GENERAL EMBRYOLOGICAL INFORMATION SERVICE

AN INTERNATIONAL DIRECTORY
OF CURRENT RESEARCH
IN DEVELOPMENTAL BIOLOGY

VOLUME 18, part 2

COUNTRIES OUTSIDE EUROPE

data collected during 1980

(last issue of the periodical)

Utrecht-Netherlands

ISSN 0373 823X

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Issued by the Hubrecht Laboratory
on behalf of the
General Embryological Information Service Foundation

Utrecht-Netherlands

SUBJECT COVERAGE

Invertebrates, Vertebrates, and Man
developmental biology, including:

descriptive embryology
experimental embryology
physiological embryology

developmental genetics
developmental pathology and teratogenesis

metamorphosis
regeneration
asexual reproduction and development

Plants and Unicellular Organisms
experimental morphology
developmental physiology

Edited by Dr.J.Faber,
Deputy Director of the Hubrecht Laboratory

Managing Editor: B.Z.Salomé

Hubrecht Laboratory
Uppsalalaan 8
3584 CT UTRECHT, Netherlands

Printed in the Netherlands, 1981

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INTRODUCTION

"The foundation of a General Embryological Information Service was an experiment on a large scale. Success or failure depended not on the activity of one institute alone, but on the general interest, goodwill and active co-operation of all embryologists the world over." With these words Dr.P.D.Nieuwkoop started the Introduction to the first issue of this periodical in 1949. Now, more than 30 years later, this international activity of the Hubrecht Laboratory is coming to an end. As we have already written to the institute correspondents the present issue is the last one to appear. The main reason for our decision to stop publication is the steady decline in the number of subscriptions. An additional reason is that it has become increasingly difficult for the Hubrecht Laboratory to invest the necessary manpower in the periodical (the cost of personnel was never calculated in the subscription price).

A number of subscribers have written to us, expressing their regret or offering suggestions on how publication might still be continued. We are thankful for these reactions but no feasible solution has presented itself to us.

The first issue listed 690 names, the last volume some 3.400. The number of co-operating institutes rose from 245 (in 28 countries) to more than 1.200 (in 50 countries). Since 1949 more than 1.500 book reviews and book notices were published, most of which were written bij Dr.J.Faber.

It is perhaps natural that in these days of improved communication and exchange of information there is less need for a publication of this kind than there was just after the second world war. We are glad to know that the publication served a useful function for the international community of developmental biologists, and we know we are saying this also on behalf of Prof.Nieuwkoop. We express our sincere thanks to all those numerous scientists who over the years enabled us to maintain the service by regularly submitting data on their current research. We thank our competent secretaries for their conscientious work, particularly Lidy Ekelaar, who served the periodical for the last 15 years. Finally we want to say that we as editors have always performed our various tasks with pleasure.

J.Faber
B.Z.Salomé

CHANGES OF ADDRESS IN EUROPE

received since the appearance of volume 18, part 1

CZIHAK, G.; D.Phil., Prof. - Inst. für allgem. Biol., Biochem. und Biophys. der Univ., Abt. Genet. und Entw.biol., Erzabt-Klotzstr. 11, 5020 SALZBURG, Austria

HESS, O.; Dr.rer.nat., Prof. - Inst. für Genetik, Univ. Düsseldorf, Universitätsstr.1, Gebäude 26.02, Ebene 2, 4000 DÜSSELDORF, BRD (Germany)

HOPERSKAYA, Ms. O.A.; Cand.biol.sci. - Lab. of Devl. Biol., Inst. of Gen. Genet., USSR Acad. of Sci., Gubkin St.3, MOSCOW 117809, USSR

LOPASHOV, G.V.; Dr.biol., Prof. - Lab. of Devl. Biol., Inst. of Gen.Genet., USSR Acad. of Sci., Gubkin St.3, MOSCOW 117809, USSR

McKENZIE, J.; M.D. - Dept. of Devl. Biol., Univ. of Aberdeen, Matural Philos. Bldg., ABERDEEN AB9 2UE, Scotland, U.K.

MODAK, S.P.; Dr.Sci.Biol. - Dept. of Zool., Univ. of Poona, Poona 411007, India

MONESI, V.; M.D., Prof. - Ist. di Istol. ed Embriol. Gen., Univ. di Roma, ROMA, Italy. deceased

RAUNICH, L.; Ph.D., M.D., Prof. - Chair of Embryol., Ist. di Zool., Univ. di Bologna, Via S.Giacomo 9, 40126 BOLOGNA, Italy

SCHMIDT, G.A.; Dr.biol., Prof. - A.N.Severtzov Inst. of Evol. Morphol. and Ecol. of Anim., Acad. of Sci. of the USSR, MOSCOW. deceased

SEIDEL, F.; Dr.phil., Prof. (Emer.) - Von Harnackstr.22, 355 MARBURG/Lahn, B.R.D. (Germany)

WIERTZ-HOESSELS, Ms. E.L.M.J.; Dr. - Dept. of Anat. and Embryol., Biomed. Ctr., State Univ. of Limburg, P.O.Box 616, 6200 MD MAASTRICHT, Netherlands

DIRECTORY OF NAMES AND ADDRESSES
with Subjects of Research

(alphabetical order)

Unless stated otherwise, information in this directory is based upon data sheets which were sent to the institutes listed in the Directory of Institutes, and returned to the editors before July 1980. Scientists were asked to state their name, degree(s), address, and research subjects in so far as recent, unpublished work in developmental biology was concerned.

Complete entries (with research subjects) are entirely based on the data sheets. Subjects identical to those in vol. 17 were confirmed by the scientists still to be correct.

Entries without research subjects:

a. Persons listed on the sheets as being engaged in research in developmental biology, without further specification of subjects.

b. Persons with a complete entry in vol. 17 who have not returned their sheets. Name, degrees, and addresses were reprinted unchanged from vol. 17 and may be partially out of date.

c. Emeritus professors no longer active in research.

d. Some persons who have not returned data sheets for two or more volumes have been listed nevertheless; cases in point are several I.S.D.B. members.

e. Persons listed in vol. 17 whose death has come to our attention (marked †).

Persons listed in vol. 17 but not in vol. 18:

a. Persons who had research subjects in vol. 17 but are not longer engaged in research in developmental biology.

b. Persons who had no research subjects in vol 17 and have not returned the sheets for both vol. 17 and 18.

The abbreviation Ms. in names stands for Miss or Mrs.

In the research subjects, the following abbreviations have been used:

ATP:	adenosine triphosphate
BUdR:	5-bromodeoxyuridine
cAMP:	adenosine-3', 5'-cyclic monophosphate
cDNA:	complementary DNA
cGMP:	guanosine-3', 5-cyclic monophosphate
CNS:	central nervous system
DNA:	deoxyribonucleic acid
e.g.:	for instance
EM:	electron microscopy
GTP:	guanosine triphosphate
incl.:	including
IUD:	intrauterine device
LM:	light microscopy
mRNA:	messenger RNA
NS:	nervous system
part.:	particularly
RNA:	ribonucleic acid
rRNA:	ribosomal RNA
SEM:	scanning electron microscopy
spec.:	species (singular)
spp.:	species (plural)
tRNA:	transfer RNA
TEM:	transmission electron microscopy
t.s.:	temperature sensitive
UV:	ultra-violet

Animal names

Cat:	Felis domestica (Carnivora)
Chicken:	Gallus gallus domesticus (Aves)
Cow:	Bos taurus (Artiodactyla)
Dog:	Canis familiaris (Carnivora)
Horse:	Equus caballus (Perissodactyla)
Man:	Homo sapiens (Primates)
Mouse:	Mus musculus (Rodentia)
Pig:	Sus scrofa domesticus (Artiodactyla)
Quail:	Coturnix coturnix japonica (Aves)
Rat:	Rattus norvegicus (Rodentia)
Rabbit:	Oryctolagus cuniculus (Lagomorpha)
Sheep:	Ovis aries (Artiodactyla)

ABBOTT, Ms. U. K.; Ph.D., Prof. – Dept. of Avian Sci., Univ. of California, DAVIS, CA 95616, USA
ABE, K.; D.Sc. – Biol. Inst., Yamaguchi Univ., Yoshida, YAMAGUCHI, 753 Japan
a Development of megaspore and female gametophyte. Abelia spec., Lonicera spec., Viburnum spec., Weigelia spec. and others (Caprifoliaceae), Hydrangea spec., Saxifraga spec. and others (Saxifragaceae s.l.)
ABRAMOVICI, A.; D.Sc. – Lab. of Developm. Pathol., J. Casper Dept. of Pathol., Beilinson Hosp., Tel-Aviv Univ. Med. Sch., PETAH-TIQVA, Israel
ACKERMAN, G. A.; M.D., Ph.D., Prof. – Dept. of Anat., Ohio State Univ., 333 West 10th Ave., COLUMBUS, OH 43210, USA
ADAMS, T. S.; Ph.D. – Metab. and Radiat. Res. Lab., Agric. Res. Serv., U.S. Dept. of Agric., P.O.Box 5674, State Univ. Station, FARGO, ND 58102, USA
a Endocrine regulation of mating, egg development, and oviposition. Cochliomyia hominovorax (Calliphoridae, Diptera)
b Maintenance of cyclical production of eggs: isolation and mode of action of oostatic hormone. Musca domestica (Diptera)
ADLER, P. N.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA
ADLER, R.; M.D. – Dept. of Biol. M–001, Univ. of California at San Diego, LA JOLLA, CA 92093, USA
AGARWAL, L. P.; Prof. – Dr. Rajendra Prasad Centre for Ophthalm. Sci., All India Inst. of Med. Sci., NEW DELHI-110016, India
AGARWAL, S. K.; M.Sc. – Dept. of Zool., Meerut Coll. (Meerut Univ.), MEERUT 250001, India
AGGARWAL, S. K.; Ph.D., Prof. – Dept. of Zool., Michigan State Univ., EAST LANSING, MI 48824, USA
a Effects of cisplatin (cis-dichlorodiammineplatinum (II)) and its derivatives on development of germ cells and embryo. Mouse
b Effects of cisplatin on Ca-ion, Ca-activated ATPase, MG-activated ATPase, 5-nucleotidase and alkaline phosphatase activity in the normal kidney and in one with sarcoma-180 tumor (LM, EM). Mouse
AGNEW, W. F.; Ph.D. – Huntington Inst. of Appl. Med. Res., 734 Fairmount Ave., PASADENA, CA 91105, USA
a Experimental hydrocephalus in hy–3 strain. Mouse
AGNISH, N. D.; Ph.D. – Dept. of Toxicol., Hoffmann-La Roche Inc., NUTLEY, NJ 07110, and Dept. of Anat., Jefferson Med. Coll., PHILADELPHIA, PA 19107, USA
a Teratological potential and effects on reproductive performance of pharmaceutical agents under development. Rat, Rabbit
b Normal and abnormal development of limbs, especially in organ cultures. Mouse
AIRE, T. A.; D.V.M. – Dept. of Vet. Anat. and Physiol., Univ. of Ibadan, IBADAN, Nigeria
AKETA, K.; D.Sc. – Dept. of Biol., Nagoya Univ., Chikusa, NAGOYA, 464 Japan
a Gamete surface components involved in fertilization. Pseudocentrotus depressus, Anthocidaris crassispina, Hemicentrotus pulcherrimus and others (Echinoidea)
AKRUK, S. R.; Ph.D. – Dept. of Biol., Marietta Coll., MARIETTA, OH 45750, USA
a Inhibition and induction of the acrosome reaction in spermatozoa. Rabbit
b Ultrastructural localization of acrosomal enzymes and their roles in early fertilization. Rabbit
ALBERTINI, D. F.; Ph.D. – Dept. of Anat., Harvard Med. School, 25 Shattuck St., BOSTON, MA 02115, USA
a Time of appearance, functional organization and fate of membrane hormone receptors and of gap junctions on granulosa and lutein cells (light and electron microscopy, biochemistry, tissue culture). Mouse, Rat, Rabbit
b Control of meiosis (initiation and inhibition), especially by factors produced by follicle cells; fertilization (tissue culture, biochemistry). Same species as a and Arbacia punctulata (Echinoidea)
ALLEN, E. R.; – Dept. of Anat., Med. Ctr., Louisiana State Univ., 1542 Tulane Ave., NEW ORLEANS, LA 70112, USA
a Morphological (ultrastructural) organization of contractile protein in myogenic tissue into functional sarcomeres. Chicken, Pig
b Myogenesis in embryos affected with muscular dystrophy. Chicken
ALLISON, J. E.; Ph.D., Prof. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O.Box 26901, OKLAHOMA-City, OK 73190, USA
a Genital and urinary anomalies with emphasis on hermaphroditic alterations. Rat
ALPERIN, R. J.; Ph.D. – Biol. Dept., Community Coll. of Philadelphia, 34 South 11th St., PHILADELPHIA, PA 19107, USA
ALTERACZ, Ms. H.; M.Sc. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel. Aviv Univ., TEL HASHOMER, Israel
ALTMAN, J.; Prof. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA
a Time of origin of neurons in the central and peripheral nervous system. Rat
b Embryonic brain development in light of autoradiographic datings. Rat
c Establishment of connections in the brain and other aspects of neuronal differentiation. Rat
AMABIS, J. M.; Ph.D. – Dept. de Biol., Inst. de Biociênc., Univ. de São Paulo, C.P. 11461, 1000 SÃO PAULO, Brazil
AMANO, H.; D.Sc., Prof. – Biol. Lab., Doshisha Univ., Karasuma Imadegawa, Kamikyo-ku, KYOTO, 602 Japan
a Developmental mechanism of the heart. Cynops pyrrhogaster (Urodela), Chicken

