

1014

Name: Sverdlovsk State Pedagogical Institute
(Sverdlovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Sverdlovsk, ulitsa Karla Libknekhta, 9

Director: V. K. Rozov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

L. M. Burakova, Librarian
I. G. Fakidov
P. D. Izbranov
V. A. Kurbatov, Docent, Head of Chair
I. F. Monakova, Docent, Head of Chair
A. M. Moshkin, Docent, Head of Chair
D. I. Penner, Docent, Head of Chair

Description:

This institute does much work in the physical metallurgy of alloys, intermetallic compounds, and steels. The students in the physical-mathematical department publish their own technical journal, Fizika i Astronomiya (Physics and Astronomy). In addition, a Uchenyye Zapiski of the Institute is published.

1014 (Continued)

Keeping with its main purpose, the Institute provides courses in elementary-school instruction methods, English, French, German, and Russian languages, literature, history, mathematics, drafting, physics, fundamentals of production, geography, and biology.

1015

Name: Tadjik Agricultural Institute
(Tadjikskiy sel'skokhozyaystvennyy institut)

Address: Stalinabad, ulitsa Shevshenko, 26

Director: U. K. Rakhmet-zade (1961)

Deputy Director: D. Kasymov, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, Tadjik S.S.R. (1960)

Selected Staff Members:

M. Gul'mamedov, Docent, Head of Chair
S. Isayev, Dean
A. M. Meshcheryakov, Docent, Head of Chair
I. Ya. Shafershteyn, Docent, Head of Chair

Description:

The Institute, founded in 1931, provides training in agriculture and related technology, offering courses in agronomy, animal husbandry, mechanization of agriculture, and hydromelioration. Research has been done in organic chemistry, electrochemistry, hydraulics, and mechanics. A Trudy of the Institute is published.

1016

Name: Tadjik State University imeni V. I. Lenin
(Tadjikskiy gosudarstvennyy universitet imeni V. I. Lenina)

Address: Stalinabad, ulitsa Lenina, 17

Director: --

Deputy Directors: A. A. Adkhamov, Corresponding Academician (Tadjik S.S.R.)
(1961)
V. G. Melkumov (1961)

Administrative Affiliation: Ministry of Education, Tadjik S.S.R. (1960)

Selected Staff Members:

A. Akramov, Candidate, Dean
A. M. Bogoutdinov, Academician (Tadjik S.S.R.), Head of Chair

V. I. Koretskiy, Professor, Head of Chair
 L. G. Mikhaylov
 M. Subkhankulov
 S. Sh. Tabarov, Docent, Head of Chair

Description:

Tadzhik State University was founded in 1948. During the 1960-1961 school year, it reached an enrollment of about 4,350 students. It confers Candidate's Degrees and publishes a Uchenyye Zapiski.

Research projects at the University have covered problems such as spin systems of normal paramagnetic materials, theory of relaxation phenomena, sound dispersion in liquids, intermolecular interactions in liquids, F-centers in ionic crystals, and radioisotopic-tracer studies of coprecipitation of tungsten or chromate ions with iron hydroxide. Mathematicians at the University have studied error evaluation of approximate formulas, integral equations, boundary-value problems, and generalized Cauchy-Riemannian systems. Research facilities at the University have recently been expanded by two new laboratories: the Laboratory for the Study of the Physics of Solid Bodies and the Laboratory of Transistors.

The University offers courses in geological surveying and prospecting for mineral deposits, economics of the national economy, jurisprudence, Russian language and literature, Tadzhik language and literature, Eastern languages and literature, history, mathematics, physics, chemistry, botany, and zoology.

Name: Taganrog Pedagogical Institute
 (Taganrogskiy pedagogicheskiy institut)

Address: Taganrog, Turgenevskaya ulitsa, 32

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. I. Morozov, Docent, Head of Chair
 Yu. I. Vydrina, Docent

Description:

The Institute's staff is interested in the theory of liquid jets and their properties in electrical fields. The Institute offers courses in mathematics and physics, methods of elementary-school education, and general science and manual training. A Uchenyye Zapiski is published.

Name: Taganrog Radio Engineering Institute
(Taganrogskiy radiotekhnicheskiy institut)

Address: Taganrog, ulitsa Chekhova, 22

Director: V. I. Bogdanov, Docent (1961)

Deputy Director: V. P. Shasherin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

- A. V. Kalyayev, Docent, Head of Department
- A. N. Kharin, Professor, Head of Chair
- V. G. Kovalenko, Dean
- L. F. Lependin, Docent, Head of Chair
- B. L. Ryamar', Docent, Head of Chair

Description:

This institute was founded in 1952 to supply the national economy with specialists in radio engineering, automatics, telemechanics, and radio electronics. However, the activities of this institute also involve work more in line with physics.

The Institute publishes a Trudy and offers courses in radio engineering, design and production of radio equipment, electronic equipment, automation and remote control, electric measuring technology, and mathematical machines and computers.

Name: Tallin Pedagogical Institute imeni E. Vil'de
(Tallinskiy pedagogicheskiy institut imeni E. Vil'de)

Address: Tallin, Narvskoye shosse, 57

Director: --

Deputy Director: R. I. Kalling (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Estonian S.S.R. (1960)

Selected Staff Members:

A. M. Ekhin, Head of Chair
 E. A. Lukas, Dean
 A. Ya. Reyman, Head of Chair

Description:

The Institute was founded in 1952 for the purpose of training elementary-school teachers. In 1957, there were 900 students and 103 instructors.

1020

Name: Tallin Polytechnic Institute
 (Tallinskiy politekhnicheskiy institut)

Address: Tallin, ulitsa Kalinina, 101

Director: A. Ya. Aarna, Corresponding Academician, Estonian S.S.R. (1961)

Deputy Directors: Kh. Kh. Lepikson, Docent (1961)
 E. L. Schmidt, Candidate (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Estonian S.S.R. (1961)

Selected Staff Members:

A. V. Al'tma, Professor, Head of Chair
 R. K. Mozberg
 E. K. Piiroya
 Kh. T. Raudsepp, Professor
 O. M. Shteyn, Professor, Head of Chair
 E. A. Soonval'd, Docent, Head of Chair
 O. R. Terno, Candidate, Head of Chair
 I. Ya. Vabel', Professor, Head of Chair
 A. I. Vol'dek, Professor, Head of Chair of Industrial
 Electrification

Description:

The Institute, originally established in 1936, was named the Tallin Polytechnic Institute in 1941. Presently, it is considered one of Estonia's outstanding higher technical-education institutes. There are four faculties--mechanics, construction, mining chemistry, and shipbuilding. It trains specialists in precision mechanics, automatics, telematics, electromeasuring devices and installations, etc.

Research work has been concentrated on mining and oil-shale technology. They have attempted to develop means of utilizing oil-shale products, especially the phenols, in adhesives and mastics. The Institute has conducted investigations on the theory and structure of thin shells and the fatigue strength of steels. Also, a considerable amount of work has been done on electromagnetic induction pumps for molten and liquid metals.

A Trudy is published irregularly by the Institute.

The curricula of the Institute include courses in theoretical planning of ships, mining, chemical engineering, machine-building technology, machine tools, utilization of automotive transportation, precision mechanics and instrumentation, electromeasuring devices, telemechanics, and automatics, automation and remote control, industrial electrification, electric-power stations and systems, industrial-thermal-power engineering, marine power installations, civil engineering, sanitary engineering, highways, bridges, and tunnels, construction design, organic chemistry, inorganic and analytical chemistry, chemical technology of fuels, synthetic fibers, economics and organization of machine-building industry, and shale research and utilization and related phenol chemistry.

Name: Tambov State Pedagogical Institute
(Tambovskiy gosudarstvennyy pedagogicheskiy institut)

Address: Tambov, Sovetskaya ulitsa, 93

Director: --

Deputy Director: A. Ye. Gromakov (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. L. Khaykin, Docent, Head of Chair
P. S. Kudryavtsev, Professor, Head of Chair
P. B. Shatsova, Docent
I. M. Vish, Docent, Head of Chair

Description:

At this institute, research is conducted in the fields of ultrasonics and astronomy, specifically, the movement of stars of our galaxy. Russian language and literature, foreign language, physics and fundamentals of production, mathematics and drafting, geography and biology, and physical education are taught in specific courses.

Name: Tartar Petroleum Scientific-Research Institute
(Tatarskiy neftyanoy nauchno-issledovatel'skiy institut--TatNII)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: All-Union Scientific-Research Institute of
Petroleum and Gas (1960)

Selected Staff Members: --

Description:

To carry on the work of the All-Union Scientific-Research Institute of Petroleum and Gas, the Tartar Branch was established in 1956. Early in 1960, as many as 200 specialists with higher education were employed at the Institute; 16 were Candidates of Science, and one, a Professor. Twenty-five scientific-research laboratories have been organized, and 32 subjects are under study. The Institute is responsible for development of new oil wells using various methods of introducing pressure to provide for more efficient operation and increased production.

Name: Tartu Observatory
(Tartuskaya observatoriya)

Address: 20 km from Tartu

Director: V. G. Riyves (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Estonian S.S.R. (1960)

Selected Staff Members:

Kh. Albo
Kh. Eelsalu
G. G. Kuzmin
Kh. Raudsaar
A. Sapar

Description:

Tartu Observatory, which has been functioning for over 150 years, is being moved into a large observatory in southeast Estonia, which was due to

be completed in 1961. The main building will have three stories, and five observation towers will be built. This new observatory is scheduled to house the Institute of Astronomy and Atmospheric Physics. The observatory is to conduct not only purely astronomical research, but also scientific work in automation, electronics, and optics. A physics laboratory and special workshops for the manufacture of equipment are also planned.

Publikatsii Tartuskoy Astronomicheskoy Observatorii was in its 33rd volume in 1960.

Name: Tartu State University
(Tartuskiy gosudarstvennyy universitet)

Address: Tartu, ulitsa Yulikooli, 42

Director: F. D. Klement, Academician (Estonian S.S.R.) (1961)

Deputy Director: H. P. Keres, Academician (Estonian S.S.R.) (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Estonian S.S.R. (1960)

Selected Staff Members:

Ya. E. Eynasto
 Yu. Ya. Kaazik, Docent, Head of Chair
 G. F. Kangro, Corresponding Academician (Estonian S.S.R.), Head of Chair
 P. G. Karda, Corresponding Academician (Estonian S.S.R.), Head of Chair
 A. Kh. Kask, Professor, Head of Chair
 Yu. Ya. Lembra
 A. M. Mitt, Docent, Dean
 V. A. Pal'm, Docent, Head of Chair
 K. Yu. Pyuss, Docent, Dean
 K. K. Rebane, Corresponding Academician (Estonian S.S.R.), Head of Chair
 I. I. Yakobson, Candidate, Head of Chair

Description:

Tartu State University was founded in 1802. Its student enrollment for the 1960-1961 school year was about 4,500. Candidate's and Doctor's Degrees are granted.

The University is noted for its studies of luminescence and luminescent materials. Recently, an electroluminescence laboratory was established to study this phenomenon together with photoluminescent and semiconductor phenomena in phosphorus. Other fields of inquiry include absorbing optical coatings, thin metallic films, focusing of a cyclotron, theories of liquids, quantum theory of fields, amplifiers, oscillations in accelerators, theory of gravitation, and relativity. A device was developed by University workers for measuring and recording electrical conductivity and impedance of electrolytic solutions and semiconductors. The University is currently working on means for automatic observation of artificial earth satellites.

In chemistry, workers have studied the corrosion of reinforcing construction rods, acidic catalysis, acid hydrolysis of ethyl acetate, and chlorosulfonation of aromatic compounds.

Mathematicians have studied applications of mathematical methods in machine shops, summability of a double series, theory of diverging series, and calculation of dielectric coatings. The University has a computing center.

The University offers courses in Estonian language and literature, Russian language and literature, English language and literature, jurisprudence, mathematics, physics, chemistry, biology, geography, geology, finance and credit, accounting, trade economics, and medicine.

1025

Name: Tashkent Agricultural Institute
(Tashkentskiy sel'skokhozyaystvennyy institut)

Address: Tashkent, ulitsa Kirova, 32

Director: A. M. Mirzayev, Docent (1961)

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

A. I. Avtonomov, Professor, Head of Chair
N. N. Balashov, Professor, Head of Chair
N. A. Bezrodnyv, Docent, Dean
G. A. Ibragimov, Docent, Dean
A. A. Rybakov, Professor, Head of Chair
Z. Saidnasyrova, Docent, Head of Chair
V. A. Shchekin, Professor, Head of Chair

Description:

The Institute provides training in general agriculture, horticulture, forestry, and related sciences. Some specific courses are in agronomy, soil sciences and agrochemistry, fruit and vegetables, viniculture, silk culture, agricultural economics and organization, and forestry. It publishes a Trudy.

1026

Name: Tashkent Astronomical Observatory
(Tashkentskaya astronomicheskaya observatoriya)

Address: Tashkent

Director: V. P. Shcheglov, Corresponding Academician (Uzbek S.S.R.) (1959)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Uzbek S.S.R. (1959)

Selected Staff Members:

B. Zh. Balzhinova

I. M. Ishchenko

A. A. Latypov, Candidate, Head of Photographic Observation Station
(for observing artificial earth satellites)

Description:

In 1958, the Tashkent Astronomical Observatory celebrated its 85th Anniversary. It is reportedly the oldest scientific-research institution in Central Asia. The Observatory maintains its own meteorological station, a Time Station, and a Solar Laboratory, and since 1941, it has administered the Kitab International Latitude Station.

The activities of the Observatory include a time service, solar physics, artificial-earth-satellite tracking, and work in positional and planetary astronomy. It publishes a Trudy and a Tsirkulyar.

1027

Name: Tashkent Electrical Engineering Institute of Communications
(Tashkentskiy elektrotekhnicheskiy institut svyazi)

Address: Tashkent, ulitsa Labzak, 112

Director: M. I. Astrakhov (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Communications, U.S.S.R. (1960)

Selected Staff Members:

M. K. Kamalov, Docent, Head of Chair
 V. M. Lovtsov
 A. S. Smirnov
 Kh. T. Tursunov, Docent, Head of Chair
 D. V. Zernov, Corresponding Academician (U.S.S.R.)

Description:

This institute was organized in 1955 with 150 students. It now has more than 1,700 regular students, and its first graduating class (1960) had 113 persons. The available courses of study include radiocommunications and telegraph-telephone communications.

Name: Tashkent Evening Pedagogical Institute imeni V. G. Belinskiy
 (Tashkentskiy vecherniy pedagogicheskiy institut imeni
 V. G. Belinskogo)

Address: Tashkent, Pedagogicheskaya ulitsa, 63

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special
 Education of the Council of Ministers, Uzbek
 S.S.R. (1960)

Selected Staff Members: K. M. Shadmanov

Description:

This institute trains teachers and is engaged in organic chemical studies. Studies of mathematics and physics are also conducted. The curriculum includes courses in Russian language and literature, physics, geography, pedagogy and psychology, Uzbek language, literature, and history, elementary-school instruction methods, and mathematics and physics.

Name: Tashkent Finance-Economics Institute
 (Tashkentskiy finansovo-ekonomicheskii institut)

Address: Tashkent, ulitsa Arpa-Paya, prospekt Kyr-Gul', 10

Director: M. M. Kariyev, Docent (1961)

Deputy Director: Yu. Ye. Shenger, Doctor (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

A. Aminov, Professor, Head of Chair
A. M. Ayrumov, Professor, Head of Chair
O. F. Modina, Candidate

Description:

Industrial economics, agricultural economics, finance and credit, accounting, and statistics are courses offered by the Institute. It publishes a Nauchnyye Zapiski.