AMANUMA, A.; D.Sc., Prof. – Lab. of Biol., Gifu Coll. of Dent., 1851 Takano, Hozumi-cho, Motosu-gun, GIFU-ken, Japan
a EM and experiments on differentiation of embryonic gonads. Chicken
AMEMIYA, S.; Ph.D. – Misaki Mar. Biol. Stat., Univ. of Tokyo, MISAKI, Kanagawa-ken, 238–02 Japan
a Mechanisms of ciliogenesis in the embryo, part. cell association. Hemicentrotus pulcherrimus (Echinoidea)
b Development. Asthenosoma ijimai, Areosoma owstoni (Echinothurioida, Echinoidea)
AMES, I. H.; Ph.D. – Dept. of Anat., Upstate Med. Ctr., State Univ. of New York, 766 Irving Ave., SYRACUSE, NY 13210, USA
a Hormonal regulation of tumor induction. Nicotiana species hybrids (Solanaceae)
AMY, R. L.; Ph.D., Prof. – Dept. of Biol., Southwestern at Memphis, 2000 N. Parkway, MEMPHIS, TN 38112, USA
a Ultraviolet microbeam irradiation and ruby laser microirradiation of the developing embryo. Habrobracon juglandis (= Bracon hebetor) (Hymenoptera)
b Analysis of radiation-induced embryonic death. Same species as a
ANDERSEN, O. F.; B.A. – Merck Inst. for Therap. Research, P.O.Box 2000, RAHWAY, NJ 07065, USA
ANDERSON, D. T.; D.Sc., Prof. – School of Biol. Sci., Univ. of Sydney, Zool. Bldg., SYDNEY, N.S.W. 2006, Australia
a Comparative embryology. (Crustacea)
ANDERSON, E.; Prof. – Dept. of Anat. and Lab. of Human Reprod. & Reprod. Biol., Harvard Med. School, 45 Shattuck St., BOSTON, MA 02115, USA
a Oogenesis, part. relation to follicle cells, fertilization, pre-implantation stages (ultrastructure, cytology, cytochemistry). Mouse, Rat, Mesocricetus auratus, Cavia porcellus (Rodentia)
ANDERSON, M. J.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115W. University Pkw., BALTIMORE, MD 21210, USA
a Correlation between nerve-induced changes in acetylcholine receptor distribution and changes in synaptic ultrastructure and physiology during development of neuromuscular junctions in cell culture. Xenopus laevis (Anura)
b Development of monoclonal antibodies directed against antigens localised at neuromuscular junctions. (Amphibia)
ANDREW, Ms. A.; Ph.D., Prof. – Dept. of Anat., Med. School, Univ. of the Witwatersrand, Hospital St., JOHANNESBURG 2001, S.Africa
a Origin of the endocrine cells of the gastro-intestinal tract; morphology of the types of these cells present at the time of hatching; their distribution (immunochemistry). Chicken (with B. B. RAWDON and B. KRAMER)
ANGELLO, J. C.; Ph.D. – Dept. of Zool., Washington State Univ., PULLMAN, WA 99164, USA
a Role of cell surface and extracellular matrix molecules, part. glycosaminoglycans, in normal and abnormal development of mammary gland. Mouse
ANSEVIN (DABROWSKA), Ms. K.; Ph.D., Assoc. Prof. – Dept. of Biol., Rice Univ., HOUSTON, TX 77001, USA
AOTO, T.; D.Sc., Prof. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N.10, W.8, SAPPORO, 060 Japan
a Morphology and physiology of neurosecretion. (Crustacea; Pisces; Amphibia)
b Morphogenesis of the nauplius eye. Palaemon paucidens (Decapoda, Crustacea)
ARAKI, M.; Ph.D. – Dept. of Anat., Jichi Med. School, 3311 Yakushiji, Minamikawachi-machi, TOCHIGI, 329–04 Japan
a Enzyme histochemistry and autoradiography of neural retina development in vivo and in vitro. Chicken
ARKING, R.; Ph.D. – Dept. of Biol., Wayne State Univ., DETROIT, MI 48202, USA
a Use of temperature-sensitive autonomous cell-lethal mutations to study: 1. factors controlling regeneration following heat induced cell death; 2. role of such a mutation in causing formation of allotypic structures; 3. developmental organization of the imaginal disc. Drosophila melanogaster (Diptera)
b Patterns of gene activity during embryogenesis using genetic and molecular techniques. Species as a
ARMATI-GULSON, P. J.; Ph.D. – Sch. of Biol. Sci., Univ. of Sydney, Zool. Bldg., SYDNEY, N.S.W. 2026, Australia
a Myelination of dorsal root ganglia in vitro. Rat
b Developmental defects in myelination characterised by media containing neuropathic sera from humans. Rat
c Development of the reproductive system. Pseudochirus peregrinus (Marsupialia)
ARMENTI, V. T.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Effects of maternal hypervitaminosis A on perinatal lung maturation. Rat
ARMSTRONG, J. B.; Ph.D. – Dept. of Biol., Univ. of Ottawa, OTTAWA, Ont. K1N 6N5, Canada
a Mutagenesis, mutant isolation, and characterization of developmental mutants. Ambystoma mexicanum (Urodela)
b Regulation of lipid biosynthesis during development. Xenopus laevis (Anura)
ARMSTRONG, P. B.; Ph.D., Prof. – Dept. of Zool., Univ. of California, DAVIS, CA 95616, USA
a Control of active cellular motility during embryogenesis. Fundulus heteroclitus (Teleostei)
b Expression of tissue affinities; their role in control of embryonic morphogenesis. Chicken
c Localisation of adhesive and nonadhesive membrane domains in embryonic epithelia. Rana pipiens (Anura)

d Role of active motility in intercellular invasion. Chicken, Mouse
e Motility and adhesion of inflammatory cells. Limulus polyphemus (Xiphosura), Mouse

ARMSTRONG, P. B.; M.D., Prof. (Emer.) – Dept. of Anat., Upstate Med. Ctr., State Univ. of New Yok, SYRACUSE, NY 13210, USA

ARNOLD, J. M.; Ph.D., Prof. – Kewalo Marine Lab., Pacif. Biomed. Res. Ctr., Univ. of Hawaii, 41 Ahui St., HONOLULU, HI 96813, USA
a Studies on the egg cortex (histochemistry, electron microscopy, centrifugation). Loligo pealii (Decapoda), Octopus spec. (Octopoda, Cephalopoda)
b Blastoderm formation and cleavage. (Cephalopoda)
c Mechanism of tissue mass fusion in vitro and in vivo
d Histochemistry and electron microscopy of gametogenesis. Nautilus pompilius (Cephalopoda)
e Egg laying and fertilization in captivity to study embryology. Same species as d

ARTAL, R.; M.D. – Univ. of California Med. Ctr., Women's Hosp., Rm.5K9, 1240 N. Mission Rd., LOS ANGELES, CA 90033, USA
a Maturation of sympathoadrenal system in fetus
b Pathophysiology of chorioamniotic membranes
c Diabetes in pregnancy
d Catecholamine physiology in pregnancy

ARTAVANIS-TSAKONAS, S.; Ph.D. – Dept. of Biochem., Stanford Univ., STANFORD, CA 94305, USA

ARTZT, K.; Ph.D. – Devl. Genet. Lab., Mem. Sloan-Kettering Canc. Ctr., 1275 York Ave., NEW YORK, NY 10021, USA
a Cell surface antigens of embryonal tumors. Mouse
b Development of embryonal tumors from mutant embryonic material. Mouse

ARZEE, Ms. T.; Ph.D. – Dept. of Bot., Tel-Aviv Univ., RAMAT-AVIV, Israel

ASAHI, T.; D.Agr., – Lab. of Biochem., Fac. of Agric., Nagoya Univ., Chikusa, NAGOYA, 464 Japan
a Biochemistry of cell organelle biogenesis during early seed germination. Pisum sativum, Phaseolus mungo (Papilionaceae)

ASAI, E.; M.Sc. – Biol. Inst., Kanazawa Med. Univ., UCHINADA-machi, Ishikawa-ken, 920-02 Japan

ASAKURA, K. – Biol. Inst., Kanazawa Med. Univ., UCHINADA-machi, Ishikawa-ken, 920-02 Japan

ASAMI, K.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa-4–chome, CHIBA, 260 Japan
a Chromosomal proteins in regenerating liver. Rat
b Changes in egg energy metabolism at fertilisation. Anthocidaris crassispina, Hemicentrotus pulcherrimus (Echinoidea)

AŞAN, Ms. E.; Ph.D., D.D.S. – Dept. of Histol. and Embryol., Med. Fac., Hacettepe Univ., ANKARA, Turkey
a Teratogenic effect of cortisone on development and fusion of palatal shelves. (Mammalia)

ASAYAMA, S. † Prof. (Emer.) – Dept. of Biol., Osaka City Univ., OSAKA, Japan

ASHA, Ms. S.; M.Sc. – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY 605006, India

ASNANI, M.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Liver, spleen, and lymph gland regeneration. (Reptilia; Aves)

ATKINSON, B. G.; Ph.D. – Dept. of Zool., Univ. of W. Ontario, LONDON, Ont. N6A 5B7, Canada
a Metamorphosis: regulation of intracellular transcriptional and translational processes by thyroid and pituitary hormones; chromosomal and ribosomal protein. Rana catesbeiana (Anura)
b Myogenesis: regulation of development at the transcriptional and translational level in cultured myoblasts. Rana catesbeiana (Anura), Mouse

ATSUMI, Ms. S.; M.D. – Dept. of Anat., Sch. of Med., Chiba Univ., CHIBA, 280 Japan
a How neurons regulate the function and differentiation of target cells. Chicken

AUCLAIR, W.; Ph.D., Assoc. Prof. – Dept. of Biol., Sch. of Sci., Rensselaer Polytechn. Inst., TROY, NY 12181, USA