Name: Tashkent Institute of Engineers of Irrigation and Mechanization of Agriculture
(Tashkentский институт инженеров ирригации и механизации сельского хозяйства)

Address: Tashkent, ulitsa Uchitel'skaya, 29

Director: --

Deputy Directors: A. A. Askarov, Docent (1961)
Ye. K. Baturin, Docent (1961)

Administrative Affiliation: --

Selected Staff Members:

Kh. A. Akhmedov, Docent, Head of Chair
V. S. Artamonov, Docent, Dean
A. M. Gostunskiy, Academician (Uzbek S.S.R.), Head of Chair
T. A. Kolpakova, Docent, Head of Chair
G. A. Koshevnikov, Academician (Uzbek S.S.R.), Head of Chair
V. I. Lazunov, Docent, Head of Chair
M. V. Sablikov, Head of Chair
I. F. Sukach, Professor, Head of Chair
A. V. Troitskiy, Professor, Head of Chair
N. A. Yanishevskiy
N. Z. Zakirov, Docent, Head of Chair

Description:

The Institute was established in 1934 as a result of the merger of the Central Asian Institute for Mechanization of Agriculture and the Central Asian Institute of Irrigation Engineers and Technologists. The Institute does theoretical and applied research on hydraulic, hydrodynamic, hydroelectric, agricultural-equipment, and irrigation problems. The Institute awards the Candidate's Degree.

1031

Name: Tashkent Institute of Railroad-Transportation Engineers
(Tashkent'skiy institut inzhenerov zheleznodorozhnogo transporta)

Address: Tashkent, Oboronnaya ulitsa, 1

Director: --

Deputy Directors: D. G. Goloranov, Docent (1961)
M. Kh. Khodzhayev, Docent (1961)

Administrative Affiliation: Ministry of Means of Communication, U.S.S.R.
(1960)

Selected Staff Members:

Sh. M. Gofman, Professor, Head of Chair
A. P. Sushchenko, Candidate

Description:

Founded in 1931, this institute was called the Central Asian Institute of Railroad Transportation Engineers until 1937.

In addition to the courses of study in railroad engineering, research is conducted in applicable fields of interest. Metallurgical and machine-construction research are foremost in the Institute's research activities.

The Institute confers the Candidate's Degree, and publishes a Trudy. Courses are offered in steam locomotives, car construction, automation, remote control, and communications, use of railroads, railroad construction, civil engineering, and railroad economics and organization.

1032

Name: Tashkent State Pedagogical Institute imeni Nizami
(Tashkent'skiy gosudarstvennyy pedagogicheskiy institut imeni Nizami)

Address: Tashkent, Pedagogicheskaya ulitsa, 63

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

Sh. M. Abdullayeva, Docent, Head of Chair
 R. K. Atadzhanov, Docent
 V. A. Chinnova, Docent, Head of Chair
 N. K. Kadyrova, Candidate, Head of Chair
 A. Kirgizbayev, Docent, Head of Chair
 S. Radzhabov, Professor, Head of Chair
 A. L. Sagdullayeva, Docent, Head of Chair
 T. Kh. Salimov, Docent, Head of Chair
 A. A. Sukhareva, Docent, Head of Chair
 S. T. Tursunov, Docent, Head of Chair
 Sh. N. Ul'masbayev, Docent, Head of Chair
 S. Usmanov, Docent, Head of Chair
 E. Yusupov, Docent, Head of Chair

Description:

This facility trains teachers and publishes a Uchenyye Zapiski. By 1957, after slightly more than 20 years of operation, this institute had graduated 4,000 specialists. One area of study is mathematics.

1033

Name: Tashkent Textile Institute
 (Tashkentskiy tekstil'nyy institut)

Address: Tashkent, Akademicheskaya ulitsa, 7

Director: M. A. Khadzhinova, Corresponding Academician (Uzbek S.S.R.) (1961)

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

A. Alimov, Docent, Head of Chair
 V. I. Budnikov, Docent, Head of Chair
 B. E. Geller

S. S. Ibragimov, Docent, Head of Chair
 F. S. Kungurtseva, Docent, Head of Chair

Description:

This institute is concerned with the change of density with elongation and thermorelaxation of polymers; the thermal processes during swelling and dissolution of polymer materials; the physicochemical properties of dimethyl formamide; the hardness of steel coatings; and the elastic-plastic bending of strip plate on elastic foundations. Theoretical studies are carried out on inhomogeneous Markov chains and axisymmetrically loaded shells of rotation.

The Institute offers courses in fibrous materials, synthetic fibers, organic synthesis and synthetic rubber, sewing, textile equipment, and consumer economics and organization. It publishes Sbornik Nauchno-Issledovatel'skikh Rabot.

Name: Tbilisi Institute of Railroad Engineers imeni V. I. Lenin
 (Tbilisskiy institut inzhenerov zheleznodorozhnogo transporta imeni V. I. Lenina)

Address: Tbilisi, ulitsa Lenina, 98

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: A. A. Avakov, Docent

Description:

The Institute provides academic training for students following careers in the railroad industry. Curricula in civil, mechanical, and metallurgical engineering, supplemented by special attention to railroad engineering, provide a broad base for both theoretical and applied research. Problems have been investigated in electrodynamics, metal cutting, materials, ferrous metallurgy, and structural mechanics and analysis. At the graduate level, the Candidate's Degree is granted. A Trudy is published.

Name: Tbilisi Mathematics Institute imeni A. M. Razmadze
 (Tbilisskiy matematicheskiy institut imeni A. M. Razmadze)

Address: Tbilisi

Description:

Current research of this institute is in the fields of mathematics and physics. Theoretical mathematics and mathematical physics are especially stressed, with some work being done on the thermoelectric properties of metals. The Institute publishes a Trudy.

Courses are taught in Russian language, literature, and history, Georgian language and literature, mathematics and physics, biology and fundamentals of agriculture, geography, library and bibliographic science, and methods of elementary-school education.

1039

Name: Tbilisi State University imeni I. V. Stalin
(Tbilisskiy gosudarstvennyy universitet imeni I. V. Stalina)

Address: Tbilisi, prospekt Chavchavadze, 1

Director: Ye. K. Kharadze, Academician (Georgian S.S.R.) (1961)

Deputy Directors: S. M. Zhgenti, Professor (1961)
N. N. Koiav, Professor (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Georgian S.S.R. (1960)

Selected Staff Members:

I. V. Abashidze, Academician (Georgian S.S.R.)
G. S. Akhvlediani, Corresponding Academician (U.S.S.R.)
Sh. Ya. Amiranashvili, Corresponding Academician (U.S.S.R.)
E. L. Andronikashvili, Academician (Georgian S.S.R.)
K. S. Bakradze, Professor, Head of Chair
G. A. Begiashvili
I. S. Beritashvili, Academician (U.S.S.R.)
A. S. Chikobava, Professor
G. S. Chogoshvili, Professor, Head of Chair
A. I. Didebulidze, Professor
A. I. Dzhanelidze, Academician (Georgian S.S.R.)
A. N. Dzhavakhishvili, Academician (Georgian S.S.R.)
N. D. Kadagidze, Docent, Head of Chair
K. S. Kekelidze, Professor
I. D. Krachadze, Docent, Head of Chair
V. D. Kupradze, Academician (Georgian S.S.R.)
O. M. Mdivani
L. M. Melikset-Bek, Professor, Head of Chair
G. Meskhi, Head of Laboratory of Accelerators
O. I. Mgebryan

D. S. Mgeladze, Docent, Head of Chair
 Ya. P. Moseshvili, Professor, Head of Chair
 N. I. Muskhelishvili, Academician (U.S.S.R.)
 M. Z. Nodiya, Professor, Head of Chair
 A. D. Petrov, Corresponding Academician (U.S.S.R.)
 A. M. Razmadze, Professor
 A. G. Shanidze, Corresponding Academician (U.S.S.R.)
 G. V. Tsereteli, Corresponding Academician (U.S.S.R.)
 D. N. Uznadze, Professor
 A. K. Vacheyshvili, Professor, Head of Chair
 I. Kh. Vekua, Professor
 M. D. Zhorzhikashvili, Party Secretary

Description:

Tbilisi State University was founded in 1918. Today it is the fourth largest university in the Soviet Union, having had an enrollment during the 1960-1961 school year of about 8,900 students. The University confers Candidate's and Doctor's Degrees. It publishes a Trudy, a Sbornik Nauchnykh Rabot Studentov and a Sbornik Nauchnykh Trudov Aspirantov.

One of the more important fields of research activity at the University is petroleum chemistry. Among the projects that have been performed in this field are studies of thermal cracking, purification of lubricating oils, ignition of ethane-chlorine mixtures, and production of ethyl acetate and ethylene. In analytical chemistry, investigators have studied chromatographic methods of qualitative analysis and electroanalysis of complex ores.

Considerable effort has been expended in the study of metal physics, particularly dislocations in metals and calculation of configuration entropy and heat capacity of ternary alloys. Studies have been performed on properties of semiconductors and semiconductor theory.

Mathematics studies include problems such as summation methods for double series, duality theorems, boundary-value problems, and nonlinear equations. The University has a computer center. Currently, the philology group at the University is engaged in the study of the problem of machine translation. Research in mechanics includes problems in fluid flow and elasticity.

In 1961, a Nuclear-Research Laboratory was established at the University. This laboratory, together with the University's Accelerator Laboratory which has a 15-Mev betatron, will allow physics researchers to pursue their activities in the study of photonuclear reactions, resonance scattering of gamma quanta and neutrons, electron scattering, paramagnetic resonance, and Cherenkov radiation. Other interests of the physics group include equipment and techniques for observing charged particles in cloud chambers, magnetohydrodynamics, semiconductor theory, cybernetics, and use of balloon observations for meteorology. Among the studies in the University's Cryogenics Laboratory have been investigations of surface conductivity at low temperatures and superfluidity in liquid helium.

The University's curricula include courses in geological surveying and prospecting for mineral deposits, radiophysics, finance and credit (domestic banking, and monetary and fiscal operations), economics of the national economy, jurisprudence, Russian language and literature, Georgian language and literature, Romance and Germanic languages and literature, Eastern languages and literature, philosophy, psychology, mathematics, mechanics, physics, chemistry, botany, zoology, physical geography, and journalism.

1040

Name: Telavi State Pedagogical Institute imeni Ya. Gogebashvili
(Telavskiy gosudarstvennyy pedagogicheskiy institut imeni
Ya. Gogebashvili)

Address: Telavi, ulitsa Irakliya, 1

Director: --

Deputy Directors: I. S. Kachiuri, Docent (1961)
A. E. Gventsadze, Docent, Dean

Administrative Affiliation: State Committee of Higher and Secondary Special
Education of the Council of Ministers, Georgian
S.S.R. (1960)

Selected Staff Members: --

Description:

The Institute offers courses in native language, literature, and history, elementary school-instruction methods, Russian language, literature, and history, and mathematics and physics.

1041

Name: Tien Shan High-Mountain Physical-Geographical Station
(Tyan'shanskaya vysokogornaya fiziko-geograficheskaya stantsiya)

Address: Kungey-Alatau Range, Tien Shan Mountains

Director: --

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Kirghiz S.S.R. (1958)

Selected Staff Members:

I. K. Akhunbayev
 L. G. Bondarev
 S. M. Myagkhov
 V. K. Nozdryukhin
 R. D. Zabirov

Description:

This scientific post, located in the Tien Shan Mountains at an altitude of 9,000 to 11,000 feet above sea level, was established by the Kirghiz Academy of Sciences in 1958 to conduct astronomical observations, to study cosmic rays, atmospheric physics, radio technology, and astrobotany, and to make a study of the glaciers there during the IGY.

In 1958, the first issue of its Raboty appeared.

1042

Name: Time Laboratory of the Tashkent Astronomical Observatory
 (Laboratoriya vremeni Tashkentskoy astronomicheskoy observatorii)

Address: Tashkent

Director: B. T. Beda, Acting Head (1957)

Deputy Director: --

Administrative Affiliation: Tashkent Astronomical Observatory (1959)

Selected Staff Members: --

Description:

The Laboratory provides 17 time signals during each 24-hour period.

1043

Name: Tiraspol' State Pedagogical Institute imeni T. G. Shevchenko
 (Tiraspol'skiy gosudarstvennyy pedagogicheskiy institut imeni
 T. G. Shevchenko)

Address: Tiraspol', ulitsa 25 Oktyabrya, 128

Director: --

Deputy Director: --

1043 (Continued)

Administrative Affiliation: Ministry of Education, Moldavian S.S.R. (1960)

Selected Staff Members:

I. I. Burdiyan, Dean
Ye. P. Pokatilov
I. M. Prokopets, Docent, Head of Chair

Description:

This institute, one of the first higher educational institutions in the Moldavian S.S.R., publishes research in mathematics and semiconductors. A Nauchnyye Zapiski reporting staff and student research is published irregularly.

The courses offered by the Institute include Russian language, literature, and history, mathematics and physics, chemistry, biology, and geography.

1044

Name: Tobol'sk Pedagogical Institute
(Tobol'skiy pedagogicheskiy institut)

Address: Tobol'sk, ulitsa Rozy Lyuksemburg, 15

Director: P. K. Zhivotikov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

The Institute offers course work in Russian language and literature for Tatar schools and mathematics and physics.

1045

Name: Tomsk Construction-Engineering Institute
(Tomskiy inzhenerno-stroitel'nyy institut)

Address: Tomsk, Solyanaya ploshchad', 2

Director: M. V. Postinikov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

E. A. Arinshteyn
 D. I. Chemodanov, Docent, Head of Chair
 F. Ye. Davydov, Docent, Head of Chair
 M. I. Kuchin, Professor, Head of Chair
 B. I. Leshchiner, Docent, Head of Chair
 Ya. V. Shvartsman, Docent, Head of Chair

Description:

The academic interests of the Institute are directed toward the training of students in civil engineering. Construction, highway construction, construction equipment, reinforced-concrete structures, and prefabricated construction are among the courses offered. Research has been done in crystal structure and theory, steel and aluminum alloys, molecular association in gases, and the theory of phase transitions. It publishes Sbornik Nauchnykh Trudov.

Name: Tomsk Electromechanical Institute of Railroad-Transportation Engineers (Tomskiy elektromekhanicheskiy institut inzhenerov zheleznodorozhnogo transporta)

Address: Tomsk, prospekt Lenina, 35

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

V. I. Karpov, Candidate
 Y. A. Krumin, Docent
 M. P. Prishchepa, Candidate

Description:

Academic training is provided for students following technical careers in the railroad industry. Research activities of the Institute are quite varied and have included work in electronics, structural mechanics and analysis, applied mathematics, shock fatigue and impact deformation of steel, benzene purification, and turbine technology. The Candidate's Degree is granted. The available courses of study include steam locomotives, railroad-

car construction, railroad electrification, and railroad automation, remote control, and communications. It publishes a Sbornik Nauchnykh Trudov.

1047

Name: Tomsk Order of Labor Red Banner Polytechnic Institute imeni S. M. Kirov
(Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiiy institut imeni S. M. Kirova)

Address: Tomsk, prospekt Timiryazeva, 9 (1960)

Director: A. A. Vorob'yev, Professor (1961)

Deputy Director: A. P. Kazachek, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. V. Aksarin, Docent, Head of Chair
 O. D. Alimov, Professor, Head of Chair
 L. M. Anan'yev, Docent, Head of Chair
 I. N. Butakov, Professor, Head of Chair
 A. N. Dobrovidov, Professor, Head of Chair
 Ye. I. Fialko, Professor, Head of Chair
 M. F. Filippov, Docent, Dean
 G. I. Fuks, Professor, Head of Chair
 V. M. Gladkova, Docent, Head of Chair
 V. I. Gorbunov, Docent, Head of Chair
 I. I. Kalyatskiy, Candidate, Head of Chair
 R. M. Kesemnikh, Docent, Head of Chair
 L. L. Khalfin, Professor, Head of Chair
 I. R. Konyakhin, Docent
 I. P. Kulev, Professor, Head of Chair
 N. P. Kurin, Docent, Head of Chair
 A. M. Kuz'min, Professor, Head of Chair
 S. P. Kuznetsov, Docent, Head of Chair
 Ye. A. Kuznetsov, Corresponding Academician (U.S.S.R.)
 I. K. Lebedev, Docent, Head of Chair
 V. A. Lukutin, Candidate, Dean
 V. S. Melikhov, Docent, Head of Chair
 G. Z. Parfenov, Party Secretary
 A. G. Pechenkin, Candidate, Dean
 M. F. Poletika, Docent
 K. V. Radugin, Professor, Head of Chair
 A. M. Rozenberg, Professor, Head of Chair
 L. M. Sedokov, Docent
 L. S. Skripov, Docent, Head of Chair
 V. A. Sokolov, Professor, Head of Chair
 V. N. Titov, Docent, Head of Chair

P. G. Usov, Docent, Head of Chair
V. M. Vysotskaya, Docent, Dean
P. Z. Zakharov, Docent, Head of Chair
A. N. Zlenko
G. S. Zubarev, Docent, Dean

Description:

Tomsk Polytechnic Institute was founded in 1906. It has an enrollment of over 10,000 students. Research work is conducted by 500 teachers, 186 aspirants, and more than 2,000 students. Special research is carried out in areas such as internal-combustion engines, insulating techniques, electrovacuum engineering, communications, pyrogenic processes, power engineering, and radio astronomy.