AUERBACH, R.; Ph.D., Prof. – Dept. of Zool., Univ. of Wisconsin, 1117 W. Johnson St., MADISON, WI 53706, USA
a Cellular interactions in development of immune response, tumor immunology, and angiogenesis. Mouse

AUERSPERG, N.; M.D., Ph.D., Prof. – Dept. of Anat., Univ. of Brit. Columbia, VANCOUVER, B.C. V6T 1W5, Canada
a Interaction of cellular and environmental factors in tumor histogenesis in vitro. Rat, Man

AUSTIN, L.; Ph.D. – Dept. of Biochem., Monash Univ., CLAYTON, Vict. 3168, Australia
a Biochemistry and molecular biology of regenerative processes after axotomy; axoplasmic transport of proteins and tRNA and its relationship to regeneration. Rat
b Biochemistry of muscle diseases, part. membrane abnormalities. Man

AUSTIN, Ms. S. A.; B.Sc. – Dept. of Environm. Studies, Univ. of Adelaide, G.P.O. Box 498, ADELAIDE, S.A. 5001, Australia
a Effect of doses of herbicides on development. Limnodynastes tasmaniensis (Anura)

AVERY, J. K.; D.D.S., Ph.D., Prof. – Dept. of Anat., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Neurotrophic effects on rates and quality of dentin formation in teeth (nerve resection, electron microscopy, micro-measurements). Mouse

AWITI, Ms. L.; M.Sc. – Dept. of Entomol., Univ. of Nairobi, P.O.Box 30 197, NAIROBI, Kenya

AYAKI, T.; M.S. – Dept. of Genet., Nagasaki Univ., 12–4, Sakamoto-machi, NAGASAKI, 852 Japan
a Radiation genetics (imaginal discs). Drosophila melanogaster (Diptera)

AZAR (GEALIJA), Ms. I.; M.Sc. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel

AZIZ, F. K.; Ph.D. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Effect of immunodepressors on regenerative ability. Bufo regularis (Anura)
AZOUBEL, R.; M. D., Ph.D., Prof. – see part 1, p.11
BABA, S.; D.Sc., Prof. – Dept. of Biol., Konan Women's Univ., 2–23 Morikita machi 6-chome, Higashinada-ku, KOBE, 658 Japan
BACHVAROVA, Ms. R.; Ph.D. – Dept. of Anat., Med. Coll., Cornell Univ., 1300 York Ave., NEW YORK, NY 10021, USA
a Gene expression in oogenesis. Mouse
b Maternal and embryonic control of early development. Mouse
BAETZ, A. L.; Ph.D. – Natl. Anim. Dis. Ctr., S.E.A., A.R., P.O.Box 70, AMES, IA 50010, USA
a Techniques to sample amniotic and allantoic fluids repeatedly; examination of their constituents to compare normal animals with those infected with agents causing abortion. Bos taurus (Artiodactyla)
b Enzymatic diagnostic or immunologic test on maternal plasma in order to predict fetal death or placental disruption. Same species as a
BAGNARA, J. T.; Ph.D., Prof. – Dept. of Cell. and Developm. Biol., Univ. of Arizona, TUCSON, AZ 85721, USA
a Various aspects of the development and endocrinology of pigmentation. Many spp. (Amphibia)
b Ultrastructure of chromatophores. Same species as a
c Developmental physiology of xanthophores, erythrophores, and iridophores. Same species as a
d Common origin of all pigment cells from a common stem cell and common origin of all pigmentary organelles from a primordial organelle derived from the endoplasmic reticulum. (Vertebrata)
e Formation at metamorphosis of the melanosome (eumelanin with pterorhodin cortex) from the larval melanosome. (Phyllomedusinae, Anura)
f Neural crest: pattern formation on dorsal surface. (Anura)
g Reproductive biology: gonadal analysis, gonadotropin analyses. Pachymedusa dacnicolor (Phyllomedusinae, Anura)
h Lipid changes in developing embryos. Species as g, and Rana pipiens (Anura)
BAGWELL, J. N.; Ph.D. – Dept. of Anat., Louisiana State Univ., 1542 Tulane Ave., NEW ORLEANS, LA 70112, USA
a Size-age relationships and external morphology during development. Meriones unguiculatus (Rodentia)
b The nature and timing of events during palatal closure. Same species as a
BAILEY, R. P.; Ph.D. – Dept. of Med. Sci., Univ. of Alaska, FAIRBANKS, AK 99701, USA
BAKER, P. C.; Ph.D., Prof. – Dept. of Biol., Cleveland State Univ., Euclid at 24th St., CLEVELAND, OH 44115, USA
a Maturation of indoleamine biochemistry in brain. Mouse
b Drug action upon maturing brain. Mouse
BAKER, R. F.; Ph.D., Assoc. Prof. – Dept. of Biol. Sci., Univ. of South. Calif., University Park, LOS ANGELES, CA 90007, USA
BAL, A. K.; Prof. – Dept. of Biol., Mem. Univ. of Newfoundland, ST. JOHN'S, Nfld. A1B 3X9, Canada
a Germination. Rubus chamaemorus (Rosaceae)
b Developmental physiology of symbiotic root nodules. Glycine max (Papilionaceae)
BALINSKI, B. I.; Dr. biol. sci., Prof. (Emer.) – 19 Oban Avenue, Blairgowrie, 2194 JOHANNESBURG, S. Africa
BALLARD, W. W.; Ph.D., Prof. – Dept. of Biol. Sci., Dartmouth Coll., HANOVER, NH 03755, USA
a Morphogenetic movements in embryos. (Teleostei; Holostei; Chondrostei; Elasmobranchii)
b Monograph on developmental anatomy. Ambystoma spec. (Urodela)
BAND, R. N.; Ph.D., Prof. – Dept. of Zool., Michigan State Univ., EAST LANSING, MI 48824, USA
a Encystation requirements. Entamoeba histolytica (Rhizopoda)
b Mechanism of cytokinesis without mitosis. Acanthamoeba castellanii (Rhizopoda)
BANERJEE, S. D.; M.Sc. – Dept. of Pediat., Stanford Univ., 300 Pasteur Drive, STANFORD, CA 94305, USA
a Morphogenetic role of extracellular materials (collagen, mucopolysaccharide) and enzyme (hyaluronidase) during in vitro development of salivary submandibular epithelia. Mouse
b Synthesis of macromolecules (collagen, mucopolysaccharide, RNA, enzymes) during inductive interaction in vitro. Mouse
BANK, H. L.; Ph.D. – Dept. of Pathol., Med. Univ. of S. Carolina, 143 Ashley Ave., CHARLESTON, SC 29403, USA
a Teratogenic effects of freezing on embryos. Mouse
b Cryogenic preservation of embryos. Mouse, Rabbit
BARBER, Ms. M. L.; Ph.D., Prof. – Dept. of Biol., Calif. State Univ., 18111 Nordhoff St., NORTHRIDGE, CA 91330, USA
a Effect of teratogenic or activating agents on enzymes of cell surface in early development. Strongylocentrotus purpuratus, Lytechinus pictus (Echinoidea), Patiria miniata (Asteroidea)
b Isozymes of G–6–P dehydrogenase changing at fertilisation and ammonia or calcium ionophore activation. Lytechinus pictus, Strongylocentrotus purpuratus (Echinoidea)
c Localisation of isozymes of G–6–P dehydrogenase in cell fractions. Species as b
BARBIERI, F. D.; Dr. Biochem., Prof. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMAN, Argentina
a Primary induction: characterisation of the inducing agent. Bufo arenarum (Anura)

BARNARD, Ms. S. B.; Dr. – Dept. of Anat., Univ. of the Orange Free State, P.O.Box 339, BLOEMFONTEIN 9300, S. Africa
a Experiments on inner ear development. Chicken
BARRY, A.; Ph.D., Prof. – Carnegie Labs. of Embryol., Univ. of California, DAVIS, CA 95616, USA
a Computerized cataloguing of Carnegie and other embryological collections. Man
BAST, R. E.; Ph.D. – Dept. of Biol., Cleveland State Univ., 1983 E. 24th St., CLEVELAND, OH 44115, USA
a Interactions of yolk-protein precursor, a follicle cell synthesized protein, and the oocyte membrane during yolk deposition. Hyalophora cecropia (Lepidoptera)
BATTLE, Ms. H. I.; Ph.D., Prof. (Emer.) – Dept. of Zool., Univ. of W. Ontario, LONDON, Ont. N6A 5B7, Canada
a Radiological and dermatoglyphic study of a hereditary anomaly: brachydactyly type A4 (Temtamy type) involving brachymesophalangy of digits II and V together with foreshortening of the terminal phalanx of digit I in hands and to a lesser extent in feet. Man
BAUMINGER, Ms. S.; Ph.D. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel Aviv Univ., TEL HASHOMER, Israel
BAYNE, Ms. E. Kahn; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a Cell surface differentiation during myogenesis
BEALE, S. I. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA
a Development of photosynthetic apparatus and developmental adaptation of photosynthetic machinery to light environment. Various spp. (Algae and other Plantae)
BEAMS, H. W.; Ph.D., Prof. (Emer.) – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA
a Fine structure and physical properties of mitotic apparatus in blastomeres. Brachydanio rerio (Teleostei)
b Ultrastructure and vitellogenesis in the oocyte. Oniscus asellus (Isopoda, Crustacea)
BECERRA DE GUZMAN, Ms. M.; M.D. – Cat. de Embriol., Fac. de Med., Univ. de Los Andes, MÉRIDA, Venezuela
BEEBE, D. C.; Ph.D. – Dept. of Anat., Uniformed Serv. Univ. of the Health Sci., 4301 Jones Bridge Rd., BETHESDA, MD 20014, USA
BEGG, D. A.; Ph.D. – Dept. of Anat., Harvard Med. School, 25 Shattuck St., BOSTON, MA 02115, USA
a Micromanipulation studies of chromosome movement in spermatocytes. Nephrotoma ferruginea (Diptera)
b Regulation of actin polymerisation in developing eggs. Strongylocentrotus purpuratus (Echinoidea)
BEHRMAN, S. J.; M.D., Prof. – Dept. of Obstet. and Gynecol., Ctr. for Res. in Reprod. Biol., L 3100 Women's Hosp., ANN ARBOR, MI 48109, USA
BEIG, D.; Ph.D., Prof. – Dept. de Biol., Inst. de Biociênc., Univ. Estadual Paulista, C.P. 178, 13500 RIO CLARO, Brazil
a Organogenesis and differentiation of the genital system (comparative study in 3 castes during postembryonic development). Trigona postica (Hymenoptera)
b Morphogenesis and functional development of corpora allata (including neurohormone production). (Meliponinae, Hymenoptera)
c Control of polymorphic development with special reference to environmental factors. Same species as b
d Morphogenesis and growth of larval and pupal ovarioles of worker and queen. Same species as b
BEKOFF, Ms. A. C.; Ph.D. – Dept. of Environm. Popul. and Organ. Biol., Univ. of Colorado, Campus Box B-334, BOULDER, CO 80309, USA
a Development of interlimb coordination. Chicken, Rat
b Development of the neural circuitry underlying walking and hatching; roles of sensory feedback and descending input. Chicken
BELL, G. A.; Ph. D. – Res. Sch. of Biol. Sci., Austr. Natl. Univ., P.O.Box 475, CANBERRA, A.C.T. 2601, Australia
a Visual system development. Chicken
BELL, P. B., Jr.; Ph.D. – Dept. of Zool., Univ. of Oklahoma, 730 Van Vleet Oval, Rm. 222, NORMAN, OK 73019, USA
a Mechanism of cell motility and control of cell motility by contact inhibition.
b Role of cytoskeleton and cell surface in cellular morphogenesis
BELL, W. J.; Ph.D., Prof. – Depts. of Entomol., and of Physiol. & Cell Biol., Univ. of Kansas, Snow Hall, LAWRENCE, KS 66045, USA
a Timetable of events, cellular mechanisms and essential factors in the maintenance of juvenile hormone initiated yolk deposition in vitro. Periplaneta americana (Blattodea)
BENDER, H. A.; Ph.D., Prof. – Dept. of Biol., Univ. of Notre Dame, NOTRE DAME, IN 46556, USA
a Phenogenetic studies of the ovarian tissue of female-sterile mutants. Drosophila melanogaster (Diptera)
b Effects of genetic suppressors and enhancers upon pleiotropic systems. Same species as a
c Effects of chomenes (precocene and derivatives) upon maturation of the reproductive system. Coelopa frigida (Diptera)
d Genetic "dissection" of the syndrome of effects of the lozenge pseudoallelic complex, using ethylmethanesulfonate (EMS) induced and spontaneous suppressor mutations and enhancers. Same species as a
BENNETT, D.; Dr., Prof. – Mem. Sloan-Kettering Canc. Ctr., 1275 York Ave., NEW YORK, NY 10021, USA

a Effect of mutant genes on embryonic development. Mouse, Rat
b Cell surface antigens in spermatogenesis and embryonic development. Mouse, Rat