A 4-meter-band radar station has been built for the study of meteor activity.

The Institute has a television center with facilities for broadcasting. Investigations of the television for industrial uses also are made.

A Problems Laboratory was created in 1957 to study (1) the physical and chemical properties, strength, and failure of dielectrics and semiconductors; and (2) the development of radio circuits for instruments incorporating semiconductors. In 1960, a High-Voltage Laboratory was placed into operation to conduct research on the problems of electric breakdown in gaseous and liquid insulation and breakdown and deterioration of solid dielectric materials used in high-voltage industrial installations.

In 1946, the design and construction of a betatron was started. Since then, betatrons of 5 to 25 mev and a stereobetatron have been built and put into operation. They are being widely used to detect defects in metals, to study the reaction of charged particles on substances, and in medical treatment.

Affiliated with the Polytechnic is the Scientific-Research Institute of Nuclear Physics, Electronics, and Automation (Nauchno-issledovatel'skiy institut yadernoy fiziki, elektroniki i avtomatiki), headed by I. P. Chuchalin, Candidate. This facility was organized in 1958. It has recently put into operation the first microtron in Siberia, an accelerator for obtaining electrons with a power up to 5,000,000 ev.

The Institute publishes an Izvestiya. Candidate's and Doctor's Degrees are granted.

Courses of Study: Geology and exploration of mineral deposits
Geology and exploration of oil and gas deposits
Geophysical prospecting
Hydrogeology and engineering geology
Techniques of exploring mineral deposits
Mine surveying
Mining

Minerals beneficiation and ore treatment
 Electric power stations, networks and systems (thermal
 and hydroelectric power stations)
 High-voltage engineering
 Electrification of industrial enterprises and installations
 Mining electromechanics
 Thermal power installations (boiler and turbine)
 Industrial thermal power engineering (oven and gas heat
 thermal engineering and heat-transfer installations)
 Thermal processing of metals (metallography equipment and
 technology)
 Machine building, metal-cutting tools, and instruments
 Welding
 Chemical-industry machinery (inorganic and organic chemical
 processes, silicates, cellulose and woodpulp processes,
 and liquid and gas fuels)
 Boiler construction
 Internal-combustion engines
 Electrical machinery and equipment
 Electric insulation and cable technology
 Dielectrics and semiconductors
 Automatic, telemetric, and electric measuring instruments
 and systems
 Computers and guidance devices
 Control instruments for chemical processes
 Atomic-energy installations
 Electronic instruments
 Industrial electronics
 Electric installations and equipment of aircraft
 Radio engineering
 Radio equipment design and manufacture
 Equipment and installations of radio engineering machinery
 and the telemetering devices
 Fuel technology
 Inorganic chemistry
 Silicates (binders and cementitious materials, ceramics
 and refractories, and glass)
 Organic synthesis and synthetic-rubber manufacture
 Medical drugs and aromatic compounds
 Plastics
 Rubber

Name: Tomsk State Pedagogical Institute
 (Tomskiy gosudarstvennyy pedagogicheskiy institut)

Address: Tomsk, Kiyevskaya ulitsa, 60

Director: --

Deputy Director: A. N. Stetsenko, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

G. M. Blinkov, Professor, Head of Chair
 A. P. Dul'zon, Professor, Head of Chair
 B. V. Kazachkov, Docent, Dean
 F. F. Shamakhov, Professor, Head of Chair

Description:

This institute, which prepares secondary-school teachers, was founded in 1931. Electrochemical research is performed at this institute, and measurement of electrical conductivity of dielectrics and semiconductors is a major undertaking. In addition, this institute has a School of Botany. A Uchenyye Zapiski is published regularly.

The Institute offers courses in foreign languages (English, German, and French), Russian and native language and literature, mathematics and drafting, physics and fundamentals of production, biology, chemistry, and agriculture, and physical education. The Institute confers the Candidate's Degree.

Name: Tomsk State University imeni V. V. Kuybyshev
 (Tomskiy gosudarstvennyy universitet imeni V. V. Kuybysheva)

Address: Tomsk, prospekt Timiryazeva, 3

Director: A. I. Danilov, Professor (1961)

Deputy Director: Yu. V. Chistyakov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. Ya. Bulynnikov, Professor, Head of Chair
 V. I. Danilova
 M. R. Filimonov, Director of Science Library
 V. S. Flerov, Docent, Head of Chair
 M. S. Gorokhov, Professor, Head of Chair
 V. N. Kessenikh, Professor, Head of Chair
 A. I. Kim, Docent, Head of Chair
 P. P. Kufarev, Professor, Head of Chair
 R. M. Malakhovskaya

L. G. Maydanovskaya
 V. A. Pegel', Professor, Head of Chair
 I. M. Razgon, Professor, Head of Chair
 L. N. Rozanov
 A. B. Sapozhnikov, Professor, Head of Chair
 K. V. Savitskiy, Professor, Head of Chair
 V. V. Serebrennikov, Docent, Head of Chair
 P. I. Skorospelova, Docent, Head of Chair
 G. D. Suvorov
 K. P. Varoshevskiy, Professor, Head of Chair
 V. N. Zhdanova, Docent, Head of Chair

Description:

Many of the research interests of Tomsk University are reflected in the activities of the Siberian Physical-Technical Institute, which is closely associated with the University. A few of these research areas are radiophysics, particularly radio waves, radio telescoping, and antenna studies, solid-state physics, particularly properties of semiconductors, phosphors, and electroluminescent materials, cartography, particularly topological mapping, computer engineering, atmospheric and ionospheric studies, and metallurgy and metal physics, particularly friction and wear studies. The University participated in the organization of IGY magnetic observatories, and studies of geomagnetic disturbances have been made by University staff members.

Publications of the University include a Uchenyye Zapiski, as well as other periodic collections of staff members' writings. The University grants Candidate's and Doctor's Degrees.

The curricula of the University include courses in radiophysics and electronics, economics of the national economy, geology (surveying and prospecting for mineral deposits), geochemistry, hydrology of land, meteorology, soil science and agrochemistry, jurisprudence, Russian language and literature, history, mathematics, mechanics, physics, chemistry, botany, zoology, and physical geography.

1050

Name: Transportation and Power Engineering Institute
 (Transportno-energeticheskiy institut)

Address: Novosibirsk

Director: --

Deputy Director: --

Administrative Affiliation: Siberian Department, Academy of Sciences,
 U.S.S.R. (1961)

Selected Staff Members:

I. P. Butyagin
 A. Kh. Kalyuzhnig
 Yu. V. Khudomyasova
 V. K. Morgunov
 V. M. Samochkin

Description:

This institute has been primarily interested in problems of ice-control engineering. Also under investigation are combustion and heat-exchange problems. A Trudy is published.

1051

Name: Tula Mechanical Institute
 (Tul'skiy mekhanicheskiy institut)

Address: Tula, ulitsa Kommunarov, 154

Director: S. S. Petrukhin, Docent (1961)

Deputy Directors: A. Ya. Shaydenko, Docent (1961)
 N. A. Minskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

V. F. Bobrov, Docent, Dean
 D. V. Bogoroditskiy, Docent
 N. N. Dizhechko, Candidate
 I. P. Fominykh, Docent
 A. D. Glebov
 S. A. Golovin, Candidate
 A. G. Gorst, Professor
 V. F. Karneyev, Docent
 I. A. Koganov, Docent
 M. A. Krishtal, Docent
 M. I. Kurchaninov, Docent
 V. A. Kutlunin, Docent
 M. A. Mamontov, Professor, Dean
 F. N. Merkulov
 I. L. Mirkin, Professor
 P. N. Oparina, Docent
 B. M. Podchufarov, Docent
 V. F. Preys, Docent, Dean
 L. M. Shcherbakov
 M. I. Slobodkin, Professor

Description:

The Institute, founded in 1930, has placed heavy emphasis on diffusion studies in ferrous metallurgy. Among some of the areas covered are the influence of primary hardening on the diffusion speed of carbon in austenite, the mechanisms of diffusion, and the diffusion of various metals in carbon and noncarbon steels. The Institute has also studied the effect of various conditions of heat treatment and mechanical treatment on the structure and properties of ferrous metals, malleability of cast iron, internal friction in hardened and tempered steels, methods for hardening steels, and numerous other processes involving ferrous metallurgy.

Selected studies have been performed at the Institute to determine satisfactory methods of automating and controlling production. One of these concerned the use of an analog computer in problems of structural mechanics, strength of materials, and theory of elasticity. Other developments pertained to automatic controlling and sorting machines.

Precision quality controls by microspectral analysis and oscillographic recording have also been implemented.

The Institute places great emphasis on basic research in the fields of physics and mathematics. Several Trudys are published each year.

Courses of study available at the Institute include machine-building technology, machine tools, equipment and technology of pressure working metals, automation and remote control, mining, mining equipment, and hoisting and transportation equipment.

1052

Name: Tula Mining Institute
(Tul'skiy gornyy institut)

Address: Tula, ulitsa Kommunarov, 158

Director: N. N. Toloknov, Docent (1961)

Deputy Director: P. P. Polezhayev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. G. Ivanov
N. I. Kharitonov, Docent, Head of Chair
V. D. Nechayer, Docent, Head of Chair
I. G. Roshchupkin, Docent, Dean
L. A. Tolokonnikov, Professor, Head of Chair

Description:

Much of the research of this institute is of a mathematical nature. Some examples are as follows: application of the averaging principle, first-order differential equations, linear-differential-equation systems, question of stability according to the first approximation, accuracy of a position of a point, some problems of the nonlinear theory of elasticity, scattering of plane sonic waves by a spherical obstacle (for short wavelengths), and molecular-light-scattering theory. Some work has been reported on machining, on the cutting of gears, and on the high-speed machining of spherical surfaces.

The Institute offers courses in mining, development of mineral deposits, mining equipment, automation, mine construction, reinforced-concrete structures, heating and ventilation, prefabricated construction, plumbing, higher mathematics, physics, geology, and resistance of metals.

The Institute, which has a branch in Stalinogorsk, has published a Nauchnyye Trudy.

Name: Tula State Pedagogical Institute imeni L. N. Tolstoy
(Tul'skiy gosudarstvennyy pedagogicheskiy institut imeni
L. N. Tolstogo)

Address: Tula, ulitsa Mendeleyeva, 7

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. M. Bochkin, Candidate, Head of Chair
M. V. Konyukov
M. P. Nikolayev, Docent, Head of Chair
V. D. Podsypanin, Docent, Head of Chair

Description:

This institute was established in 1938 to prepare secondary-school teachers. Studies of electrochemistry, magnetohydrodynamics, and plasmas, particularly nonlinear vibrations of ions in a plasma, have been conducted. Courses are offered in Russian language, literature, and history, mathematics and drafting, and physics and fundamentals of production.

Name: Turkmen Agricultural Institute imeni M. I. Kalinin
(Turkmenskiy sel'skokhozyaystvennyy institut imeni M. I. Kalinina)

Address: Ashkhabad, Pervomayskaya ulitsa, 62

Director: A. K. Rustamov, Professor (1961)

Deputy Directors: N. A. Ivanov, Docent (1961)
Ch. Rakhmedov, Candidate (1961)

Administrative Affiliation: Ministry of Agriculture, Turkmen S.S.R. (1960)

Selected Staff Members:

N. L. Deyev, Head of Chair
P. Ye. Grazhdan, Docent, Head of Chair
M. Karayev, Docent
A. Kh. Niyazberdyev, Docent, Head of Chair

Description:

Courses in agronomy, animal husbandry, silk culture, veterinary medicine, mechanization of agriculture, hydromelioration, agricultural economics and organization, and bookkeeping are available at this institute. It publishes a Trudy.

Name: Turkmen State Pedagogical Institute imeni V. I. Lenin
(Turkmenskiy gosudarstvennyy pedagogicheskiy institut imeni V. I. Lenina)

Address: Chardzhou, Tashkeprinskaya ulitsa, 56

Director: --

Deputy Director: R. Atameredov (1961)

Administrative Affiliation: Ministry of Education, Turkmen S.S.R. (1960)

Selected Staff Members:

R. A. Bazarova, Candidate, Head of Chair
I. T. Belous', Head of Chair
A. V. Yurin, Head of Chair

Description:

This institute has performed meteor stream observations. It maintains a satellite observation station. Courses of study offered at

the Institute include Russian language and literature, foreign languages, elementary-school instruction methods, mathematics, physics, fundamentals of production, biology, chemistry, agriculture, and geography. It publishes a Uchenyye Zapiski.

1056

Name: Turkmen State University imeni M. Gor'kiy
(Turkmenskiy gosudarstvennyy universitet imeni M. Gor'kogo)

Address: Ashkhabad, Sad Keshi

Director: P. Azimov, Academician (Turkmen S.S.R.) (1958)

Deputy Director: M. A. Rotko, Docent (1961)

Administrative Affiliation: Ministry of Education, Turkmen S.S.R. (1960)

Selected Staff Members:

R. G. Annayev, Academician (Turkmen S.S.R.)
A. Karryyev, Professor, Head of Chair
M. N. Khydyrov, Corresponding Academician (Turkmen S.S.R.), Head
of Chair
D. Mulliyev, Docent, Head of Chair
I. Redzhepov, Candidate, Dean
Ya. F. Sadykov
A. Saparov, Candidate, Head of Chair
K. K. Sopyyev, Docent
S. Yazliyev

Description:

This university which was founded in 1950, consists of five departments: Philology, History and Law, Physics and Mathematics, Engineering, and Biology and Geography. It has an astronomical station which has participated in artificial-earth-satellite observations.

Research at the University has included work on bismuth and the nickel-palladium system.

Collections of articles (Uchenyye Zapiski) reporting staff research are published irregularly by the University.

1057

Name: Tyumen' Pedagogical Institute
(Tyumenskiy pedagogicheskiy institut)

Address: Tyumen', ulitsa Semakova, 10

1057 (Continued)

Director: V. I. Kleymenov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members: --

Description:

Research in geography, mathematics, natural science, and physics, especially waveguides, is reported in the Uchenyye Zapiski of the Institute.

1058

Name: Udmurtsk State Pedagogical Institute imeni the 10th Anniversary of the Udmurtsk Autonomous Oblast'
(Udmurtskiy gosudarstvennyy pedagogicheskiy institut imeni 10-letiya Udmurtskoy avtonomnoy oblasti)

Address: Izhevsk, KrasnogeroySKIY pereulok, 69

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. A. Irisov, Docent, Dean
M. P. Prokop'yev, Docent, Head of Chair
A. S. Vorob'yev, Docent, Head of Chair
L. N. Zabolotskaya, Docent, Head of Chair

Description:

Opened in 1931, the Institute publishes a Uchenyye Zapiski. The staff has developed equations for liquid flow and stability of heat conductivity. Theoretical studies of reflex klystrons are of interest to the staff, as is complex inorganic-compound synthesis.

As a teacher-training school, the Institute offers a variety of courses, including Russian language, literature, and history, mathematics and physics, general science, biology and chemistry, physical education, English and German, manual training, and art.

1059

Name: Ufa Aviation Institute imeni Sergo Ordzhonikidze
(Ufimskiy aviatsionnyy institut imeni Sergo Ordzhonikidze)

Address: Ufa, ulitsa Lenina, 61

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1961)

Selected Staff Members:

I. A. Bolotovskiy, Docent
B. S. Deychman, Candidate
A. P. Dobronez
O. G. Fil'tser
K. G. Galimkhanov, Docent, Head of Chair
I. A. Khrizman
O. S. Koval'chuk
V. V. Krivosheyev
S. I. Kulikov, Docent, Head of Chair
A. N. Nekhayeva
A. T. Osipov
M. Ye. Rabinovich
A. N. Rakhmanovich, Professor, Head of Chair
V. E. Smirnov, Docent
N. A. Tupanenko, Candidate
B. L. Vol'man

Description:

The Ufa Aviation Institute conducts research in aircraft-engine construction, machine construction, metal-cutting tools, theoretical mechanics, aerodynamics, structures, and metallography. It publishes a Trudy.

1060

Name: Ufa Petroleum Scientific-Research Institute
(Ufimskiy neftyanoy nauchno-issledovatel'skiy institut--UFNII)

Address: Ufa, ulitsa Ul'yanovyykh, 45

Director: V. Ye. Gubin, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. V. Klimenka, Professor, Head of Chair
 A. A. Kondrat'yev
 Kh. F. Kutluyarov, Head of Chair
 B. K. Marushkin
 L. N. Rozanov
 Ye. I. Sukhankin
 V. S. Yablonskiy, Professor, Head of Chair
 F. Sh. Yusupov, Candidate, Dean

Description:

This institute conducts research in the areas of petroleum geology, drilling, and the economic aspects of oil production. It is primarily concerned with the petroleum industry of the Bashkir economic region.

The Institute publishes a Trudy. Courses of study include exploitation of oil and gas deposits, oil and gas field equipment and machinery, and petroleum and natural gas technology.

1061

Name: Ukrainian Correspondence Polytechnic Institute
 (Ukrainskiy zaochnyy politekhnicheskiy institut)

Address: Khar'kov, Universitetskaya ulitsa, 16

Director: S. A. Vorob'yev, Docent (1961)

Deputy Director: I. E. Razdovskiy, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

M. M. Apanovich, Dean
 V. M. Fedchenko, Candidate, Dean
 A. Ye. Leonov, Docent, Head of Chair
 V. S. Rivnyy, Docent, Dean

Description:

Organized in 1958, the Ukrainian Correspondence Polytechnic Institute has eight faculties and 42 chairs. More than 9,000 engineering students in fifty specialties are being trained for the chemical, machine-construction, mining, power, and building industries.

Courses of Study: Mine surveying
 Minerals beneficiation

Mining construction
Electric power stations, networks, and systems
(thermal and hydroelectric power stations)
Electrification of industrial enterprises and installations
Mining electromechanics
Thermal power installations (boilers and turbines)
Industrial thermal power engineering (heat-transfer
installations)
Metallurgical furnaces
Casting of ferrous and nonferrous metals
Thermal processing of metals (metallography, equipment,
and technology)
Machine building, metal-cutting tools, and instruments
Casting machinery and processes
Processing metals under pressure
Welding
Mechanical equipment of metallurgical plants (automation
of metallurgical processes)
Mining machinery
Lifting, hoisting, and transportation machinery and
equipment
Construction and road-building equipment
Chemical-industry machinery (inorganic and organic pro-
cesses, silicates, cellulose and wood pulp processes,
liquid and gas fuels)
Automobiles and tractors
Precision mechanical instruments (measuring, control,
and timer devices)
Electrical machinery and equipment
Automatic, telemechanic, and electrical measuring
instruments and systems
Electronic instruments
Industrial electronics
Radio engineering
Radio equipment
Fuel technology
Inorganic chemistry
Silicates (binders and currentitious materials, ceramics
and refractories, glass)
Organic synthesis and synthetic-rubber manufacture
Dyes and intermediate products
Medical drugs and aromatic compounds
Plastics
Varnishes, paints, and nonmetallic coatings
Rubber
Industrial and civil construction
River installations and hydroelectric power installations
Urban construction and municipal works and service
installations
Production of concrete and reinforced-concrete structural
components and prefabricated units
Gas and heat supply and ventilation

Water supply and sewerage systems
 Economics and organization of mining industry
 Economics and organization of electric-power industry
 Economics and organization of machine-building industry
 Economics and organization of metallurgical industry
 Economics and organization of chemical industry
 Economics and organization of construction industry

Name: Ukrainian Order of Labor Red Banner Agricultural Academy
 (Ukrainskaya ordena Trudovogo Krasnogo Znameni sel'skokhozyay-
 stvennaya akademiya)

Address: Kiyev, Goloseyevo

Director: S. I. Lebedev, Professor (1961)

Deputy Directors: V. V. Nikol'skiy, Professor (1961)
 N. N. Benedikt, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. A. Bodrov, Professor, Head of Chair
 M. P. Braun, Doctor, Professor
 G. A. Gimmel'reykh, Doctor, Dean
 V. I. Gusev, Professor, Dean
 P. P. Kravchenko, Docent, Dean
 A. G. Mikalovskiy, Professor, Head of Chair
 I. Ye. Povazhenko, Professor, Head of Chair
 P. D. Pshenichnyy, Doctor, Head of Chair
 V. I. Yurchuk, Docent, Head of Chair

Description:

In relation to its major interest in agriculture, the Institute's staff has conducted research in forging, mechanical-property improvements by alloy additions to basic metals, martensitic transformation, polymer development, and process improvements in the manufacture of automotive parts. Hydraulic systems have been investigated relative to their use in agricultural equipment. The staff has also published papers in inorganic synthesis, electronics, and solar radiation, frequently in the Trudy of the Institute. Candidate's and Doctor's Degrees are granted.

Available courses of study include agronomy, soil science and agrochemistry, mechanization of agriculture, rural electrification, agricultural economics and organization, forestry, animal husbandry, veterinary medicine, and bookkeeping.

Name: Ukrainian Physical-Technical Institute
(Ukrainskiy fiziko-tekhnicheskiy institut--UFTI)

Address: Khar'kov, Yumovskiy tupik, 2

Director: K. D. Sinel'nikov, Academician (Ukrainian S.S.R.) (1961)

Deputy Directors: A. K. Val'ter, Academician (Ukrainian S.S.R.) (1960)
V. Ye. Ivanov, Corresponding Academician (Ukrainian S.S.R.)
(1961)

Administrative Affiliation: Academy of Sciences, Ukrainian S.S.R. (1961)

Selected Staff Members:

A. I. Akhizezer, Head of Department
V. M. Amonenko
M. Ya. Azbel
V. G. Bar'yakhtar
Ye. S. Borovik, Corresponding Academician (Ukrainian S.S.R.), Head
of Cryogenics Laboratory
Ya. B. Faynberg, Professor
Ya. M. Fogel'
R. I. Garber
I. A. Gindin
I. M. Grisayev
M. I. Kaganov
E. A. Kaner
I. F. Kharchenko
A. P. Klyucharev
B. G. Lazarev, Academician (Ukrainian S.S.R.), Head of Department
I. M. Lifshits, Corresponding Academician (Ukrainian S.S.R.), Head
of Department
G. Ya. Lyubarskiy
S. V. Petetminskiy, Doctor
R. V. Polovin
B. G. Safranov
S. Z. Shul'ga, Candidate, Head of Radiospectroscopy Laboratory
A. G. Sitenko, Doctor
O. I. Sudovtsev
V. T. Tolok
V. M. Tsukernik
B. I. Verkin
D. V. Voklov, Doctor

Description:

The Ukrainian Physical-Technical Institute, whose research activity is in a variety of scientific fields, began its research in physical electronics 25 years ago. It is currently conducting research in plasma physics, magnetohydrodynamics, nuclear physics, radiospectroscopy, cryogenics,

vacuum metallurgy, and the galvanomagnetic and electric properties of metals. UFTI has developed and studied particle accelerators and now has a 20-Mev linear proton accelerator, a 6-Mev linear electron accelerator, and a 1.2 to 3.8-Mev electrostatic generator. The Institute also develops nuclear-reactor components.

Name: Ukrainian Printing Institute imeni Ivan Fedorov
(Ukrainskiy poligraficheskiy institut imeni Ivana Fedorova)

Address: L'vov, Podval'naya ulitsa, 17

Director: V. G. Shpitsu, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

B. V. Kovalenko, Docent, Head of Chair

I. I. Zabolotnyy, Docent, Head of Chair

Description:

In addition to research in higher mathematics and physics, the Institute's Nauchnyye Zapiski publishes the results of work in metallurgy, especially the corrosion of metals. The Institute is also active in the fields of mechanics, mechanical engineering, machinery, and machine parts, as they apply to the printing or publishing industry. The Institute offers courses in printing machinery, technology of printing and publishing, and economics and organization of the printing and publishing industry.

Name: Ukrainian Road-Transportation Scientific-Research Institute
(Ukrainskiy dorozhno-transportnyy nauchno-issledovatel'skiy institut)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: V. A. Kakuyevitskiy, Candidate

Description:

Publications of the Institute include research results on residual stresses in steel and the effect of quenching on hardness after high-frequency heating. The Institute has also studied fatigue strength reduction of worn-out parts reconditioned by electric-pulse building-up. Workers at the Institute have computed the injection-coefficient for a spherical contact in a drawing electric field. A Sbornik Trudov is published.

1066

Name: Ukrainian Scientific-Research Coal-Chemical Institute
(Ukrainskiy nauchno-issledovatel'skiy uglekhimicheskiy institut--UKhIN)

Address: Khar'kov, ulitsa Vesina, 7

Director: --

Deputy Director: --

Administrative Affiliation: Gosplan, Ukrainian S.S.R. (1959)

Selected Staff Members:

A. I. Brodovich, Doctor
L. D. Gluzman, Candidate
L. Ya. Kolyander
M. S. Litvinenko

Description:

This institute does research on the coking process and coke derivatives. Work has been done on the extraction of benzole, pyrene, 2-vinylpyridine, naphthalene, fluoranthem, acetylene, xylole, ethylene, and other polymer raw materials. Some research has been done on steel corrosion.

The Institute publishes a Trudy irregularly.

1067

Name: Ukrainian Scientific-Research Hydrometeorological Institute
(Ukrainskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut--Ukr NIGMI)

Address: Kiyev, ulitsa Tolstogo, 14

Director: V. Prevotko, Professor (1958)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

I. Ye. Buchinskiy, Candidate
 N. I. Goysa
 V. M. Muchnik
 G. F. Prikhot'ko

Description:

The Kiyev Geophysical Observatory, founded in 1855, was reorganized in 1953 into Ukr NIGMI. It has helped develop meteorology and hydrology, particularly relative to the Ukraine. Through the use of information and data collected by various stations, they have developed methods for forecasting cloudiness, precipitation, thunderstorms, and river levels. The staff has also developed methods for computing dispersed and summary solar radiation.

The Institute has been active in experimenting on the production of artificially induced rainfall. Wind velocity, atmospheric heat exchange, and cloud electrification have been studied, special attention being given to their effect on climatic conditions. The Institute's participation in the IGY included investigations of the relation between geophysical phenomena in the atmosphere and the lower stratosphere.

A Trudy is periodically published by the Institute.

1068

Name: Ukrainian Scientific-Research Institute for the Leather and Footwear Industry
 (Ukrainskiy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti--Ukr NIKP)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: A. A. Kuz'menko

Description:

This institute specializes in the chemistry of leather processing. It has studied the properties of various tanning agents. The Institute publishes a Trudy.

Name: Ukrainian Scientific-Research Institute of Metals
(Ukrainskiy nauchno-issledovatel'skiy institut metallov)

Address: Khar'kov, ulitsa Darvina, 20

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

P. A. Aleksandrov
V. R. Golik
V. D. Konkin
M. I. Kurmanov, Candidate
N. M. Navrotsky
A. V. Orlov
A. G. Rabinovich
N. I. Sandler
V. A. Savchenkov, Candidate

Description:

The primary activities of this institute are in ferrous metallurgy. Its staff has conducted research on blast-furnace and open-hearth operation and automation, slags and fluxes, metal rolling, low-alloy, carbon, and structural steels, heat treatment, and welding and cutting technology. Most of this applied research is conducted for metallurgical plants.

Researchers of the Institute have developed a low-temperature X-ray unit for investigations of the structure of metals plastically deformed at the temperature of liquid nitrogen.

The Institute publishes a Trudy which appears irregularly.

Name: Ukrainian Scientific-Research Institute of Plastics
(Ukrainskiy nauchno-issledovatel'skiy institut plasticheskikh mass)

Address: Stalino

Director: --

Deputy Director: --

Administrative Affiliation: Stalino Sovnarkhoz (1959)

Selected Staff Members: --

Description:

This institute was organized in 1958 to work out the problems of chemical development in the production of plastics and synthetic fibers in the Ukraine.

1071

Name: Ukrainian Scientific-Research Institute of Plastics Machinery
(Ukrainskiy nauchno-issledovatel'skiy institut plastmassovogo mashinostroyeniya--UKR NII PLASTMASH)

Address: Kiyev

Director: P. Prikhodchenko (1961)

Deputy Director: --

Administrative Affiliation: Kiyev Sovnarkhoz (1961)

Selected Staff Members: --

Description:

This institute was established in 1959 to develop and design machinery and equipment for the processing of plastics, rubber, and synthetic leather.

1072

Name: Ukrainian Scientific-Research Institute of Refractory Materials
(Ukrainskiy nauchno-issledovatel'skiy institut ogneporov--UNIIO)

Address: Khar'kov, Yumovskaya ulitsa, 18

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

- A. S. Berezhnoy, Corresponding Academician (Ukrainian S.S.R.)
- A. S. Frenkel'
- A. N. Gaodu
- A. A. Grebenyuk
- I. S. Kaynarskiy, Professor, Head of the Laboratory of Dinas, Light Products, and Refractories
- G. V. Kukolev

A. N. Lyulichev
 O. M. Margulis
 V. V. Pustovalov
 L. A. Tseytlin
 V. M. Tsynkina
 I. I. Vishnevskiy

Description:

The Institute is one of the Soviet Union's prominent research centers for the development of refractory materials for use in the metallurgical industry. Considerable research has been conducted on the physical properties and production of various refractories. Aluminosilicates, chromium magnetites, and carborundum have been studied most extensively, but zirconium dioxide, molybdenum disilicide, and periclase-spinel brick also have been investigated.

Among the Institute's laboratories are a Laboratory for Dinas, Light Products, and Refractories and a Petrographic Laboratory. The Institute also has an experimental plant. The Institute publishes a Sbornik Nauchnykh Trudov frequently.

1073

Name: Ukrainian Scientific-Research Institute of the Canning Industry
 (Ukrainskiy nauchno-issledovatel'skiy institut konservnoy promyshlennosti)

Address: Odessa

Director: Ye. L. Milnichenko (1960)

Deputy Director: N. F. Chernichin (1960)

Administrative Affiliation: --

Selected Staff Members:

N. I. Fedotov, Head of Microbiological Laboratory
 N. Ya. Rabinov, Head of Engineering Laboratory

Description:

The various departments of the Institute are involved in research and development problems associated with the canning of fruits and vegetables. Machinery is designed and developed. Microbiological problems are under study, as well as applications of antibiotics to canning. Crop-production problems as they relate to processing are being studied. Chemical and economic considerations are also of concern to the Institute.

1074

Name: Ukrainian Scientific-Research Pipe Institute
(Ukrainskiy nauchno-issledovatel'skiy trubnyy institut--UkrNITI)

Address: Dnepropetrovsk, Pisarzhevskogo, 1-a

Director: Ya. Osada, Candidate (1961)

Deputy Director: S. I. Borisov, Doctor (1958)

Administrative Affiliation: --

Selected Staff Members:

N. V. Bogoyavlenskaya
G. N. Bogrets
I. A. Fomichev
S. M. Gnuchev
G. M. Itskovich
A. G. Petrenko

Description:

This institute has developed a number of experimental workshops in industrial enterprises as outlets for new designs and for the production of new equipment. For example, the experimental workshop at the Nikopolskiy Southern Pipe Factory investigated the technology for producing seamless, bimetallic pipes; another workshop investigated high-pressure pipe for atomic power plants; other investigations concerned corrosion resistance of various pipe materials. In addition, the Institute itself has developed apparatus for automatic checking of wall thickness during pipe production and a machine for commercial production of spiral-seam, thin-walled pipe. Further developments include methods for testing properties of metals at high temperatures and manufacturing and machining hard-alloy tools and extending their service life, a thickness gage for nonmagnetic materials, and heat-resistant steels for spiral pipe. Radioactive-isotope quality-control methods are being studied using sulfur-35 and phosphorus-32. The Institute publishes a Trudy and grants Candidate's Degrees.