BENSON, S. C.; Ph.D. – Dept. of Biol. Sci., Calif. State Univ., HAYWARD, CA 94542, USA
a Molecular and biochemical events underlying spicule and pigment synthesis (collagen and tyrosinase synthesis measured in whole animals and isolated cell populations). (Echinoidea)

BENZO, C. A.; Ph.D. – Dept. of Anat., Upstate Med. Ctr., State Univ. of New York, 766 Irving Ave., SYRACUSE, NY 13210, USA
a Development and control of glycogen metabolism in embryonic and neonatal liver. Chicken
b The role of hormones in the ultrastructural and biochemical development of embryonic liver in organ culture. Chicken
c Structural and functional differentiation of the endocrine pancreas. Chicken
d Developmental morphology and biochemical characterisation of the glycogen body and accessory lobes of Lachi in the nerve cord. Chicken

BERESFORD, W. A.; D. Phil., Prof. – Dept. of Anat., Med. Ctr., West Virginia Univ., MORGANTOWN, WV 26506, USA
a Development of penile bone (TEM,SEM). Rat
b Formation of tissues intermediate between bone and cartilage from blastemas of regeneration and early osteogenesis. Anolis carolinensis (Lacertilia), Rat
c Factors evoking secondary chondrogenesis

BERGER, J. D.; Ph.D. – Dept. of Zool., Univ. of Brit. Columbia, VANCOUVER, B.C. V6T 1W5, Canada

BERLINROOD, M.; Ph.D., Assoc. Prof. – Dept. of Biol. Sci., Goucher Coll., BALTIMORE, MD 21204, USA

BERNFIELD, M. R.; M.D., Prof. – Dept. of Pediat., Stanford Univ., 300 Pasteur Drive, STANFORD, CA 94305, USA
a Embryonic epithelia: synthesis of macromolecules (collagen, mucopolysaccharide, RNA, enzymes) during inductive interactions in vitro. Mouse
b Morphogenetic role of extracellular materials (collagen, mucopolysaccharide) during in vitro development of salivary submandibular epithelia. Mouse
c Cellular adhesion and recognition. Chicken

BERRILL, N. J.; Ph.D. – 410 Swarthmore Ave., SWARTHMORE, PA 19081, USA

BERRY, S. J.; Ph.D., Prof. – Dept of Biol., Wesleyan Univ., MIDDLETOWN, CT 06457, USA
a Nucleic acid metabolism during differentiation (ultracentrifugation, gradient centrifugation, autoradiography, chromatography). Hyalophora cecropia (Lepidoptera)
b Endocrine control of differentiation (LM, EM, autoradiography, organ culture). (Saturniidae, Lepidoptera)
c RNA synthesis during oogenesis (autoradiography, EM, gradient centrifugation). Various spp. (Lepidoptera)
d Protein synthesis in specialised organs (autoradiography, EM, gradient centrifugation). Species as a
e Cyclic nucleotide metabolism in CNS (LM, EM, radioimmune assay). Species as c

BERSU, E. T.; Ph.D. – Dept. of Anat., Univ. of Wisconsin, 1255 Linden Drive, MADISON, WI 53706, USA
a Variations occuring in malformations caused by aneuploidy and mutations (gross anatomy), especially phenotypes of 13-, 18-, and 21-trisomy syndromes. Man
b Effects of trisomy 19 on morphology and development. Mouse
c Characterisation of a new recessive gene mutation associated with defective cartilage growth. Mouse

BERTALANFFY, F. D.; Ph.D., Prof. – Dept. of Anat., Univ. of Manitoba, Basic Med. Sci. Bldg., 730 William Ave., WINNIPEG, Man. R3E 0W3, Canada
a Rates of cell division of neoplastic populations. Mouse, Rat
b Cell renewal and cytodynamics of normal cell populations. Mouse, Rat
c Effects of cytosine arabinoside on cell development and proliferation. Mouse, Rat
d Combined treatment of normal and malignant cell populations with cytosine arabinoside and x-irradiation. Mouse

BESHARSE, J. C.; Ph.D. – Dept. of Anat., Sch. of Med., Emory Univ., ATLANTA, GA 30322, USA
a Membrane differentiation and cell-cell interaction during development of photoreceptors. Xenopus laevis (Anura), Rat

BETZ, T. W.; Ph.D., Assoc. Prof. – Dept. of Biol., Fac. of Sci., Carleton Univ., OTTAWA, Ont. K1S 5B6, Canada
a Endocrine ontogenesis. Gallus domesticus (Aves)
b Hormonal and other factors controlling differentiation of the duodenum, spleen, neural retina, adeno-hypophysis, hemoglobin, yolk sac, and hatching and growth of the embryo. Same species as a

BETZALEL, M. – Dept. of Zool., Fac. of Life Sci., Tel-Aviv Univ., Ramat-Aviv, TEL-AVIV, Israel

BHANDARI, N. N.; Ph.D. – Dept. of Bot., Univ. of Delhi, DELHI 110007, India

BHASKARAN, G.; Ph.D. – Inst. of Developm. Biol. and Dept. of Biol., Texas A & M Univ., COLLEGE STATION, TX 77843, USA
a Pattern formation in the integument: 1. differentiation of abdominal histoblasts: developmental capacity, regulation, cell interaction; 2. cellular and biochemical aspects of the posterior margin induced pattern transformation. Sarcophaga bullata, Musca domestica (Diptera), Galleria mellonella, Manduca sexta (Lepidoptera)
b Hormonal control of growth and development. Sarcophaga bullata (Diptera), Hyalophora cecropia (Lepidoptera)

BIDDLE, F. G.; Ph.D. – Div. of Paediat. and Med. Biochem., Fac. of Med., Univ. of Calgary, CALGARY, Alta., Canada
also: Kinsmen Pediat. Res. Ctr., Alberta Children's Hosp., 1820 Richmond Rd. S. W., CALGARY, Alta. T2T 5C7, Canada
a Genetic control of the embryonic response variation to cleft-palate inducing teratogens in inbred strains; statistical models to quantitate embryonic development and teratogenic response to search for variations in development and "mutations" in teratogenic response. Mouse
b Mutations affecting the pairing of sex chromosomes during meiosis. Mouse

BIEGON, Ms. R. L.; Ph.D. – Dept. of Pharmacol., Univ. of Connecticut Health Ctr., FARMINGTON, CT 06032, USA
a Ontogenesis of the calcium-dependent action potential in the heart ventricle, evoked by electrical stimulation (amplitude, rate of rise, voltage-dependence, refractory period) studied after blockage of the sodium-dependent component (4-21 day embryo, hatchling). Chicken

BIRD, D. J.; M.Sc. – Sch. of Environm. and Life Sci., Murdoch Univ., South St., MURDOCH, W.A. 6153, Australia
a Physiology, ecology and biochemistry of larvae; metamorphosis. Geotria australia, Lampetra fluviatilis, L. planeri (Cyclostomata)

BIRGE, W. J.; Ph.D., Prof. – Sect. on Regulat. and Devl. Biol., Sch. of Biol. Sci., Univ. of Kentucky, Morgan Bldg. Rm 101, LEXINGTON, KY 40506, USA
a Fuctional and morphological differentiation of the blood-brain barrier. Chicken; (Mammalia)
b Environmental toxicology of reproduction. (Vertebrata)

BLACK, R. E.; Ph.D., Prof. – Dept. of Biol., Coll. of William and Mary, WILLIAMSBURG, VA 23185, USA
a Tracer studies of metabolic pathways in embryos. Chrysaora quinquecirrha (Scyphozoa), Arbacia punctulata (Echinoidea)
b Development of enzymes in embryos. Same species as a

BLACKLER, A. W.; Ph.D., Prof. – Sect. of Genet. and Develop., Div. of Biol. Sci., Cornell Univ., Emerson Hall, ITHACA, NY 14853, USA
a Developmental effects of delayed fertilisation. Xenopus laevis (Anura)
b Production of homozygous diploids. Xenopus laevis, X. borealis, X. tropicalis (Anura)

BLAMIRE, J.; Ph.D. – Dept. of Biol., Brooklyn Coll., NEW YORK, Brooklyn, NY 11210, USA
a DNA, RNA and protein metabolism during embryogenesis and early development; isolation and characterization of morphological and developmental mutants; use of inhibitors of nucleic acid metabolism and their consequences. Volvox carteri (Volvocales, Chlorophyceae)
b Relationship between nuclear and mitochondrial DNA during asexual reproduction, mating and meiosis; control pathways. Saccharomyces cerevisiae (Fungi)

BLAYDES, D. F.; Ph.D. – Dept. of Biol., West Virginia Univ., Brooks Hall, MORGANTOWN, WV 26506, USA
a Mode of action of cytokinins in development (tissue and cell culture). Glycine max (Papilionaceae), Nicotiana spec. (Solanaceae)

BLOCH, D. P.; Ph.D., Prof. – Bot. Dept., Univ. of Texas, AUSTIN, TX 78712, USA
a Flow-cytometric analysis of spermiogenesis. Rat
b Cell cycle kinetics, relating cell cycle stages, and frequencies of G–0 stages to cell differentiation (flow-cytometrics). Various systems
c Flow-cytometry of erythropoiesis. Chicken

BLOOM, S. E.; Ph.D. – Dept. of Poultry Sci., NY State Coll. of Agric. at Cornell Univ., 215 Rice Hall, ITHACA, NY 14853, USA
a Cytology, development, and reproductive performance of mitotic mutants, especially the effects of age and sex on the development of binucleated erythrocytes. Meleagris gallopavo (Aves)
b Effects of selected environmental chemicals on morphogenesis and genetic constitution of early embryos. Chicken

BLUMENFELD, M.; Ph.D. – Dept. of Zool., Univ. of Minnesota, MINNEAPOLIS, MN 55455, USA

BODE, H. R.; Ph.D. – Dept. of Devl. and Cell Biol., Univ. of Calif., IRVINE, CA 92717, USA
a Control of differentiation and division of the interstitial cell, a multipotent stem cell. Hydra spec. (Hydrozoa)
b Processes and mechanism underlying pattern regulation in regenerating pieces of the body column. Same species as a

BODEMER, C. W.; Ph.D. – Dept. of Biomed. History, Sch. of Med., Univ. of Washington, SEATTLE, WA 98195, USA
a History of embryology, 1600-1900

BODENSTEIN, D.; Ph.D., Prof. (Emer.) – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

BOELL, E. J.; Ph.D., D.Sc., Prof. (Emer.) – Dept. of Biol., Osborn Mem. Lab., Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA
a Changes in enzymatic activity of embryonic tissues during growth and differentiation. (Amphibia; Aves; Mammalia)
b Maturation, metabolism, motility, and fertilisability of spermatozoa. (Mammalia)