1075

Name: Ul'yanovsk Agricultural Institute
(Ul'yanovskiy sel'skokhozyaystvennyy institut)

Address: Ul'yanovsk, Novyy Venets, 1

Director: A. A. Tulinov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

V. A. Babushkina, Docent, Head of Chair
 S. S. Berlyand, Professor, Head of Chair
 F. F. Myuller, Professor

Description:

While the major interest of the Institute's staff is in agriculture and related areas, some staff members have conducted research in thermo-dynamics, machining metals, and mechanical properties of steels. The Institute offers courses in agronomy, animal husbandry, veterinary medicine, and mechanization of agriculture.

It publishes a Trudy.

1076

Name: Ul'yanovsk Evening Polytechnic Institute
 (Ul'yanovskiy vecherniy politekhnicheskiy institut)

Address: Ul'yanovsk, Moskovskoye shosse, 29

Director: A. M. Altukhov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
 Education, R.S.F.S.R. (1960)

Selected Staff Members:

Ye. V. Reshetnikova, Docent, Head of Chair
 N. I. Vyganovskiy, Docent, Head of Chair

Description:

Research has been performed at this institute on chemical problems, such as photochemical oxidation products of dioxane and the effect of organic peroxides on the chlorination of benzene. In mathematics, studies have been performed on functions of linear operators and generalized resolvent of a symmetric difference operator. An electromagnetic instrument for measuring hardness of steel parts was developed at the Institute. The Institute publishes Uchenyye Zapiski. Courses of study include electrification of industrial enterprises and installations, industrial and civil construction, and machine building, metal cutting tools and instruments.

1077

Name: UL'yanovsk State Pedagogical Institute imeni I. N. Ul'yanov
(UL'yanovskiy gosudarstvennyy pedagogicheskiy institut imeni
I. N. Ul'yanova)

Address: UL'yanovsk, ulitsa Ul'yanova, 2

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

R. Ye. Levina, Professor, Head of Chair

S. P. Zakharov, Docent

Description:

This institute is concerned with operators of differential calculus, especially functions of linear operators. The Institute publishes a Uchenyye Zapiski.

1078

Name: Uman' Agricultural Institute
(Umanskiy sel'skokhozyaystvennyy institut)

Address: Uman', Sofiyevka

Director: N. I. Delemenchuk, Candidate (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. V. Nuzhnyy

N. M. Shvaruk, Docent

Description:

The Institute publishes a Sbornik Nauchnykh Trudov in which the staff has published papers in mathematics and inorganic chemistry, in addition to agriculture. Courses are offered in agronomy, fruits and vegetables, and viticulture.

1079

Name: Uman' Pedagogical Institute
(Umanskiy pedagogicheskiy institut)

Address: Uman', ulitsa Karla Marksa, 2

Director: V. M. Gorbach, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R.

Selected Staff Members: --

Description:

This institute is engaged in the study of theoretical mathematics. It offers courses in mathematics and drafting, physics and fundamentals of production, and biology, chemistry, and agriculture.

1080

Name: Ural Electromechanical Institute of Railroad-Transportation Engineers
(Ural'skiy elektromekhanicheskiy institut inzhenerov zheleznodoro-
zhnogo transporta)

Address: Sverdlovsk, ulitsa Bykova, 34-a

Director: --

Deputy Director: A. M. Dyad'kov, Docent (1961)

Administrative Affiliation: Ministry of Transportation, U.S.S.R. (1960)

Selected Staff Members:

A. M. Danchenko
R. N. Urmanov, Docent, Head of Chair
V. F. Zykov, Head of Laboratory

Description:

Students are trained for the railroad-transportation industry. A Trudy is published by the Institute, and some of the research of the staff has included studies on heat transfer, applied mathematics, and automatic control systems. Courses of study include railroad electrification and railroad automation, remote control, and communications.

1081

Name: Ural Institute of Metallurgical Automation
(Institut "Uralmetallurgavtomatika")

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

This institute is engaged in the development of instruments for controlling industrial processes at metallurgical plants. It has developed and produced an electronic analog unit for automating the work of a pipe-rolling mill.

1082

Name: Ural Institute of Metals
(Ural'skiy institut metallov)

Address: Sverdlovsk, Vtuzgorodok

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

Ye. S. Kudelyn, Candidate
V. V. Stepin

Description:

In the field of metals research, this institute does research on casting of ingots of magnesium-inoculated cast iron into metallic molds, defectoscopes to control impurities, cold rolling of steel, and spectral analysis of steels.

The Institute has a Laboratory for Standard Samples and publishes a Trudy.

Name: Ural Polytechnic Institute imeni S. M. Kirov
(Ural'skiy politekhnicheskiy institut imeni S. M. Kirova)

Address: Sverdlovsk, Vtuzgorodok, Glavnyy uchebnyy korpus (1960)

Director: N. S. Siyunov, Professor (1961)

Deputy Director: N. F. Pletnev, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

A. V. Bakunin, Docent, Party Secretary
I. N. Bogachev, Professor, Head of Chair
D. A. Borodayev, Head of Chair
D. K. Butakov
G. I. Chufarov, Corresponding Academician (U.S.S.R.)
A. N. Dorofeyev, Docent
A. T. Galaktionov, Docent, Head of Chair
P. V. Gel'd, Professor, Head of Chair
A. A. Gorshkov, Corresponding Academician (Ukrainian S.S.R.)
V. K. Gruzinov, Professor, Head of Chair of Cast Iron Metallurgy
M. I. Khrisanov, Docent
A. I. Levin, Professor, Head of Chair
N. N. Mazuvov, Docent, Head of Chair
V. V. Mel'nikov, Docent, Head of Chair
K. M. Mkrtchyan, Docent, Head of Chair
S. G. Mokrushin, Professor, Head of Chair
G. N. Nefed'yev, Docent, Head of Chair
V. D. Nikitin, Docent, Dean
Ye. V. Pal'mov, Professor, Head of Chair
I. Ya. Postovskiy, Professor
Z. V. Pushkareva, Professor, Head of Chair
S. A. Rogitskiy, Professor, Head of Chair
K. N. Shabalin, Professor, Head of Chair
S. P. Shabashov, Docent
G. T. Shchegolev, Docent, Head of Chair
V. A. Shubenko, Professor, Head of Chair
V. V. Shveykin
G. V. Skrotskiy, Docent, Head of Chair
V. I. Smirnov, Professor, Head of Chair
G. V. Solov'yev
N. I. Syromyatnikov, Professor, Head of Chair
V. A. Trubin
Ye. N. Uspenskiy, Candidate
Ye. K. Vyatkin, Dean
O. A. Yesin
P. A. Zhukov, Professor, Head of Chair
V. Ya. Zubov, Professor, Head of Chair

Description:

The Ural Polytechnic Institute was founded in 1926. Then known as the Sverdlovsk Industrial Institute, its name was changed to the present one in 1948.

The Institute is particularly strong in both ferrous and nonferrous metallurgical research, cooperating greatly with the industries of the Ural region.

The Physical-Mathematical Faculty has a 15-mev betatron. Studies of radiation effects on living organisms, on semiconductors, and on new medicines have been conducted. A 27-mev (alpha-particle energy) cyclotron is used for studies in radiobiology, radiation chemistry, solid-state physics, and neutron dosimetry. An EM-3 electron microscope is used to investigate ferrites, crystal growth, structure of copper and nickel sulfide films, etc. Research in plasma physics is being conducted. In addition, it has developed new extracting methods for noble metals and rare and dispersed metals. It has studied vacuum-metallurgy procedures for the production of vanadium and columbium.

The Faculty of Chemical Technology of Fuels has performed outstanding research in phenols, in ammonia and pyridine recovery, in catalytic oxidation of phenanthrene-anthracene fractions, in the production of high-quality coke, and in anthracite and brown coals.

The Institute publishes a Trudy and grants Candidate's and Doctor's Degrees.

Courses of Study: Electric power stations, networks and systems (thermal and hydroelectric power stations)
 Electrification of industrial enterprises and installations
 Thermal power installations (boiler and turbine)
 Industrial thermal power engineering (oven and gas heat thermal engineering; heat-transfer installations)
 Ferrous metallurgy
 Nonferrous metallurgy
 Metallurgical furnaces
 Casting of ferrous and nonferrous metals
 Physics of metals
 Thermal processing of metals (metallography equipment and technology)
 Metalworking (forging, stamping, rolling, and sheathing)
 Machine building, metal-cutting tools, and instruments
 Welding
 Mechanical equipment of metallurgical plants
 Lifting, hoisting, and transportation machinery and equipment
 Construction and road-building machinery

1083 (Continued)

Chemical-industry machinery (inorganic and organic processes, silicates, cellulose and wood pulp processes, liquid and gas fuels)
Electrical machinery and equipment
Automatic, telemechanic, and electric measuring instruments and systems
Radio engineering
Radio equipment design and manufacture
Fuel technology
Inorganic chemistry
Electrochemical processes
Silicates (binders and cementitious materials, ceramics and refractories, and glass)
Dyes and intermediate products
Medical drugs and aromatic compounds
Plastics
Architecture
Industrial and civil construction
Urban construction and municipal works and service installations
Gas and heat supply and ventilation
Water supply and sewerage systems
Economics and organization of metallurgical industry
Economics and organization of machine-building industry
Economics and organization of chemical industry.

1084

Name: Ural Scientific-Research and Planning Institute for the Copper Industry
(Ural'skiy nauchno-issledovatel'skiy i proyektorny institut mednoy promyshlennosti--UNIPromed)

Address: Sverdlovsk

Director: I. Elishev (1961)

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

V. A. Aglitskiy
A. A. Babadzhan
S. Ye. Filyarchuk
A. K. Kir'yanov
A. I. Okunev
K. Ya. Shreyber
V. A. Ustalov
A. Yudytskin, Head of Hydrometallurgical Laboratory

Description:

The Institute, one of the leaders in its field, concentrates on the study of problems associated with the processing of zinc-copper ores, especially selective flotation followed by smelting-roasting of copper concentrates and fuming of zinc slags. In this area, they have investigated the effect of various reductants and have developed and introduced into industry improved furnaces and systems for supplying coal dust and air. Considerable research has also been done on the thermodynamics of sulfide oxidation. The Institute periodically publishes a Trudy.

1085

Name: Ural Scientific-Research Institute of Ferrous Metallurgy
(Ural'skiy nauchno-issledovatel'skiy institut chernoy metallurgii--
UICHM)

Address: Sverdlovsk, ulitsa Lenina, 101, Korpus 2

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

M. A. Benyakovskiy
I. Ye. Bolotov
Yu. S. Borisov
S. I. Doroshek
N. F. Dubrov, Candidate
M. I. Gol'dshteyn, Candidate
I. A. Gorlach
S. G. Guterman, Candidate
V. G. Khokhlov, Candidate
N. I. Lapkin
V. V. Levitin
L. V. Meandrov
M. S. Mikhalev
V. Ye. Miller, Professor
M. Ye. Prostakov
V. A. Shadrin, Candidate
A. B. Shayevich
N. S. Smirnov, Candidate
G. D. Susloparov
D. I. Suyarov, Candidate
V. I. Syreyschikova
M. I. Tsekhanskiy

Description:

Of main interest to this institute are austenitic stainless, low-alloy, transformer, and electrical steels. Analytical work at this institute has included the determination and separation of alloy impurities by radioactive-isotopic, electronographic, and gas-chromatographic methods. The effect of various alloy additions and impurities on the mechanical properties of steels, the use of compressed air and oxygen in open-hearth furnaces, a continuous casting method for rimmed and semikilled steel, a continuous tin-rolling process, metal corrosion, and high-temperature properties of steel have been investigated here.

The Institute has a Laboratory for Standard Assays which supplies standard alloy samples to various industries. There is a Precision Alloy Laboratory and a Department of Theory of Metallurgical Processes. The Institute publishes a Byulleten'.

1086

Name: Ural Scientific-Research Institute of Nonferrous Metals
(Ural'skiy nauchno-issledovatel'skiy institut tsvetnykh metallov--
URALGINTSVEIMET)

Address: Sverdlovsk

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The Institute, organized in the late 1920's, specializes in research on foundry production, metallurgy of cast iron and steel, and metalworking and heat treatment. Their physical-chemical studies of metallurgical processes have included investigations of spectral analysis of steel.

1087

Name: Urals Forestry Institute
(Ural'skiy lesotekhnicheskiy institut--ULI)

Address: Sverdlovsk, Sibirskiy trakt, 5-y kilometr

Director: G. F. Ryzhkov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. A. Konovalov, Professor, Head of Chair
 M. M. Korunov, Professor, Head of Chair
 A. D. Mishin, Docent, Dean
 S. I. Rakhmanov, Professor, Head of Chair
 P. M. Shchennikov, Docent, Dean
 L. I. Vigorov, Docent, Head of Chair

Description:

The Institute publishes a Trudy and grants the Candidate's Degree. Courses are offered in forestry, logging, logging equipment, woodpulp chemistry, plastics technology, organic chemistry, metal technology, varnishes, paints, and nonmetallic coatings, and chemical technology of wood processing.

Name: Ural'sk State Pedagogical Institute imeni A. S. Pushkin
 (Ural'skiy gosudarstvennyy pedagogicheskiy institut imeni
 A. S. Pushkina)

Address: Ural'sk, Sovetskaya ulitsa, 122

Director: --

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members:

G. A. Abukhanov, Docent, Head of Chair
 Z. Amongaliyev, Docent, Head of Chair
 V. V. Ivanov, Professor, Head of Chair
 M. V. Rodina, Docent, Head of Chair

Description:

This institute has done some research on orthogonal polynomials. It offers courses in pedagogy and psychology, native language, literature, and history, Russian language, literature, and history, elementary-school instruction methods, mathematics and drafting, physics and fundamentals of production, biology, chemistry, and agriculture, and geography and biology.

Name: Ural State University imeni A. M. Gor'kiy
(Ural'skiy gosudarstvennyy universitet imeni A. M. Gor'kogo)

Address: Sverdlovsk, ulitsa Belinskogo, 71-a

Director: S. V. Karpachev, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. I. Arkharov
K. A. Barkhatova, Docent, Head of Chair
F. P. Bystrykh, Professor, Head of Chair
F. N. Dunayev
V. N. Gotlober, Docent, Head of Chair
V. K. Ivanov, Professor
B. V. Karpenko
V. P. Kochergin
V. N. Konev
P. G. Kontorovich
N. N. Krasovskiy, Professor, Head of Chair
V. A. Kuznetsov, Corresponding Academician (U.S.S.R.)
A. A. Melentsov
M. A. Panyukova, Docent, Dean
G. D. Pashchevskiy, Docent, Head of Chair
M. N. Rutkevich, Professor, Head of Chair
F. P. Rybalko, Docent, Head of Chair
L. N. Shevrin
S. N. Shimanov
A. A. Tager, Professor
L. P. Zverev

Description:

During the 1960-1961 school year, the enrollment of this university was about 5,100 students. The University confers Candidate's Degrees.

Research interests at the University focus largely on metals and metal physics. Studies have been made on the theory of magnetism and magnetic properties of transition metals, ferromagnetic resonance, behavior of electrons in ferromagnetic metals, properties of ferromagnetics at low temperatures, and magnetostrictive properties of various alloys, such as electrical steel, nickel-zinc ferrites, and iron-silicon alloys. The photomagnetolectric effect in copper oxides has been examined, as have various electrical properties of metals. Internal adsorption in alloys and studies of diffusion reactions of metal-gas systems have been made using

the transition metals and oxygen-group metalloids. Crystalline and electrical properties of copper alloys have been examined. Other metals studies considered heat-treatment effects on various steels, corrosion resistance of electrolytic zinc, high-temperature oxidation of columbium, plastic deformation, and electrocapillary phenomena of alloys such as bismuth-cadmium, tellurium-thallium, and tellurium-gold. An extensive investigation covered the corrosion of iron in molten electrolytes. In a more theoretical vein, investigators at the University have inquired into theories of magnetic susceptibility and thermal conductivity of semiconductors, and interactions between electrons in crystals. Improved analytical methods for metals have been developed at the University along with instruments for measuring optical constants of metals.

In chemistry, studies have been directed toward areas such as ion-exchange resins, onium compounds, polyvinyl alcohol, polarography, and packing density of chains of solid polymers. In mathematics, studies have included difference and differential equations, functions of complex variables, integral equations, dynamic systems, and split and semi-groups.

The University maintains an astronomical observatory which has studied noctilucent clouds and has participated in photographic observations of artificial earth satellites.

Courses offered here include Russian language and literature, history, mathematics, mechanics, physics, chemistry, botany, zoology, and journalism.

1090

Name: Ussuriysk Pedagogical Institute
(Ussuriyskiy pedagogicheskiy institut)

Address: Ussuriysk, ulitsa Chicherina, 54

Director: N. D. Glukhov, Docent (1961)

Deputy Director: Z. V. Privalova, Candidate (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: A. A. Selemenev, Docent, Head of Chair

Description:

This institute publishes a Uchenyye Zapiski. It offers courses in Russian language and literature and mathematics and physics.

1091

Name: Ust'-Kamenogorsk Road-Building Institute
(Ust'-Kamenogorskiy stroitel'no-dorozhnyy institut)

1091 (Continued)

Address: Ust'-Kamenogorsk, Ul'binskaya naberezhnaya, 4

Director: D. M. Serikbayev (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R. (1960)

Selected Staff Members: --

Description:

The Institute offers courses in construction, highway construction, prefabricated construction, reinforced-concrete structures, plumbing, and heating and ventilation.

1092

Name: Ust'-Kamenogorsk State Pedagogical Institute
(Ust'-Kamenogorskiy gosudarstvennyy pedagogicheskiy institut)

Address: Ust'-Kamenogorsk, Stroyploshchadka

Director: Yu. K. Uvaliyev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Committee of Higher and Secondary Special Education of the Council of Ministers, Kazakh S.S.R.

Selected Staff Members: R. M. Korostyshevskaya, Docent, Head of Chair

Description:

The Institute's program includes courses in elementary-school instruction methods, Russian language, literature, and history, mathematics and physics, physics and fundamentals of production, and biology, chemistry, and agriculture.

1093

Name: Uzbek Agricultural Institute imeni V. V. Kuybyshev
(Uzbekskiy sel'skokhozyaystvennyy institut imeni V. V. Kuybysheva)

Address: Samarkand, ulitsa Karla Marksa, 83

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

S. S. Abayeva, Docent, Head of Chair
N. V. Badanin, Professor, Head of Chair
L. N. Gorev, Professor, Head of Chair
N. A. Mavlyanov, Docent, Head of Chair
N. F. Skavysh, Docent, Head of Chair
A. T. Stozharova, Docent, Head of Chair

Description:

This institute grants the Candidate's Degree and publishes a Nauchnyye Trudy. It offers courses in agronomy, animal husbandry, and veterinary medicine.

Name: Uzbek Scientific-Research Institute of the Silk Industry
(Uzbekskiy nauchno-issledovatel'skiy institut shelkovoy promyshlennosti)

Address: --

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

The effect of gamma radiation on cocoons and natural silk has been studied by the Institute's staff. Synthetic fibers have also been studied to determine the effects of radiation on their mechanical, chemical, and physical properties. The economics of silk utilization has been studied, with reference to effective utilization and supply and demand factors.

Name: Uzbek State University imeni Alishera Navoy
(Uzbekskiy gosudarstvennyy universitet imeni Alishera Navoy)

Address: Samarkand, bul'var Gor'kogo, 15

Director: M. S. Sabirov, Docent (1961)

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Uzbek S.S.R. (1960)

Selected Staff Members:

Kh. A. Abdullayev, Docent
V. A. Abdullayev, Professor, Head of Chair
Yu. N. Aleskerov, Docent, Head of Chair
M. U. Aminov, Docent, Dean
R. I. Iskanderov
B. Yu. Khamrakulov, Docent, Head of Chair
I. S. Kukles, Head of Chair, Corresponding Academician (Uzbek S.S.R.)
N. V. Mitskevich
M. M. Muminov, Docent, Head of Chair
K. A. Pogrebinskaya, Docent, Head of Chair
Ye. I. Proskuryakov, Professor, Head of Chair
U. T. Tursunov, Professor, Head of Chair
I. I. Umyakov, Professor, Head of Chair

Description:

Founded in 1933, this university had an enrollment of 6,500 during the 1960-1961 school year. With the further development of university education in Uzbekistan, it is expected that more laboratories and chairs will be established. At present, the Candidate's Degree is granted.

Noteworthy research investigations at the University have been in the fields of mathematics and physics: examples are, solution of Einstein's equations, quantized fields, theory of multiple production of particles, electrodynamics, and gravitational theory. The University has a long-standing interest in the utilization of solar energy.

In mechanics, investigations of the University have considered isochronism of nonlinear oscillations, kinetic energy of a solid object during complex motion, and motor-vehicle stability. Also, studies pertaining to the design of movie projectors have been undertaken.

The University publishes a Trudy.

The courses available at the University include history, Russian language and literature, native language and literature of the peoples of the U.S.S.R., Romance and Germanic language and literature, mathematics, physics, botany, zoology, and physical geography.

Name: Uzhgorod State University
(Uzhgorodskiy gosudarstvenny universitet)

Address: Uzhgorod, ploshchad' M. Gor'kogo, 1/3

Director: I. I. Lenarskiy, Professor (1961)

Deputy Director: D. V. Chepur, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

A. K. Babko, Academician (Ukrainian S.S.R.)
S. D. Berman
M. V. Bratiychuk, Chief of Optical Observation Station
B. M. Dashkevich
A. A. Gol'dberg
V. M. Grizhko
S. M. Kishko, Docent, Dean
I. Ya. Krivskiy
A. M. Kurishko
Yu. M. Lomsadze, Docent
B. I. Maksimo
I. G. Paskel', Docent
F. Ye. Rudenko, Professor, Head of Chair
Yu. M. Sak, Docent
G. V. Siryk
P. M. Stadnik
T. A. Tveritina, Docent
Yu. I. Valegu, Docent, Assistant Dean

Description:

Founded in 1945, Uzhgorod State University reached an enrollment of 4,700 in the 1960-1961 school year.

Among the numerous mathematical studies at the University are studies of propositional calculus, differential equations, Riemannian surfaces, mathematical logic, meromorphic functions, and conformal mapping. In physics, research investigations cover quantum field theory and theory of elementary particles. Projects include particle-scattering studies, beta decay, photo-nuclear reactions, dipole vibrations of nuclei, and electron beams. A betatron has recently been installed for particle studies.

In chemistry, investigations include excitation functions of gases, oxidation of gases such as propane-butane mixtures and methanol, zeolitic catalysts and catalysts produced from ion exchangers, photometric determination of indium, and dehydration of sulfuric acid, glycerin, and ethanol

1096 (Continued)

by adsorption. Studies have been made of ketene reactions, condensation of tetrapropenyl tertiary dibromoalkenes, and synthesis of dialkylheptadecylcarbinol.

The University maintains a tracking station for artificial earth satellites. The University publishes a series of Doklady i Soobshcheniya and a Nauchnyye Zapiski.

The courses of study available at the University include Russian language and literature, native language and literature of peoples of the U.S.S.R., history, mathematics, physics, chemistry, biology, and medicine.

1097

Name: Vannovsk Observation Station
(Vannovskaya nablyudatel'naya stantsiya)

Address: Kopet-Dag Mountains

Director: --

Deputy Director: --

Administrative Affiliation: Institute of Physics and Geophysics, Academy of Sciences, Turkmen S.S.R. (1957)

Selected Staff Members: --

Description:

Observations of auroras and meteors are made at this station, which was built in 1957.

1098

Name: Velikiye Luki Agricultural Institute
(Velikolukskiy sel'skokhozyaystvennyy institut)

Address: Velikiye Luki, Pskovsk oblast', ploshchad' imeni Lenina, 1

Director: A. K. Yermolayev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members: N. P. Tikhomirov, Professor, Head of Chair

Description:

Courses in agronomy, and animal husbandry are offered by this institute.

1099

Name: Velikiye Luki State Pedagogical Institute
(Velikolukskiy gosudarstvennyy pedagogicheskiy institut)

Address: Velikiye Luki, ploshchad' Timiryazeva, 1

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

Z. P. Antonova, Docent, Head of Chair
I. P. Dolgiy, Docent
S. Z. Konovalov, Dean
Ye. N. Mochul'skiy, Docent, Head Chair of Physics
A. B. Shafibekov, Docent

Description:

The Institute's staff is interested in the use of correspondence and evening-school education as a method of improving the education system by consolidating general scientific courses. The Institute conducts research in mathematics, physics, theoretical mechanics, and chemistry. Courses are offered in Russian language, literature, and history, mathematics and physics, and methods of elementary-school education.

1100

Name: Vil'nyus Pedagogical Institute
(Vil'nyusskiy pedagogicheskiy institut)

Address: Vil'nyus, ulitsa M. Gor'kogo, 73

Director: --

Deputy Director: --

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Lithuanian S.S.R. (1960)

Selected Staff Members:

Yu. V. Budzinskis, Professor, Head of Chair
L. P. Matveyeva, Docent, Head of Chair
Yu. A. Mitskevichus, Docent, Head of Chair
A. S. Yanonis, Docent, Head of Chair

Description:

Teachers are trained in the arts, sciences, some aspects of production engineering, and agriculture. Courses of study include Russian language and literature, languages and literature of peoples of the U.S.S.R., foreign languages (English, French, and German), mathematics, correction of speech defects, Lithuanian, physical education, mathematics and drafting, physics and fundamentals of production, biology, chemistry, agriculture, and geography.

1101

Name: Vil'nyus State University imeni V. Kapsukas
(Vil'nyusskiy gosudarstvennyy universitet imeni V. Kapsukasa)

Address: Vil'nyus, ulitsa Universiteta, 3 (1960)

Director: I. P. Kubilyus, Professor (1961)

Deputy Director: S. A. Lazutok, Docent (1961)

Administrative Affiliation: State Committee of Higher and Secondary Special Education of the Council of Ministers, Lithuanian S.S.R. (1960)

Selected Staff Members:

K. M. Barshauskas, Professor
I. L. Belinis, Party Secretary
P. P. Brazdzhynas, Professor, Head of Chair
I. T. Buchas, Professor, Head of Chair
R. S. Davtyan, Docent
V. R. Khomskis, Docent, Dean
M. I. Lol, Docent, Head of Chair
K. V. Navitskas, Docent, Head of Chair
B. P. Pranskus-Zhalionis, Professor, Head of Chair
V. K. Shugurov, Docent
P. Slavenas, Director, Vil'nyus Astronomical Observatory
L. I. Vladimirov, Head of Chair
S. B. Yankauskas, Professor, Head of Chair
L. L. Yasinskas, Docent, Dean
Z. Yu. Zhemaytis, Professor, Head of Chair

Description:

This large university is located in Lithuania. Staff members publish extensively in the fields of theoretical physics, mathematics, and solid-state physics, with particular reference to properties of semiconducting compounds. Other fields of interest are astronomy, geology, organic chemistry, analytical chemistry, atmospheric studies, climatology and meteorology, and crystals. Studies have also been made in metal finishing and electroplating, for example, anodizing of aluminum and electrolytic deposition of manganese. The university publishes collections of articles in a Mokslo Darbai and a Uchenyye Zapiski, the latter reporting especially on work in mathematics and physics. Candidate's and Doctor's Degrees are granted.

The University operates the Vil'nyus Astronomical Observatory which in 1957 was under the direction of P. Slavenas. The Observatory has been continuously observing the movement of artificial earth satellites, and has a program of observations of minor planets.

The University also offers courses in history and philosophy, economics, law, mathematics, and Lithuanian, Russian, Romance, Germanic, German, and English language and literature. Scientific courses cover the fields of physics, chemistry, geography, biology, geology, and medicine, and training also is available in library science and journalism.

1102

Name: Vinnitsa Pedagogical Institute imeni N. Ostrovskiy
(Vinnitskiy pedagogicheskiy institut imeni N. Ostrovskogo)

Address: Vinnitsa, Krasnoznamennaya ulitsa, 56

Director: A. M. Tkachenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

V. P. Malinkovskiy, Docent, Head of Chair

G. F. Piven', Dean

P. T. Volkov, Docent, Head of Chair

Description:

This institute prepares teachers. Research on the electrical properties of bismuth oxide has been reported in the Nauchnyye Zapiski of the Institute.

1103

Name: Vitebsk State Pedagogical Institute imeni S. M. Kirov
(Vitebskiy gosudarstvennyy pedagogicheskiy institut imeni
S. M. Kirova)

Address: Vitebsk, ulitsa Pukhkina, 3

Director: P. Ye. Terent'yev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher, Secondary Special, and
Professional Education, Belorussian S.S.R.
(1960)

Selected Staff Members:

M. M. Barenfel'd, Docent, Head of Chair
V. D. Chistyakov, Docent, Head of Chair
P. Ye. Medvedev, Docent, Head of Chair
A. I. Radkevich, Head of Chair

Description:

This institute studies the synthesis of nitrogen compounds and nuclear theory, in addition to preparing teachers. It publishes a Uchenyye Zapiski.

1104

Name: Vladimir State Pedagogical Institute imeni P. I. Lebedev-Polyanskiy
(Vladimirskiy gosudarstvennyy pedagogicheskiy institut imeni
P. I. Lebedeva-Polyanskogo)

Address: Vladimir, Pervomayskaya ulitsa, 1

Director: B. F. Kiktev, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members: --

Description:

The Institute is active in the fields of physics (ultrasonics), mathematics, and astrophysics. It publishes a Uchenyye Zapiski. It offers courses in Russian language, and literature, foreign language, and mathematics and physics.

Name: Vladivostok Higher Engineering Maritime School
(Vladivostokskoye vysshye inzhenernoye morskoye uchilishche)

Address: Vladivostok, Verkhnyaya Portovaya ulitsa, 50-a

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of the Merchant Marine, U.S.S.R. (1960)

Selected Staff Members:

I. I. Mashchenko
M. A. Voronchikhin

Description:

This institute's research program includes the study of ship communications and navigational devices, ship construction, and ship machinery. The Institute publishes a Nauchnyye Trudy and offers courses in ship power installations and maritime and waterway shipping.

Name: Volcanology Station
(Vulkanologicheskaya stantsiya)

Address: Kamchatka, Klyuchi village

Director: --

Deputy Director: --

Administrative Affiliation: Volcanic Laboratory, Academy of Sciences, U.S.S.R. (1961)

Selected Staff Members:

Ye. K. Markhinin
P. I. Tokarev

Description:

This volcanic station was organized in 1935. It conducts detailed studies of the Klyuchevsk, Tolbachik, and other volcanoes. Workers of this station predict future eruptions and identify new openings on volcano slopes. Successful work has been done on the utilization of underground heat, of volcano gases, and of chemical products. The Station, which is also a seismic station, publishes a Byulleten'.

1107

Name: Volga Forestry Institute imeni A. M. Gor'kiy
(Povolzhskiy lesotekhnicheskii institut imeni A. M. Gor'kogo)

Address: Yoshkar-Ola, Mariysk A.S.S.R., Sovetskaya ulitsa, 152

Director: M. D. Danilov, Professor (1961)

Deputy Director: V. I. Mel'nikov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

B. K. Reynfel'dt, Docent, Head of Chair

V. N. Smirnov, Professor, Head of Chair

Description:

The Institute offers courses in forestry, logging and logging equipment, woodpulp, machine building, machine tools, and civil engineering.

Aside from its activities in forestry, the Chair of Social Sciences at this institute studies a variety of political and economic subjects, such as Marxist philosophy, sociology, and history of the Communist party. These studies concern activities primarily in the Mari Autonomous Republic. It publishes Sbornik rabot kafedr obshchestvennykh nauk (collection of Studies of the Chair of Social Sciences), and Sbornik Studencheskikh Rabot.