BOGENHAGEN, D. F.; M.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115W. University Pkw., BALTIMORE, MD 21210, USA
a Transcription of genes for 5sRNA using DNA cloned in E. coli plasmids; the in vitro transcription system is derived from X. leavis oocytes. Xenopus laevis, X. borealis (Anura)

BOLENDER, D.; Ph.D. – Dept. of Anat., Texas Tech Univ., Health Sci. Ctr., LUBBOCK, TX 79430, USA

BOLLUM, F. J.; Ph.D. – Biochem., Uniformed Serv. Univ. of the Health Sci., 4301 Jones Bridge Rd., BETHESDA, MD 20014, USA
a Polymerizing enzymes in embryo. (Echinoidea)
b Thymus and hematopoietic system in embryo. Chicken, Mouse; (Primates)
BONNER, J. J.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Regulation of gene expression during development. Drosophila spec. (Diptera)
BONNER, J. T.; Ph.D., Prof. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
a Chemotaxis and differentiation. (Acrasiales)
BONNETT, H. T.; Ph.D., Prof. – Dept. of Biol., Univ. of Oregon, EUGENE, OR 97403, USA
a Nuclear-organellar interaction in development. Various species (Solanaceae)
BONNY PILO; Dr. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Liver, spleen, and lymph gland regeneration. (Repilia; Aves)
b Development of brain. (Aves)
BOONE, W. R.; Ph.D. – Dept. of Biol. and Environm. Sci., Georgia Coll., MILLEDGEVILLE, GA 31061, USA
a Teratogenic effects of various drugs on in vitro development of embryos. Chicken.
BORACK, L. I.; Ph.D. – Dept. of Zool. and Physiol., Rutgers Univ., 195 University Ave., NEWARK, NJ 07102, USA
a Developmental genetics of the enzymes of glucuronate metabolism. Drosophila melanogaster (Diptera)
b Physiology of development: ascorbate metabolism. Sus spec. (Artiodactyla)
BOU-RESLI, Ms. M. N. A.; Ph.D. – Dept. of Zool., Univ. of Kuwait, KUWAIT, Kuwait
a Oogenesis and embryogenesis (TEM, SEM). Acanthodactylus scutellatus hardyi (Lacertilia, and other Reptiles)
BOVING, B. G.; M.D. – Dept. of Anat., Wayne State Univ., 540E. Canfield Ave., DETROIT, MI 48201, USA
a Blastocyst spacing, orientation, and implantation mechanisms. Oryctolagus cuniculus (Lagomorpha)
b Relation of trophoblast invasion to blood vessels underlying uterine epithelium, and the anatomical, mechanical, and chemical basis for it. Oryctolagus cuniculus (Lagomorpha), Macaca mulatta (Primates)
c Identification and function of non-cellular blastocyst coverings. Same species as a
d Structure and function of trophoblast knobs. Same species as a
e Mechanism of blastocyst transport by uterus. Same species as a
f Origin and development of epithelia of uterus and vagina. Homo sapiens (Primates) (with R. L. BOVING)
g Time and location of sex hormone binding sites in fetal genital tract. Man (with R. L. BOVING)
BOVING, R. L. – Dept. of Anat., Wayne State Univ., 540 E. Canfield Ave., DETROIT, MI 48201, USA
a Origin and development of epithelia of uterus and vagina. Homo sapiens (Primates) (with B. G. BOVING)
b Time and location of sex hormone binding sites in fetal genital tract. Man (with B. G. BOVING)
BOYER, Ms. B. C.; Ph.D. – Dept. of Biol. Sci., Union Coll., SCHENECTADY, NY 12308, USA
a Development, part. cytoplasmic localisation in the vegetal pole and EM of oogenesis. Neochildia fusca (Acoela, Turbellaria)
BRAUCKMANN, Ms. E. S.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMÁN, Argentina
a Biochemistry of differentiation. Bufo arenarum (Anura)
BRAUN, A. C.; Ph.D., Prof. – Lab. of Plant Biol., Rockefeller Univ., 66th St. and York Ave., NEW YORK, NY 10021, USA
BRESSLER, R. S.; Ph.D. – Dept. of Anat., Mount Sinai Sch. of Med., City Univ. of New York, Fifth Ave, and 100th St., NEW YORK, NY 10029, USA
BREYERE, E. J.; Ph.D. – Dept. of Biol., Sibley Mem. Hosp., American Univ., 5255 Loughboro Rd. N.W., WASHINGTON, DC 20016, USA
BRICK, I.; Ph.D., Prof. – Biol. Dept., New York Univ., Washington Square, NEW YORK, NY 10003, USA
a Genetic control of cell surfaces in the development of pigment pattern. Ambystoma mexicanum (Urodela)
b Quantitative cell adhesion studies in the gastrula. Rana pipiens (Anura)
c Electrokinetics and time-lapse cinematography of somatopleure and neural crest cells. Same species as a
d Cell surface specializations of presumptive germ layer cells of blastula and gastrula (scanning and transmission E.M.). Rana pipiens, Xenopus laevis (Anura)
e Hypoblast formation. Chicken
f Acetylcholinesterase activity in blastoderm during hypoblast and mesoderm formation. Chicken
g Cytochemical localization of serotonin in blastula and gastrula. Same species as b
BRIGGS, R. W.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Developmental genetics. Ambystoma mexicanum (Urodela)
b Nuclear function during differentiation. Rana spec. (Anura)
BRINKLEY, Ms. L. L.; Ph.D. – Dept. of Anat., Univ. of Michigan, 4643 Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Tissue interactions in the formation of the secondary palate. Mouse

BRODY, S.; Ph.D. – Ctr. for Devl. Biol. C-016, Univ. of California, San Diego, LA JOLLA, CA 92093, USA

BROMLEY, S. C.; Ph.D., Prof. – Dept. of Zool., Michigan State Univ., EAST LANSING, MI 48824, USA

a Hormonal and neural influences in limb regeneration. Notophthalmus viridescens and other spp. (Urodela)

BROOKBANK, J. W.; Ph.D., Prof. – Dept. of Zool., Univ. of Florida, GAINESVILLE, FL 32611, USA

BROOKS, Ms. J. A.; B.Sc. (Hons.) – Dept. of Zool., Univ. of Adelaide, North Terrace, G.P.O.Box 498, ADELAIDE, S.A. 5001, Australia

a Incidence of skeletal abnormalities in natural populations and possible influence of insecticides on development. Limnodynastes tasmaniensis, Ranidella signifera (Anura)

b Regenerative capacity. Species as a, Litoria ewingi and other Australian spp. (Anura)

BROOKS, Ms. M. A.; Ph.D., Prof. – Dept. of Entomol., Fish., and Wildlife, Univ. of Minnesota, 1980 Folwell Ave., ST. PAUL, MN 55108, USA

a Effects of intracellular symbiotic microorganisms on vitellogenesis and embryonic development. Blattella germanica, Periplaneta americana (Blattodea)

b Growth and differentiation of cells in vitro modified by infection with intracellular microorganisms. Blattella germanica (Blattodea)

c Duration of viability of oocyte symbiotes cultured in extracellular conditions. Species as b

d Altered moulting behavior of hosts that have received embryo implants. Species as b

BROTHERS, Ms. A. J.; Ph.D. – Dept. of Zool., Univ. of California, Life Sci. Bldg. 4079, BERKELEY, CA 94720, USA

a Nucleo-cytoplasmic interactions: 1. nature of substances produced during oogenesis; 2. manner in which they function to affect gene expression during early development. Ambystoma mexicanum (Urodela), Xenopus laevis (Anura)

b Maternal inheritance and transmission genetics of mitochondria. Species as a

BROWDER, L. W.; Ph.D., Prof. – Dept of Biol., Univ. of Calgary, CALGARY, Alta. T2N 1N4, Canada

a Role of neural crest in myogenesis. Xenopus laevis, X. borealis (Anura)

BROWN, D. D.; M.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA

a Isolation of 5S ribosomal RNA genes and analysis of their transcription. Xenopus laevis, X. borealis (Anura)

BROWN, D. T.; Ph.D., Prof. – Cell Res. Inst., Biol. Labs. 220, Univ. of Texas, AUSTIN, TX 78712, USA

BROWN, I. R.; Ph.D. – Dept. of Zool., Univ. of Toronto, TORONTO, Ont. M5S 1A1, Canada

a Changes during brain development of 1. RNA synthesis (nucleic acid hybridisation); 2. protein synthesis (cell-free translation of purified mRNA incl. analysis of brain specific proteins i.e. S100); 3. nucleosome organisation of chromatin. Mouse, Rat, Rabbit

BROWN, K. S.; M.D. – Developm. Genet. Sect., Natl. Inst. of Dent. Res., Natl. Inst. of Health, Bldg. 30, Rm 106, BETHESDA, MD 20014, USA

BROWN, R. D.; Ph.D. – Dept. of Biol. Chem., Coll. of Med., Univ. of Cincinnati, 231 Bethesda Ave., CINCINNATI, OH 45267, USA

a Onset of immunoglobulin synthesis during early development. Xenopus laevis (Anura)

BROWN, T. T., Jr.; D.V.M., Ph.D. – Natl. Anim. Disease Ctr., S.E.A., A.R., P.O.Box 70, AMES, IA 50010, USA

a Role of swine influenza virus in reproductive failure and as a causative agent of fetal anomalies. Pig

BROWNELL, Ms. A. G.; Ph.D. – Lab. for Devl. Biol., Univ. of Southern California, Gerontol. Ctr. Rm 314, LOS ANGELES, CA 90007, USA

a Influence of extracellular matrix materials, especially basement membrane constituents on development and differentiation during embryogenesis in vitro, studied on mandibular molar. Mouse

BRUMMETT, Ms. A. R.; Ph.D., Prof. – Dept. of Biol., Oberlin Coll., OBERLIN, OH 44074, USA

a Biochemical changes concomitant with differentiation in the embryo. Fundulus heteroclitus (Teleostei)

b SEM and TEM of oocyte, egg, fertilisation, embryo and morphogenetic movements in early embryos. Species as a

BRUST, R. A.; Ph.D., Prof. – Dept. of Entomol., Fac. of Agric., Univ. of Manitoba, WINNIPEG, Man. R3T 2N2, Canada

a Effect of photoperiod and temperature on the induction and termination of diapause in larvae and embryos. Weyeomyia smithii, Aedes atrophalpus (Culicidae, Diptera)

b Autogeny. (Culicidae & Simuliidae & Tabanidae: Diptera)

BRYAN, J. H. D.; Ph.D., Prof. – Dept. of Zool., Univ. of Georgia, ATHENS, GA 30602, USA

a Cytochemistry of gamete formation. Mouse

b Differentiation of spermatozoa in mutants (light and electron microscopy). Mouse

c Histological and cytochemical studies of the brain during development of hydrocephaly in neonatal mutants. Mouse

d Histological and ultrastructural studies of developing defective incisor teeth in neonatal mutants. Mouse

e Development of mutant tissue transplanted to tolerant wild-type hosts (emphasis on spermatogenesis in tissue from male-sterile mutants). Mouse

BRYANT, P. J.; Ph.D., Prof. – Devl. Biol. Ctr., Univ. of California, IRVINE, CA 92717, USA

a Regeneration and duplication in imaginal discs. Drosophila melanogaster (Diptera)

b Ultrastructure of imaginal discs. Same species as a

c Cell death in imaginal discs. Same species as a
d Wound healing in imaginal discs. Same species as a
e Organ culture in vitro. Same species as a

BRYANT (POYNTZ), Ms. S. V.; Ph.D. – Dept. of Devl. and Cell Biol., Univ. of California, IRVINE, CA 92717, USA
a Regulation and pattern formation in regenerating limbs. Ambystoma mexicanum, Triturus viridescens (Urodela)

BRYDEN, M. M.; Ph.D., D.Sc.V.M. – Sch. of Anat., Univ. of Queensland, St. Lucia, BRISBANE, Qld. 4067, Australia

BUDEGUER de ATENOR, Ms. M. S. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 TUCUMÁN, Argentina
a Endocrine control and metabolism during oocyte maturation. Bufo arenarum (Anura)

BUENO, O. C.; M.Sc. – Dept. de Biol., Inst. de Biociênc., Univ. Estadual Paulista, C.P. 178, 13500 RIO CLARO, Brazil
a Functional development of corpora allata during metamorphosis. Apis spec., Melipona spec., Trigona spec. (Hymenoptera)
b Organogenesis of ovary. (Apidae, Hymenoptera)

BÜHLER, Ms. M. I.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMAN, Argentina
a Oocyte maturation: energetic metabolism as an expression of cytoplasmic maturation. Bufo arenarum (Anura)

BURBACHER, T. M. – Dept. of Psychol., Univ. of Washington, CDMRC, WJ–10, SEATTLE, WA 98195, USA
a Methylmercury teratogenesis and postnatal development. Macaca mulatta (Primates)
b Prematurity and postnatal development. Species as a

BURCHILL, B. R.; Ph.D., Prof. – Dept. of Physiol. and Cell Biol., Univ. of Kansas, LAWRENCE, KS 66045, USA

BURDEN, S. J.; Ph.D. – Dept. of Anat., Harvard Med. School, 25 Shattuck St., BOSTON, MA 02115, USA
a Role of the synaptic basal lamina in developing and regenerating neuromuscular junctions. Mouse, Rabbit

BURDI, A. R.; Ph.D., Prof. – Dept of Anat., Univ. of Michigan, Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Variabilities and polymorphisms in prenatal dental development. Man
b Sexual dimorphisms in facial embryogenesis. Man
c Prenatal growth patterns of head and face. Man
d Tissue interactions during early development of the skull. Chicken.
e Confirming the teratologic model: developmental parallelisms between man and monkey. Macaca nemestrina, Man (Primates)

BURDON-JONES, C.; Ph.D., Prof. – Depts. of Marine Biol. and Zool., James Cook Univ. of N.Queensland, P.O. James Cook Univ., TOWNSVILLE, Qld. 4811, Australia
a Developmental biology. (Enteropneusta; Pterobranchia)

BURGESS, D. R.; Ph.D. – Dept. of Biol. Sci., Dartmouth Coll., HANOVER, NH 03755, USA

BURK, Ms. D. T.; Ph.D. – Dept. of Anat., Sch. of Dent., Univ. of the Pacific, 2155 Webster St., SAN FRANCISCO, CA 94115, USA
a Morphogenesis of median cleft lip induced by injection of diazo-oxo-norleucine. Mouse
b Histochemistry and autoradiography of extracellular matrix in facial processes of control and teratogen-treated embryos. Mouse

BURNSIDE, Ms. M. B.; Ph.D. – Dept. of Physiol.-Anat., Univ. of California, BERKELEY, CA 94720, USA
a The mechanism of morphogenetic cell shape change studied in neural plate formation of Taricha torosa and Ambystoma maculatum (Urodela), and in photoreceptor elongation and contraction as a model. Lutjanus spec., Hemulon spec. (Teleostei)

BURTON, A. L.; M.D., Prof. – Dept. of Anat., Health Sci. Ctr., Univ. of Texas, 7703 Floyd Curl Drive, SAN ANTONIO, TX 78284, USA
a Development of glial cells studied in tissue cultures

BUSS, E. G.; Ph.D., Prof. – Dept. of Poultry Sci., Pennsylvania State Univ., 203 Anim. Industr. Bldg., UNIVERSITY PARK, PA 16802, USA
a Cause of diploidy in parthenogenones: fusion of haploid cells or non-disjunction during cell divisions. Meleagris gallopavo (Aves)
b Identification of lethal genes by observing embryos developing parthenogenetically. Species as a
c Bowed-hock in males: biochemical cause; conditions and earliest age at which the defect of the tendons is recognisable. Species as a
d Parameters for altered fat metabolism causing obesity. Chicken
e Parameters for genetic limitation in ability to absorb calcium causing sub-minimal levels for bone and shell. Chicken

BUTLER, H.; M.D., B. Chir. – Dept. of Anat., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada
a Implantation, placentation, and early embryology. Galago s. senegalensis (Primates)

BUTLER, W. L.; Ph.D., Prof. – Ctr. for Devl. Biol. B–22, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA

BUTROS, J. M.; Ph.D., Prof. – Dept. of Embryol., Sch. of Med., St. George's Univ., General Hosp., P.O.Box 7, GRENADA, West Indies
No work on developmental biology in progress

BUTTERWORTH, F. M.; Ph.D., Prof. – Dept. of Biol. Sci., Oakland Univ., ROCHESTER, MI 48063, USA
a Hormonal and genetic control of development of adipose tissue on cellular and biochemical level (microsurgery, transplantation, cytology, biochemistry, organ culture). Drosophila melanogaster (Diptera)
b The role of the internal environment and of development of lysosomes on rate of programmed cell death of the larval fat body. Drosophila spec. (Diptera)
c Ecdysone-protein complexes in blood and specific tissues. Drosophila hydei (Diptera)
d Biochemistry of male lipid and ultrastructure of male-sterile mutants. Same species as a

BUTZEL, H. M., Jr.; Ph.D., Prof. – Dept. of Biol. Sci., Union Coll., SCHENECTADY, NY 12308, USA
a Developmental genetics: mating types and morphogenesis; analysis of mating type proteins. Paramecium aurelia, Didinium nasutum, Tetrahymena pyriformis (Ciliata)

BYRD, E. W., Jr.; Ph.D. – Dept. of Zool. and Physiol., Louisiana State Univ., BATON ROUGE, LA 70803, USA
a Histone phosphorylation and modification during cell cycle and spermatogenesis. Xenopus spec., Bufo spec., Rana spec. (Anura), Strongylocentrotus purpuratus (Echinoidea)
b Sperm capacitation, in vitro fertilization and development. Cow
c Biochemistry and morphology of spermatogenesis, fertilization, and development. Strongylocentrotus purpuratus (Echinoidea), Thais haemastoma, Viviparus subpurpuratus (Gastropoda), Crassostrea virginica (Lamellibranchia)

CABADA, M. O.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMÁN, Argentina
a Chemical factors involved in fertilization: testicular factors, jelly coats. Bufo arenarum (Anura)
b Fertilization membrane formation: chemical and immunological approaches. Same species as a
c Effect of hormones on proteins and nucleic acid synthesis in ovarian tissue and early development. Same species as a

CAIRNS, J. M.; Ph.D. – Springville Labs., Roswell Park Mem. Inst., SPRINGVILLE, NY 14141, USA

CALABRESE, A.; Ph.D. – Biol. Lab., Natl. Marine Fish. Serv., Northeast Fish. Ctr., 212 Rogers Ave., MILFORD, CT 06460, USA
a Effects of heavy metals on developing embryos. Spisula solidissima, Mulinia lateralis, Mercenaria mercenaria, Crassostrea virginica (Lamellibranchia)

CAMERON, I. L.; Ph. D., Prof. – Dept. of Anat., Health Sci. Ctr., Univ. of Texas, 7703 Floyd Curl Drive, SAN ANTONIO, TX 78284, USA
a Ionic or elemental regulation of oocyte growth, maturation and fertilisation. Rana pipiens, Xenopus laevis (Anura)
b Role of K, Na, Ca and Mg in gene expression in lampbrush chromosomes and in salivary gland chromosomes in larvae; relation between cell proliferation and differentiation in embryonic development. Drosophila virilis (Diptera)

CAMERON, J.; B.Sc. – Dept. of Med. (Neurol.), Univ. of Sydney, CAMPERDOWN, N.S.W. 2006, Australia

CAMERON, Ms. J. A.; Ph.D. – 190 MSB, School of Basic Med. Sci., Univ of Illinois, URBANA, IL 61801, USA

CAMPAÑA, Ms. H.; Lic. Zool. – Dept. of Neuroembryol., IMBICE, C.C. 403, 1900 LA PLATA, Argentina
a Morphogenesis of the retina. (Aves)

CAMPBELL, R. D.; Ph.D., Prof. – Dept. of Devl. and Cell Biol., Univ. of Calif., IRVINE, CA 92717, USA
a Morphogenesis: relations between movements, adhesions, and shapes of epithelial cells, and the animal shapes they produce. Hydra littoralis (Hydrozoa)

CAMPOS, L. A. de OLIVEIRA; Dr., Prof. – Dept. de Biol. Geral, Centro de Ciênc. Biol. e da Saúde, Univ. Fed. de Viçosa, 36570 VIÇOSA, MG, Brazil
a Role and action mechanism of juvenile hormone in caste differentiation. Melipona quadrifasciata, M. marginata, Partamona cupira (Hymenoptera)

CANTINO, E. C.; Ph.D. – Dept. of Bot. and Plant Pathol., Michigan State Univ., Rm 242 Plant Biol. Bldg., EAST LANSING, MI 48823, USA
a Relation between biochemical and morphological differentiation. Blastocladiella emersonii, B. britannica (Phycomycetes)
b Relation between changes in fine structure and germination in motile cells and associated biochemical differentiation. Same species as a
c Cell-organelle interactions in motile cells, especially the role of the DNA-containing gamma particles in encystment. Same species as a
d Isolation and characterization of the "side-body" components (symphyomicrobody, lipid globules) in motile cells and their roles in cell activity and encystment. Blastocladiella emersonii (Phycomycetes)

CAPLAN, A. I.; Dr. – Biol. Dept., Case Western Reserve Univ., CLEVELAND, OH 44106, USA
a Relationship between intercellular NAD (nicotinamide-adenine dinucleotide) and cAMP pool sizes and muscle and cartilage development from embryonic limb mesenchymal cells. Chicken
b Development of cartilage proteoglycan in embryonic chondrocytes. Species as a
c Development of osteogenetic cells. Species as a
d Role of extracellular matrix in the control of muscle cartilage, bone and connective tissue development