1108

Name: Volgograd Agricultural Institute
(Volgogradskiy sel'skokhozyaystvennyy institut)

Address: Volgograd, Turkmenskaya ulitsa, 55

Director: A. S. Radov, Professor (1961)

Deputy Directors: V. F. Shubin, Professor (1961)

G. Ye. Listopad, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1961)

Selected Staff Members:

P. P. Beguchev, Professor, Head of Chair

A. Kh. Morozov, Party Secretary

V. E. Romanovskiy, Engineer

1108 (Continued)

Description:

The Institute's curriculum includes courses in agronomy, animal husbandry, mechanization of agriculture, and rural electrification.

1109

Name: Volgograd Institute of Municipal-Economics Engineers
(Volgogradskiy institut inzhenerov gorodskogo khozyaystva)

Address: Volgograd, Akademicheskaya ulitsa, 3

Director: I. P. Savchenko, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. N. Gan'shin, Docent
A. F. Kadil'nikova, Docent, Head of Chair
P. P. Kalinechenko, Docent, Dean
V. S. Kusmartsev, Docent
A. N. Lyashenko, Party Secretary
N. A. Shakhayer, Docent, Head of Chair
N. A. Spitsyn, Professor

Description:

The Institute was established around 1952 and provides instruction in city planning, including general construction techniques, plumbing, heating and ventilation, and highway construction. Research has been done in geodesy and also in electroplating.

1110

Name: Volgograd Mechanical Institute
(Volgogradskiy mekhanicheskiy institut)

Address: Volgograd, Sovetskaya ulitsa, 31

Director: G. I. Pogodin-Alekseyev, Professor (1958)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1961)

Selected Staff Members:

M. S. Drozd
 L. L. Frezinskiy, Docent
 A. V. Gur'yev
 N. Ye. Illeritskiy, Docent, Head of Chair
 N. K. Kulikov, Professor
 N. D. Podobeda, Docent, Head of Chair
 S. S. Semenov, Docent
 F. S. Vlaskin, Docent
 S. S. Yelistratov, Docent

Description:

Metallurgical studies at this institute include hardness studies on steel, cast iron, and cold-hardened carbon steel; fatigue studies; studies of microstresses in polycrystalline alloys; and elastic-deformation studies. A procedure has been developed to alloy ceramic materials with metals. An electric tensometer for measuring deformations and a hydrotransformer with a hydraulic clutch have been developed. Methods have been found to solve linear and nonlinear differential equations.

Among its departments are the Department of Technology of Machine Building and the Department of Machines and Technology of Foundry Operations. A Trudy is published at the Institute.

The Institute's curriculum includes courses in machine building, metal-cutting tools, instruments, casting machinery and processes, automobiles and tractors, and internal-combustion engines.

1111

Name: Volgograd Pedagogical Institute imeni A. S. Serafimovich
 (Volgogradskiy pedagogicheskiy institut imeni A. S. Serafimovicha)

Address: Volgograd, Akademicheskaya ulitsa, 12

Director: --

Deputy Directors: B. F. Rayskiy, Docent (1961)
 P. I. Konopatov, Candidate (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

A. M. Kaygorodov, Dean
 Z. I. Kozlova, Docent, Head of Chair
 E. M. Lipmanov
 G. S. Markov, Professor, Head of Chair

1111 (Continued)

I. V. Mayorov
Ye. I. Verstakova, Dean
V. A. Yakovlev

Description:

This institute carries out research in the field of molecular ultrasonics, electrochemistry, mathematics, and inorganic chemistry. In addition, a Uchenyye Zapiski is published. Courses are offered in foreign languages (English, French, and German), Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, biology, chemistry, and agriculture, and geography.

1112

Name: Volgograd Scientific-Research Institute of Machine-Building Technology
(Volgogradskiy nauchno-issledovatel'skiy institut tekhnologii mashin-ostroyeniya)

Address: Volgograd

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members: --

Description:

A major portion of the studies conducted at this institute is devoted to welding technology, and the design and development work has led to the introduction into industry of automatic and semiautomatic welding machinery. Some work has also been done in ferrous metallurgy, particularly in the development of high-strength, low-alloy steels.

1113

Name: Vologda State Pedagogical Institute
(Vologodskiy gosudarstvennyy pedagogicheskiy institut)

Address: Vologda, ulitsa Mayakovskogo, 6

Director: N. M. Khokholkov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. P. Antipov, Docent, Dean
 V. S. Domashneva, Head of Chair
 F. I. Reznikov, Professor, Head of Chair
 O. V. Shaytanov, Docent, Dean
 G. A. Zholkevich

Description:

This institute trains secondary-school teachers. It has conducted research on photoelectric and dielectric properties of materials. The Institute also has tracked satellites, winning acclaim for photography of them. A Uchenyye Zapiski is published frequently. The Institute offers courses in foreign languages (English, French, and German), biology and chemistry, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and geography.

1114

Name: Voronezh Agricultural Institute
 (Voronezhskiy sel'skokhozyaystvennyy institut)

Address: Voronezh, ulitsa Michurina, 1

Director: A. N. Ven'yaminov, Professor (1961)

Deputy Director: I. M. Shatsman, Docent (1961)

Administrative Affiliation: Ministry of Agriculture, R.S.F.S.R. (1960)

Selected Staff Members:

V. S. Brzhan
 P. T. Korol'kov, Candidate
 O. F. Lopatina, Docent, Head of Chair
 P. I. Podogornyy, Professor, Head of Chair
 S. D. Polonetskiy, Docent, Head of Chair
 P. Ye. Sobolevskiy

Description:

Research interests of this institute include the fields of topography, cartography, soil conservation, construction of machinery, and materials stress. Members of the Institute have also performed work in theoretical mathematics, fluid dynamics, theory of elasticity, the propagation of ultrasound, measurement of dielectric constants in liquids, and thermal and diffusion effects in aluminum and ferroaluminum. The Institute offers courses in agronomy, soil science, mechanization of agriculture, economics and organization of agriculture, bookkeeping, geodesy, cartography, theoretical mechanics, and strength of materials, and awards higher academic degrees. The Institute publishes a Zapiski.

Name: Voronezh Construction-Engineering Institute
(Voronezhskiy inzhenerno-stroitel'nyy institut--VISI)

Address: Voronezh, ulitsa 20-letiya Oktyabrya, 146-a

Director: A. K. Larionov, Professor (1958)

Deputy Director: V. S. Kostromin, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

N. I. Irzharskiy, Docent, Head of Chair

A. M. Ivanov, Docent, Head of Chair

V. V. Pomazkov, Docent, Head of Chair

Description:

The Institute provides training for students entering the construction industry. Courses are offered in construction, prefabrication, reinforced-concrete structures, heating and ventilation, and plumbing. It publishes a Trudy.

Name: Voronezh Evening Polytechnic Institute
(Voronezhskiy vecherniy politekhneskiy institut)

Address: Voronezh, Plekhanovskaya ulitsa, 13

Director: P. N. Zhitkov, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special
Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. Ye. Antipov, Docent, Dean

S. I. Kutkovskiy, Candidate

V. I. Kuznetsov, Corresponding Academician (U.S.S.R.)

P. V. Novichkov

M. I. Shchevelev

N. G. Shimko

L. K. Zotova, Docent, Head of Chair

1116 (Continued)

Description:

The Institute conducts research in areas such as welding technology (e.g., study of the properties of electrode alloys for spot welding, and measuring stresses in welded press beds) and physics (e.g., investigation of barrier layers and thermal aging of cuprous oxide rectifiers). Writings of the Institute staff appear in various Soviet technical journals.

The Institute's curriculum includes courses in electrification of industrial enterprises and installations, machine building, metal-cutting tools, and instruments, casting machinery and processes, processing metals under pressure, and radio equipment.

1117

Name: Voronezh Forestry Institute
(Voronezhskiy lesotekhnicheskii institut)

Address: Voronezh, ulitsa Timiryazeva, 8

Director: V. I. Rubtsov, Docent (1961)

Deputy Director: P. B. Raskatov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. P. Glushko, Academician (U.S.S.R.)
P. N. Khukhryanskiy, Head of Chair
V. P. Konstantinov, Head of Chair
I. M. Naumenko, Professor, Head of Chair

Description:

The Institute offers courses in forestry, logging, logging equipment, automotive transportation, woodpulp, and higher mathematics. Research on the properties and treatment of wood has been conducted by the staff. Candidate's Degrees are granted.

1118

Name: Voronezh Pedagogical Institute
(Voronezhskiy pedagogicheskii institut)

Address: Voronezh, ulitsa Lenina, 86

Director: --

Deputy Director: M. A. Zubashchenko, Docent (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. A. Khitrov
A. D. Lazutina, Docent, Head of Chair
B. A. Mishin
N. D. Selivanov, Docent, Dean
N. N. Shchegolev, Candidate, Head of Chair
V. A. Tonkov, Professor, Head of Chair
M. S. Vasil'yev, Candidate, Head of Chair
O. Ye. Velezheva, Docent, Head of Chair

Description:

The Institute, which publishes an Izvestiya reporting on research work in the fields of physical metallurgy, corrosion, mathematics, and inorganic chemistry, offers courses in foreign languages (English, French, and German), physics and chemistry, elementary-school-instruction methods, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and physical education.

Name: Voronezh State University
(Voronezhskiy gosudarstvennyy universitet)

Address: Voronezh, prospekt Revolyutsii, 24

Director: B. I. Mikhant'yev, Professor (1958)

Deputy Directors: P. M. Gaponov, Docent (1961)
V. I. Sobolev, Docent (1961)
Ya. N. Mitrofanov (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. G. Aderikhin, Professor, Head of Chair
V. P. Glushko, Academician (U.S.S.R.)
G. T. Grishin, Professor, Head of Chair
D. D. Ivlev
M. A. Krasnosel'skiy, Professor, Head of Chair
M. G. Kreyn
A. V. Losev, Docent, Head of Chair
I. K. Marshakov
A. I. Perov

M. M. Pivovarov, Docent, Head of Chair
 N. A. Plaksenko, Docent, Head of Chair
 Yu. N. Rabotnov
 A. Ya. Shatalov, Professor, Head of Chair
 V. I. Sobinnikov, Docent, Head of Chair
 A. S. Tikhonov
 A. V. Topchiyev, Academician (U.S.S.R.)
 P. M. Trifonov, Docent, Head of Chair
 S. G. Vishnyakov, Professor, Head of Chair
 I. N. Yezhov
 S. V. Zavgorodniy

Description:

Voronezh University is noted for its chemical research. The Laboratory of High-Molecular Compounds performs extensive research in polymer chemistry. Other research activities include physical chemistry, chemical analysis, piezoelectric materials and ceramic materials for radio components, radioceramics, properties of semiconductor materials, hydrodynamics, flow, elasticity and plasticity, and mathematics. A satellite-observation station is associated with the University.

The University offers courses in geology and exploration of mineral deposits, radiophysics and electronics, hydrology of land, meteorology, soil science and agrochemistry, Russian language and literature, history, mathematics, mechanics, physics, chemistry, botany, and zoology.

1120

Name: Voronezh Technological Institute
 (Voronezhskiy tekhnologicheskii institut)

Address: Voronezh, prospekt Revolyutsii, 23 (1960)

Director: S. Z. Ivanov, Professor (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

V. P. Andronov, Docent, Head of Chair
 V. P. Meleshko, Docent, Head of Chair
 S. Ya. Pasechnik, Professor, Head of Chair
 V. S. Postnikov, Professor, Head of Chair
 I. I. Yukel'son, Docent, Head of Chair

Description:

The Institute was transferred to Leningrad after the war, but was returned to Voronezh in 1959. It trains engineers and technicians for the sugar, chemical, and machine-building industries, which are typical of the type of industry in the Voronezh economic region.

Courses offered by the Institute include chemical-industry machinery (inorganic and organic chemical processes, silicates, cellulose and wood-pulp processes, liquid and gas fuels), machinery and installations of food industry, control instruments for chemical processes, organic synthesis and synthetic-rubber manufacture, plastics, rubber, bakery goods, macaroni, and related products, sugar and sugar products, and brewing.

1121

Name: Voroshilovsk Mining-Metallurgical Institute
(Voroshilovskiy gornometallurgicheskiy institut)

Address: Voroshilovsk, prospekt Mira

Director: Yu. M. Voyevodin, Docent (1961)

Deputy Director: A. B. Zelenov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

L. M. Gluskin
Yu. N. Gogin
V. A. Perederiyev, Head of Chair
L. A. Shor
L. I. Slobodyanyuk
V. P. Tsvetkov, Candidate, Head of Chair
M. A. Ulanovskiy

Description:

The Institute, which started functioning in Voroshilovsk on February 7, 1958, has departments of mining metallurgy and construction. Enrollment for the next educational year after the opening was to be 1,250 students. Mining, development of mineral deposits, mining equipment, industrial electrification, automation, ferrous metallurgy, pressure working of metals, and construction are the subjects of specific courses.

There have not been many research reports from this new institute. Those appearing cover topological mapping, analytical work on ores, steels and slags, blast-furnace technology, and liquid-metal technology. It publishes a Trudy.

1122

Name: Water-Power Institute
(Vodno-energeticheskiy institut--VENI)

Address: Yerevan, ulitsa Kirova, 12

Director: A. K. Ananyan, Professor (1958)

Deputy Director: --

Administrative Affiliation: Academy of Sciences, Armenian S.S.R. (1961)

Selected Staff Members: --

Description:

The Institute's main responsibility is to study and promote the development of the Armenian electric-power system. Much research is done on power generation, power-generation equipment (hydraulic turbines, generators, etc.), and power transmission. Other areas of research have included hydrodynamics, topology, artificial atmospheric precipitation, natural water systems, and irrigation. The Institute has built a high-speed electronic digital computer, has developed environmental testing methods for insulation and protective materials, and has done much work on the simulation of water-power systems, especially for the study of hydraulic impact.

1123

Name: Yakutsk State University
(Yakutskiy gosudarstvennyy universitet)

Address: Yakutsk, Oktyabr'skaya ulitsa, 33

Director: I. G. Popov, Docent (1961)

Deputy Director: I. M. Romanov, Docent (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. A. Alekseyev
M. F. Druzhinina, Docent, Head of Chair
S. Ye. Mastakhov
T. N. Pliyev, Candidate

Description:

Since the establishment of Yakutsk University in 1956, staff members have published reports of research in physical chemistry, ionization by

cosmic radiation, plasma physics, atmospheric heat flow, and elasticity theory. Collections of papers are published periodically in Uchenyye Zapiski, Yakutskiy universitet, seriya yestestvennykh nauk. No advanced degrees are granted.

Name: Yaroslavl' State Pedagogical Institute imeni K. D. Ushinskiy
(Yarovslavskiy gosudarstvennyy pedagogicheskiy institut imeni
K. D. Ushinskogo)

Address: Yaroslavl', Respublikanskaya ulitsa, 108

Director: P. N. Pilatov, Docent (1961)

Deputy Directors: V. V. Radziyevskiy, Professor (1961)
P. D. Voronin (1961)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

A. V. Artem'yev
S. M. Bakhrakh
N. M. Belovashina, Docent
E. A. Blyakhman
L. A. Chernov, Professor
I. Sh. Epshteyn
A. I. Ivanov
A. S. Karnaukhov
A. I. Kashchenko, Docent, Head of Chair
Z. A. Skopets, Docent, Head of Chair
P. M. Volkov, Docent, Head of Chair
V. L. Zaguskin

Description:

Although primarily a teacher-training institute, the Yaroslavl' Pedagogical Institute's staff has studied geometry of surfaces, lens focusing, artificial-earth-satellite motion, inorganic chemical systems, and gas analysis. Among its departments are the Department of Physics and the Department of Chemistry. The Institute offers a Candidate's Degree and publishes a Uchenyye Zapiski. It offers courses in English, French, and German, Russian language, literature, and history, mathematics and drafting, physics and fundamentals of production, and geography and biology.