CARLSON, B. M.; M.D., Ph.D., Prof. – Dept. of Anat., Univ. of Michigan, 4622 Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Supernumerary limb formation. Triturus viridescens, Ambystoma mexicanum (Urodela)
b Minced muscle regeneration. Ambystoma mexicanum (Urodela), Rana spec. (Anura), Rat
c Muscle and limb morphogenesis in regenerates. Species as a
d Regeneration and transplantation of muscles. Rat, Cat (with J. FAULKNER, Dept. of Physiol.)
e Morphogenesis of embryonic limb muscles. Ambystoma mexicanum (Urodela) (with M. GRIM, Praha)
CARMONA de UZCATEGUI, Ms. M. L.; Dr. Biol., Assoc. Prof. – Cat. de Embriol., Fac. de Med., Univ. de Los Andes, Apartado 38, MÉRIDA, Venezuela
CARNEGIE, Ms. J. A.; B.Sc. – Dept. of Reprod. Physiol., Anim. Res. Inst., OTTAWA, Ont. K1A 0C6, Canada
CARPENTER, S. J.; Ph.D., Assoc. Prof. – Dept. of Anat./Cytol., Dartmouth Med. School, HANOVER, NH 03755, USA
CARRI, N.; M.D. – Dept. of Neuroembryol., IMBICE, C.C. 403, 1900 LA PLATA, Argentina
a Axonal migration in vivo and in vitro. (Aves)
b Retinal projection. (Aves)
CASSENS, R. G.; Ph.D., Prof. – 272 Muscle Biol. Lab., Univ. of Wisconsin, 1805 Linden Drive, MADISON, WI 53706, USA
a Myogenesis and influence of nerve on development of fiber types. (Mammalia)
CASSIDY, J. D., O. P.; Ph.D. – Dept. of Biol. Sci., Northwestern Univ., Hogan Hall, EVANSTON, IL 60201, USA
a Morphology of oogenesis. Habrobracon juglandis (Hymenoptera)
CASTON, J. D.; Ph.D., Prof. – Dept. of Anat., Devl. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Nucleic acids and protein synthesis during development (ribosomes). Rana pipiens, Xenopus laevis (Anura)
b Role of folate binders (high affinity) in regulation of folate metabolism and utilisation during normal and neoplastic development. Various spp.
CATHER, J. N.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Differentiation of shell gland. Ilyanassa obsoleta and other spp. (Gastropoda; Bivalvia)
b Cellular interactions. (Annelida; Mollusca and other Spiralia)
c Role of vegetal body in development of fresh-water species. Bithynia tentaculata and other spp. (Gastropoda)
CAUNA, N.; M.D., D.Sc., Prof. – Dept. of Anat. and Cell Biol., Univ. of Pittsburgh, 3550 Terrace St., PITTSBURGH, PA 15261, USA
a Regeneration of nerve endings in skin and nasal mucosa. Rat, Man
CAVEY, M. J.; Ph.D. – Dept. of Biol., Univ. of Calgary, CALGARY, Alta. T2N 1N4, Canada
a Morphology and differentiation of the larval tunic (histochemistry, autoradiography, LM, EM). Boltenia villosa, Distaplia occidentalis (Ascidiacea)
b Regeneration of the bipartite myoepithelium lining the water-vascular canal in the tubefoot, studied by wounding (LM, EM). Stylasterias forreri (Asteroidea)
CHALLICE, C. E.; D.Sc., Ph.D., Prof. – Dept. of Physics, Fac. of Sci., Univ. of Calgary, CALGARY, Alta. T2N 1N4, Canada
a Structural and electrical development of the impulse conduction pathways in the heart. Mouse
CHAMBERLAIN, J. G.; Ph.D. – Dept. of Anat., Sch. of Dent., Univ. of the Pacific, 2155 Webster St., SAN FRANCISCO, CA 94115, USA
a Pathogenesis of experimentally induced congenital hydrocephalus: 6-aminonicotinamide injected during pregnancy. Rat
b Scanning electron microscopy of developing brain (including macrophages). Rat
c Developing neurons in normal and abnormal brain (freeze fracture and TEM). Rat
CHANDRA MOHAN NAIDU, R.; M.Sc. – Dept. of Zool., Sri Venkateswara Univ., TIRUPATI 517502, India
CHASE, H. B.; Ph.D., Prof. (Emer.) – RFD Box 74, NEW HAMPTON, NH 03256, USA
a Developmental genetics of hair growth phases. Mouse
b Hereditary anophthalmia. Mouse
c Juvenile-adult hair changes. Peromyscus spec., Microtus spec. (Rodentia)
CHEN, W. -J.; M.D. – Dept. of Pathol. SM-30, Sch. of Med., Univ. of Washington, SEATTLE, WA 98195, USA
a Effects of methylmercury on fetal growth. Rat
CHEPENIK, K.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Phospholipid metabolism and transport as it relates to cellular membrane biogenesis and composition during normal and abnormal embryogenesis. Rat
b Placental lipid metabolism and transport during normal and abnormal differentiation. Rat
CHEPKO, Ms. G. J.; Ph.D. – Sect. Exp. Embryol., Lab. of Vision Res., Natl. Eye Inst., Natl. Inst. of Health, Bldg.6, Rm. 205, BETHESDA, MD 20205, USA
a Changes in phospholipid metabolism during cellular differentation in embryonic eye lens. Chicken
CHOUDHURY, S. – Dept. of Zool., Sch. of Life Sci., North Eastern Hill Univ., SHILLONG 793003, India
CHRISMAN, C. L.; Ph.D. – Dept. of Anim. Sci., Purdue Univ., Lilly Hall of Life Sci., WEST LAFAYETTE, IN 47907, USA

a Effect of maternal hyperthermia on chromosome abnormalities; spindle fiber dysfunction (blastocyst to eighth day). Mouse
b Gonadotropin induced ovulation and chromosome abnormalities and congenital defects in embryo, fetus, and neonate. Mouse
c Effect of hyperthermic stress on male meiosis. Mouse, Pig

CHRISPEELS, M. J.; Ph.D. – Ctr. for Devl. Biol. C-016, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA

CHRISTIAN, Ms. M. S.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Perinatal evaluation of in utero exposure to potential teratogens. Rat

CHUNG, K. W.; Ph.D. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O. Box 26901, OKLAHOMA-CITY, OK 73190, USA
a Testicular feminisation (postnatal): 1. ultrastructural differentiation of the testis; 2. testosterone formation and secretion; 3. effects of gonadotropins and steroids of Leydig cell structure and function. Mouse
b Pre- and postnatal development of testes in the male pseudohermaphrodite:1. developmental changes of cell organelles; 2. determination of plasma levels of luteinizing hormone (LH) and lactotrophic hormone (FSH), and of testosterone (radioimmunoassay) to define the role of tropic hormones in regulating structural and functional differentiation of the testis. Rat

CHURCH, R. B.; Ph.D., Prof. – Div. of Med. Biochem., Health Sci. Ctr., Univ. of Calgary, CALGARY, Alta T2N 1N4, Canada
a RNA transcriptional complexity during pre- and post-implantation development. (Mammalia)
b Analysis of RNA transcription by repetitive and non-repetitive DNA in developing neural tissue. Mus musculus (Rodentia), Oryctolagus cuniculus (Lagomorpha)
c Embryo transplantation and manipulation. (Mammalia)
d Development studies of genome expression. Muntiacus spec. (Artiodactyla)

CLAPPER, D. L.; Ph.D. – Dept. of Biol. Sci., Hopkins Mar. Stat., Stanford Univ., PACIFIC GROVE, CA 93950, USA
a Purification of a sperm motility initiating substance diffusing from the egg; role of this substance and of inorganic ions and cyclic nucleotides in motility initiation. Limulus polyphemus (Xiphosura)
b Role of ions in acrosome reaction initiation. Species as a

CLARK, R. L.; Ph.D. – Div. of Fetal Pharmacol., Children's Hosp. Res. Found., Elland & Bethesda Aves., CINCINNATI, OH 45229, USA
a Role of protein carboxymethylation and chemotaxis in the regulation of cell movement and shape changes during embryogenesis, part. in neural crest cells and their derivatives in the palate. Mouse
b Teratogenesis caused by effectors of protein carboxymethylation. Mouse

CLAXTON, J. H.; Ph.D. – Dept. of Microbiol. and Genet., Univ. of New England, ARMIDALE, N.S.W. 2351, Australia

CLAYCOMB, W. C.; Ph.D. – Dept. of Cell Biophys., Baylor Coll. of Med., HOUSTON, TX 77030, USA

CLELAND, R. E.; Ph.D., Prof. – Dept. of Bot., Univ. of Washington, SEATTLE, 98195, USA

CLEMENT, A. C.; Ph.D., Prof. (Emer.) – Dept. of Biol., Emory Univ., ATLANTA, GA 30322, USA
a Experiments on early embryonic determination. Ilyanassa obsoleta (Gastropoda)

CLERMONT, Y.; Ph.D., Prof. – Dept. of Anat., McGill Univ., Strathcona Anat. and Dent. Bldg., 3640 University St., MONTREAL, Que. H3A 2B2, Canada
a Differentiation of gonocytes into reserve and renewing type A spermatogonia. Rat

CLINE, T. W.; Ph.D. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
a Sex determination and X chromosome dosage compensation, including the role which the daughterless and Sex-lethal loci play in these processes (genetic and molecular approaches). Drosophila melanogaster (Diptera)
b Genetic analysis of bristle pattern. Species as a

CLUTTER, Ms. M. E.; Ph.D. – Natl. Sci. Found., WASHINGTON, DC 20550, USA
a Experimental embryogenesis including fine structural changes of cell surfaces, structural and functional aspects of polytene chromosomes. Phaseolus coccineus (Papilionaceae)

COALSON, R. E.; Ph.D., Prof. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O.Box 26901, OKLAHOMA-City, OK 73190, USA
a Studies on insulin in the developing pancreas. Chicken, Columba livia (Aves), Rat, Cavia porcellus (Rodentia)

COHEN, M. J.; Ph.D. – Dept. of Biol., Yale Univ., P.O.Box 6666, NEW HAVEN, CT 06511, USA
a Ultrastructure and electrophysiology of individual giant reticulo-spinal neurons during growth and synapse formation following section of their axons in the spinal cord. Petromyzon marinus (Cyclostomata)
b Correlations between structural regeneration and changes in the electrical membrane properties of soma, dendrites and axon of giant interneurons in the CNS (intracellular electrical recording and dye injection). Achaeta domesticus (Blattodea)

COHEN, Ph. P.; Ph.D., M.D., Prof. – Dept. of Physiol. Chem., Univ. of Wisconsin, 1215 Linden Drive, MADISON, WI 53706, USA

COLE, M. B., Jr.; Ph.D. – Dept. of Orthop. Surg., Stritch Sch. of Med., Loyola Univ., 2160 S. 1st Ave., MAYWOOD, IL 60153, USA
a Effects of electric current, magnetic fields, and denervation on regeneration and growth, especially of musculoskeletal system. Rat, Man
b LM and EM cytochemistry of developing tissues, especially bone. Rat, Man

COLEMAN, J. R.; Ph.D., Prof. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA
a Differentiation of embryo cells in culture, particularly skeletal muscle: effects of nucleoside analogs on cellular differentiation, developmental physiology and ultrastructure. Chicken
b Analysis of cell differentiation by cell hybridisation. Chicken, Mouse, Rat
c Differentiation of rhabdomyosarcoma cells. Mouse

COLEMAN, Ms. M.; Ph.D. – Sch. of Biol. Sci., Agric. Res. Stat., Ohio State Univ., COLUMBUS, OH, USA
a Effect of visible light (400–700 nm) on cell proliferation dynamics in the embryo (st. 1–13). Chicken (with S. P. MODAK, Lausanne)

COLLIER, J. R.; Ph.D., Prof. – Dept. of Biol., Brooklyn Coll., Bedford Ave. & Ave. H, NEW YORK, Brooklyn, NY 11210, USA
a Nucleic acid and protein synthesis, especially transcription and regulation of the genome during embryogenesis: 1. RNA and protein synthesis during early development; 2. the role of DNA-dependent RNA synthesis in embryogenesis. Ilyanassa obsoleta (Gastropoda)

COLWIN, A. L.; Ph.D., Prof. (Emer.) – 320 Woodcrest Rd., KEY BISCAYNE, FL 33149, USA

COLWIN, Mrs. L. HUNTER; Ph.D., Prof. (Emer.) – 320 Woodcrest Rd., KEY BISCAYNE, FL 33149, USA

CONNELLY, T. G.; Ph.D. – Dept. of Anat., Univ. of Michigan, Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Pituitary gland enhancement of lens regeneration from the dorsal iris in organ culture. Notophthalmus viridescens (Urodela)
b Developmental cytology of functional cell types in the pituitary, using immunohistochemical techniques. Ambystoma mexicanum (Urodela)
c Quantitative studies of growth and morphogenesis in regeneration blastemas. Same species as a