Name: Yaroslavl' Technological Institute
(Yarovslavskiy tekhnologicheskiy institut)

Address: Yaroslavl', Sovetskaya ulitsa, 14 (1960)

Director: I. A. Zubovich, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Higher and Secondary Special Education, R.S.F.S.R. (1960)

Selected Staff Members:

P. A. Bobylev, Candidate, Head of Chair
A. V. Bondarenko
A. A. Chirkov, Professor
V. G. Epshteyn
M. I. Farberov, Professor, Head of Chair
M. M. Makarov, Docent, Head of Chair
A. D. Morozov
Yu. S. Musabekov, Professor, Head of Chair
G. L. Poshekhonov, Candidate
N. D. Zakharov

Description:

The Institute has conducted extensive research in rubber, synthetic rubber, and organic synthesis. A rubber plastic, which is a mixture of rubber and synthetic resins, has been developed at the Institute, as well as new methods of vulcanization of rubber products.

New electropolishing techniques and new anticorrosion coatings have also been investigated with success.

The Institute publishes a Uchenyye Zapiski. Courses are offered in chemical-industry machinery (inorganic and organic processes, silicates, cellulose and wood-pulp processes, and liquid and gas fuels), machinery and installations of food industry, control instruments for chemical processes, organic synthesis and synthetic-rubber manufacture, plastics, varnishes, paints, and nonmetallic coatings, rubber, bakery goods, macaroni, and related products, technology of sugar and sugar products, and brewing industry.

Name: Yelabuga State Pedagogical Institute
(Yelabuzhskiy gosudarstvennyy pedagogicheskiy institut)

Address: Yelabuga, ulitsa Karla Marksa, 87

Director: K. P. Tiunova, Docent (1961)

Deputy Director: --

1126 (Continued)

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

M. G. Fayzullina, Docent, Head of Chair
Ya. A. Kraftmakhner

Description:

The staff, in addition to its interest in mathematics, has conducted research in excitation and ionization potentials in electron tubes and the development of radio-telemetry systems.

Courses are offered in Russian language, literature, and history, Tatar language and literature, mathematics and physics, and methods of elementary-school education. A Uchenyye Zapiski is published.

1127

Name: Yelets State Pedagogical Institute
(Yeletskiy gosudarstvennyy pedagogicheskiy institut)

Address: Yelets, ulitsa Lenina, 83

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1960)

Selected Staff Members:

I. I. Rudnev, Docent, Head of Chair
T. M. Sered, Docent
M. F. Silayev, Docent, Head of Chair

Description:

Studies on the classification of homonyms used in the Russian language have been performed at this institute. In the physical sciences research on inorganic solids is also being conducted. Courses are offered in Russian language and literature, mathematics and physics, and methods of elementary-school education. It publishes a Uchenyye Zapiski.

1128

Name: Yeniseysk State Pedagogical Institute
(Yeniseyskiy gosudarstvennyy pedagogicheskiy institut)

Address: Yeniseysk, ulitsa Kirova, 62

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Education, R.S.F.S.R. (1961)

Selected Staff Members:

A. I. Malyutina, Docent, Head of Chair
A. M. Speranskiy, Dean

Description:

The Chair of Physics and Mathematics of this institute conducts research in electromagnetics and pure mathematics, and publishes a Uchenyye Zapiski. Courses are offered in Russian language, literature, and history, and in mathematics and physics.

Name: Yerevan Polytechnic Institute imeni K. Marx
(Yerevanskiy politekhnicheskiy institut imeni K. Marksa)

Address: Yerevan, ulitsa Teryana, 105

Director: P. G. Melkonyan (1961)

Deputy Director: --

Administrative Affiliation: Committee of the Council of Ministers, Armenian S.S.R., on Higher and Secondary Special Education (1960)

Selected Staff Members:

R. S. Akopyan, Docent, Head of Chair
A. A. Alchudzhyan, Professor, Head of Chair of General and Analytical Chemistry
L. N. Manucharyan, Professor, Head of Chair
G. G. Oganezov, Professor, Head of Chair
A. A. Ter-Israyelyan, Docent, Dean
V. Kh. Torgomyan, Docent, Head of Chair

Description:

This institute, founded in 1930, grants advanced degrees and conducts much research. The research has included work on the use of ultrasonics to study the structure of multiple-component liquid systems, polymers

and rubbers, structural mechanics, hydrodynamics, mechanical engineering, machine tools and metal cutting, physics of metals (particularly the physical-mechanical properties of metals), antifriction materials, and electrical engineering. The Institute publishes a Sbornik Nauchnykh Trudov.

1130

Name: Yerevan State University
(Yerevanskiy gosudarstvennyy universitet)

Address: Yerevan, ulitsa Abovyana, 104

Director: G. S. Davtyan, Professor (1958)

Deputy Director: A. N. Melikyan, Docent

Administrative Affiliation: Committee of the Council of Ministers of the Armenian S.S.R. on Higher and Secondary Special Education (1960)

Selected Staff Members:

S. A. Akopyan, Professor, Head of Chair
 V. A. Ambartsumyan, Academician (U.S.S.R.)
 Z. G. Bashindzhagyan, Professor, Head of Chair
 M. T. Dangyan
 M. M. Manukyan, Docent, Head of Chair
 S. N. Mergelyan, Academician (Armenian S.S.R.)
 S. P. Pogosyan, Professor
 G. S. Saakyan
 G. G. Sevak, Corresponding Academician (Armenian S.S.R.)
 V. M. Tarayan, Corresponding Academician (Armenian S.S.R.)
 T. Sh. Tatevosyan, Docent, Head of Chair
 A. T. Tovmasyan, Docent, Head of Chair

Description:

Yerevan State University was founded in 1921. Enrollment for the 1960-1961 school year was about 5,700 students. The University confers Candidate's and Doctor's Degrees.

Staff and students perform research in the fields of analytical chemistry, synthesis of organic compounds, and polymerization. Other chemical projects have included precipitation of selenium and tellurium, investigation of unsaturated esters, and the use of magnesium bismuthide as a reducing agent.

In mechanics, workers at the University have investigated elastic plates, thin shells, steady-state creep, torsion of anisotropic rods, and motion of gas in a long pipe. Mathematicians have studied problems such as

approximation by means of rational functions, integral transformations, Legendre's quasipolynomials, boundary-layer problems, biorthogonal systems, differential equations, and perturbation theory.

Physicists at the University have performed considerable research in the field of cosmic radiation and astrophysics. Studies in this field have included transient radiation from charged particles, super-high density of matter, and theory of hyperon configuration of stellar masses. Other studies concerned focusing of X-rays reflected by crystals and magneto-capillary forces in a stream of conducting fluid.

In the social sciences, studies of Armenian economics, history, linguistics, law and geography are performed. The curricula at the University include courses in geology and exploration of mineral deposits, finance and credit (domestic banking and monetary and fiscal operations), accounting, economics of the national economy, jurisprudence, Russian language and literature, Armenian language and literature, Romance and Germanic languages and literature, Eastern languages and literature, history, mathematics, mechanics, physics, chemistry, biology, and physical geography.

The Institute publishes a Nauchnyye Trudy and a Sbornik Studencheskikh Nauchnykh Trudov.

1131

Name: Zaporozh'ye Machine-Building Institute imeni V. Ya. Chubar'
(Zaporozhskiy mashinostroitel'nyy institut imeni V. Ya. Chubar'ya)

Address: Zaporozh'ye, ulitsa Zhukovskiy, 64

Director: --

Deputy Director: --

Administrative Affiliation: --

Selected Staff Members:

L. O. Dunduchenko
S. A. Kasyanyuk
V. D. Maksimenko
P. A. Mikhaylov, Docent
B. S. Natapov
Yu. A. Shulte, Professor
S. V. Yablonovskiy

Description:

The Institute does research in metallurgy, mathematics, mechanics, and hydrodynamics as applicable to the materials and processes used in machine

1131 (Continued)

construction. They have worked on the cutting, electroslag remelting, casting, and machining of heat-resistant, high-strength alloys, ball-bearing and structural steels, and high-strength, magnesium-modified castings. As a result of this work they have developed a unique lathe for longitudinal cutting of large ingots from heat-resistant and alloyed steels.

The Institute has also been active in the development of internal-combustion engines.

The antifriction properties of nylon have been studied with the possibility of using it as a replacement material in machinery and machine parts.

A Trudy is published irregularly.

1132

Name: Zaporozh'ye Pedagogical Institute
(Zaporozhskiy pedagogicheskiy institut)

Address: Zaporozh'ye, ulitsa Zhukovskogo, 66

Director: N. B. Shakalo, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members: N. A. Taranenko, Docent, Head of Chair

Description:

This institute trains teachers. Research in physics, mathematics, and optics has been performed, and a Nauchnyye Zapiski is published. Courses of study include Russian and Ukrainian language and literature, foreign language, mathematics, drafting, physics, and fundamentals of production.

1133

Name: Zhdanov Metallurgical Institute
(Zhdanovskiy metallurgicheskiy institut)

Address: Zhdanov, ulitsa Apatova, 115

Director: N. A. Kaloshin, Docent (1961)

Deputy Director: I. V. Paspopov, Professor (1961)

Administrative Affiliation: Ministry of Higher and Secondary Special Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

K. V. Bagryanskiy
 L. A. Bolshakov
 M. M. Gorenshteyn
 D. S. Kassov
 I. G. Kazantsev, Professor, Head of Chair
 B. S. Kirillov
 A. F. Kuznetsov
 V. M. Presnyakov
 A. M. Savchenko
 S. Ya. Skoblo
 D. I. Starchenko, Professor, Head of Chair
 I. Ya. Yakushechkin, Docent, Head of Chair

Description:

The Institute is engaged in much work on the pressure working of metals, including studies of metal deformation, mathematical theory of rolling, rolling of steel and titanium alloys, friction conditions in rolling, reconditioning of rolls, sheet rolling, use of radioactive tracers in rolling, forging of titanium, high-temperature, high-pressure forging, and surface conditions on large forgings.

In the area of steel manufacture, studies have concerned the theory and practice of melting steel in a large open hearth, arsenic in rimming steels, teeming of ingots, kinetics of liquid-solid steel, use of oxygen in melting, quality of rail steel, effect of vibration on steel ingots undergoing crystallization, visual and electroconductivity control of furnace slags, silicon-free steels, and shrinkage of high-manganese steels. The corrosion of steel has been studied, and analytical work on steels has been done.

The Institute also has done blast-furnace research with Krivoy Rog fluxed sinter and has smelted fluxed sinter of the Kerchensk ores. Some work has been done on magnesium-treated cast iron and on the dephosphorization of cast iron.

In the field of welding, the Institute has developed fluxes for use in the automatic, submerged-arc welding of pure nickel, copper, and steel. Some work has been done on the welding of stainless steel in a carbon dioxide atmosphere.

Work has been done on the isothermal transformation of austenite, the kinetics of the austenitic transformation of ball-bearing steels, induction hardening, and heat treatment of forgings. In the field of metal structures, the Institute has done work on the stability of cementite on heating and X-ray studies of overheated steel.

The Institute offers courses in nonferrous metallurgy, ferrous metallurgy, metallurgical equipment, metallography, heat treatment, foundry, automation, pressure working of metals, and welding technology and equipment. It publishes *Sbornik Nauchnykh Trudov*.

1134

Name: Zhitomir Agricultural Institute
(Zhitomirskiy sel'skokhozyaystvennyy institut)

Address: Zhitomir, ulitsa Stalina, 11

Director: --

Deputy Director: --

Administrative Affiliation: Ministry of Agriculture, Ukrainian S.S.R.
(1960)

Selected Staff Members:

I. N. Naydu, Docent
L. L. Shchetinina, Docent

Description:

The Institute has a course in agronomy. It publishes Nauchnyye Trudy.

1135

Name: Zhitomir Pedagogical Institute imeni I. Ya. Franko
(Zhitomirskiy pedagogicheskiy institut imeni I. Ya. Franko)

Address: Zhitomir, Pushkinskaya ulitsa, 38

Director: I. F. Oslyak, Docent (1961)

Deputy Director: --

Administrative Affiliation: Ministry of Education, Ukrainian S.S.R. (1960)

Selected Staff Members:

T. I. Kucher
Yu. L. Shmul'yan

Description:

This institute prepares teachers. Courses of study at the Institute include Ukrainian language and literature, foreign language, mathematics, drafting, physics, and fundamentals of production. Research has been published in mathematics and ionic crystals. The Institute publishes a Nauchnyye Zapiski.

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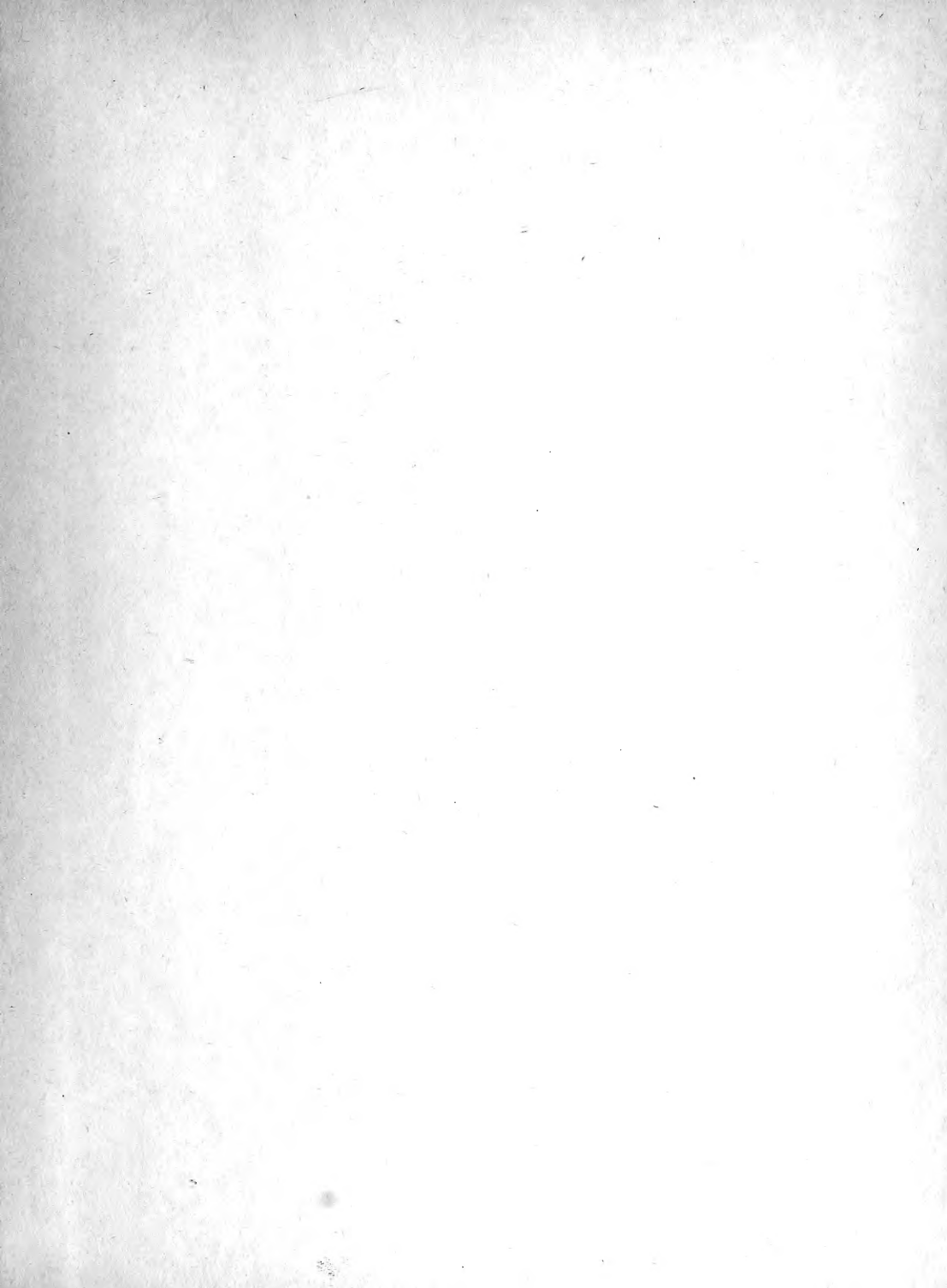
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