CONSTANTINE-PATON, Ms. M.; Ph.D. – Dept. of Biol., Princeton Univ., Gyot Hall, PRINCETON, NJ 98544, USA
a Axonal guidance: role of differing regions of the neural tube in the establishment of a stereotyped axonal projection and influence of the normal target tissue on transplanted optic tract growth and termination (microsurgery, autoradiography, histology, ultrastructure). Rana pipiens, Bombina orientalis (Anura)
b Relative contributions of source and target neurons to the patterning of synapses between eye and midbrain; the possibilities that optic nerve axons can maintain synaptic connections with totally inappropriate target neurons and the potentially trophic effect of appropriate synaptic contacts; synaptic specificity and trophic interactions in developing dorsal root gangla (electrophysiology, microsurgery, anatomy). Rana pipiens, Bombina orientalis (Anura)
c Experiments on topological visual map formation and induced ocular dominance zones in developmentally blinded, 3 eyed and 4 eyed animals. Rana pipiens (Anura)
d Experiments on cell death in the developing retina. Species as c

COSTELLO, D. P. † Ph.D., Prof. – Dept. of Zool., Univ. of N. Carolina, CHAPEL HILL, NC 27514, USA

COUFALIK, Ms. A.; Ph.D. – Res. Inst., Hosp. for Joint Dis., 1919 Madison Ave., NEW YORK, NY 10035, USA
a Control of development of tyrosine metabolism in perinatal liver in organ culture. Rat

COULOMBRE, A. J.; Ph.D. – Sect. Exp. Embryol., Lab. of Vision Res., Natl. Eye Inst., Natl. Inst. of Health, Bldg. 6, Rm 203, BETHESDA, MD 20205, USA
a Basement membranes in ocular morphogenesis. Chicken
b Growth and morphogenesis of the cornea.
c Onset of flow of aqueous humor. Same species as a

COUNCE (NICKLAS), Ms. S. J.; Ph.D. – Dept. of Anat., Duke Univ., DURHAM, NC 27710, USA
a Mutants altering morphogenetic patterns, studies to define genetic properties of organelles and cellular behavior implicated in cell shape change and movement. Drosophila melanogaster (Diptera)
b Molding of nervous system, embryonic hypodermis, and apodemal attachments involves patterned (temporal, spatial) cell death. Heteropeza spec., Miastor spec. (Diptera)
c Experimental modification of development patterns in maternal-effect lethal mutations (temperature, nutrition, maternal age, etc.) Same species as a

COURTRIGHT, J. B.; Ph.D. – Dept. of Biol., Marquette Univ., 530 N. 15th St., MILWAUKEE, WI 53233, USA
a Developmental genetics of aldehyde oxidase expression in various mutants. Drosophila spp. (Diptera)
b Developmental and age-related alterations in enzymes and proteins in larval gonads and imaginal discs (somatic mosaics and tissue transplantations to determine the degree of autonomy in various tissues). Species as a

COUSINEAU, G. H.; Ph.D. – Lab. de Biol. Molec., Dépt. de Biol., Univ. de Montréal, C.P. 6128, MONTREAL 101, Que., Canda.

COWARD, S. J.; Ph.D. – Dept of Zool., Univ. of Georgia, ATHENS, GA 30602, USA
a Fine structure and physiology of regeneration, with emphasis on the stability of phenotype and stem cell populations. Dugesia dorotocephala, Bdelloura candida, Phagocata gracilis (Turbellaria)
b Fine structure of gametogenesis and early development, with special attention to chromatoid bodies and early cytodifferentiation. Species as a

COWDEN, R. R.; Dr.phil., Prof. – Lab. of Cell Biophys., Coll. of Med., East Tennessee State Univ., Box 23320A, JOHNSON CITY, TN 37601, USA

COX, E. C.; Ph.D. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
a Structure and genetic control of an excreted pre-cyclic AMP factor which appears immediately after starvation of vegetative amoebae, is quite hydrophobic, and is under the control of the aggA gene. Polysphondylium violaceum (Acrasiales)
b Genetic control of pattern formation (spacing) in the whorls along the stalk.

COX, P. G.; Ph.D., Prof. – Dept. of Biol. Sci., Mississippi Coll., P.O.Box 4045, CLINTON, MS 39058, USA

CRAGG, B. G.; Ph.D. – Dept. of Physiol., Monash Univ., Wellington Rd., CLAYTON, Vict. 3168, Australia
a Development of synapses in visual cortex. Cat
b Development of synapses in the cortex. Man
c Regeneration of maxillary nerve in neonates, and effect on barrel formation. Mouse
d Effect of various concentrations of lead and alcohol on development of brain synapses. Mouse

CRAWFORD, R. B.; Ph.D., Prof. – Dept. of Biol., Trinity Coll., HARTFORD, 06106, USA
a Relationship of synthetic pathways of adenosine triphosphate to morphogenesis and differentiation. Fundulus heteroclitus (Teleostei), Ambystoma maculatum (Urodela)
b Kinetics of RNA synthesis during early embryogenesis, especially in relation to energetics metabolism. Same species as a
c Activation of hexokinase activity in embryos. Ambystoma maculatum (Urodela)
d Relationship of free amino acid pool to protein synthesis in embryos. Same species as a
e Effects of pesticides on embryogenesis. Fundulus heteroclitus (Teleostei)
f Ionic requirements and enzymology of amino acid transport in eggs and embryos. Echinarachnius parma, Strongylocentrotus purpuratus and other spp. (Echinodermata)

CROSSLEY, A. C.; Ph.D. – Sch. of Biol. Sci., Univ. of Sydney, Zool. Bldg., SYDNEY, N.S.W. 2006, Australia
a Development, especially of muscles and blood cells. Calliphora spec. and others, incl. marine species (Insecta)
b Shape changes and contraction in developing embryos. Galeolaria spec. (Polychaeta), Calliphora spec. (Diptera)

CROUCH, Ms. M. L.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Regulation of development. (Angiospermae)
b Accumulation of storage proteins. (Angiospermae)

CROWELL, P. S.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Development of colonial forms, especially cell and tissue behavior during differentiation. (Hydrozoa)

CRUZ LANDIM, Ms. C. da; Ph.D., Prof. – Dept.de Biol., Inst. de Biociênc., Univ. Estadual Paulista "Julio de Mesquita Silho", C.P. 178, 13.500 RIO CLARO, S.P. Brazil
a Senescence of larval tissues (morphology, histochemistry). Trigona (Scaptotrigona) postica (Hymenoptera)
b Effect of juvenile hormone and nutrition on hypopharyngeal gland secretion cycle during development: ultrastructure of nuclei; cytophotometry of DNA contents. Species as a, and Apis mellifera, Melipona quadrifasciata anthidioides (Hymenoptera)
c Morphometry, histology, histochemistry and ultrastructure of fat body during development. Melipona quadrifasciata anthidioides, Apis mellifera (Hymenoptera)
d Morphology and histology of imaginal disc development in the larva. Species as a, and Melipona quadrifasciata anthidioides (Hymenoptera)

CULBERSON, J. L.; Ph.D. – Dept. of Anat., Med. Ctr., West Virginia Univ., MORGANTOWN, WV 26506, USA
a Timing of maturation of spinal afferent, spinothalamic and spinocerebellar fibers. Didelphis virginiana (Marsupialia)

CUNHA, G. R.; Ph.D. – Dept. of Anat., Univ. of Colorado, 4200 East 9th Ave., DENVER, CO 80262, USA
a Role of hormones in development of structures composed of epithelium and mesenchyme (prostate, seminal vesicles, preputial gland, vagina). Mouse
b Tissue interactions in carcinogenesis. Mouse

CURTIS, Ms. S. K.; Ph.D. – Lab. of Cell. Biophys., Coll. of Med., East Tennessee State Univ., Box 23320A, JOHNSON CITY, TN 37601, USA

CUTLER, L. S.; D.D.S., Ph.D. – Dept. of Oral Diagnosis, Sch. of Dent. Med., Univ. of Connecticut Health Ctr., FARMINGTON, CT 06032, USA
a Epithelial-mesenchymal interactions in differentiation of submandibular gland and in carcinogenesis. Rat
b Electron microscopic cytochemistry of various enzymes (alkaline phosphatase, adenyl cyclase and phosphodiesterase) during differentiation of submandibular gland. Rat
c Role of Ca-ions, cyclic AMP, and beta-receptors in the secretory process in developing submandibular gland. Rat

CUTTS, J. H.; Ph.D., Prof. – Dept. of Anat., Coll. of Med., Univ. of Missouri, COLUMBIA, MO 65201, USA

DAENTL, Ms. D. L.; M.D. – Dept. of Growth and Devl., Sch. of Med., Univ. of California, SAN FRANCISCO, CA 94143, USA

DAHINTEN, Ms. S. L.; Lic. en Antrop. – Lab. de Invest. Morfol., Cát. IIIa de Anat., Univ. Nac. de La Plata, 60 y 120, 1900 LA PLATA, Buenos Aires, Argentina
a Disturbances of the discontinuous cranial traits due to malnutrition (21–49 days postnatal). Rat

DAHM, K. H.; Dr. rer. nat., Prof. – Inst. of Developm. Biol., Texas A & M Univ., COLLEGE STATION, TX 77843, USA
a Juvenile hormone identification in different species and stages; biosynthesis in vivo and in vitro. Hyalophora cecropia, Manduca sexta (Lepidoptera), Leptinotarsa decemlineata, Tenebrio molitor (Coleoptera), Periplaneta americana, Nauphoeta cinerea (Blattodea)
DAIKOKU, Sh.; M. D., Ph.D., Prof. – Dept. of Anat., Tukushima Univ., 3 chome, Kuramoto-cho, TOKUSHIMA, 770 Japan
a Development of neurohormones in the hypothalamus. Rat
DAN, Ms. J. C. † Ph.D., Prof. – Dept. of Biol., Ochanomizu Univ., TOKYO, Japan
DAN (SOHKAWA), Ms. M.; D.Sc. – Lab. of Embryol., Dept. of Biol., Osaka City Univ., 459 Sugimoto-cho, Sumiyoshi-ku, OSAKA, 558 Japan
a Cell dynamics in early development. (Asteroidea)
DANG, H. R.; M.Sc. (Hons.) – Dept. of Zool., Punjab Agric. Univ., LUDHIANA, India
a Histophysiology and biochemistry of gonads. (Aves) (with S. S. GURAYA and R. CHALANA)
DANIEL, J. C., Jr.; Ph.D., Prof. – Dept. of Zool., Univ. of Tennessee, KNOXVILLE, 37916, USA
DANIELS, E.; Ph.D. – Dept. of Anat., McGill Univ., 3640 University St., MONTREAL, Que. H3A 2B2, Canada
a Identification of the developmental interrelationships of the types of stromal cells and their functions in hemopoiesis. Mouse
DAS, G. D.; Ph.D., Prof. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA
a Proliferation, migration and differentiation of transplanted neuron precursors and undifferentiated neurons of the brain. (Mammalia)
b Neuroembryogenesis and morphogenesis of the cerebellum. Rat
c Electron microscopy of cell-to-cell interactions in the differentiation of neurons and glia cells. Rat
d Cellular aspects of teratology in the cerebellum and cerebral cortex of embryos following low-level x-ray irradiation and/or administration of N-ethyl-N-nitrosourea. Rat
D'ASARO, C. N.; Ph.D., Prof. – Dept. of Biol., Univ. of W. Florida, PENSACOLA, FL 32504, USA
a Spawning and larval development (Prosobranchia, Gastropoda)
b Development and culture. Arenicola cristata (Polychaeta)
DASGUPTA, B.; Ph.D., Prof. – Dept. of Zool., Presidency Coll., College St., CALCUTTA-12, India
DAUWALDER, Ms. M.; Ph.D. – Cell Res. Inst., Biol. Labs. 220, Univ. of Texas, AUSTIN, TX 78712, USA
DAVE, Y. S.; Ph.D. – Dept. of Biosci., Sardar Patel Univ., VALLABH VIDYANAGAR 388120, Gujarat, India
DAVIDSON, E. H.; Ph.D., Prof. – Div. of Biol., Calif. Inst. of Technol., PASADENA, CA 91125, USA
DAVIES, Ms. M.; M.Sc. – Dept. of Zool., Univ. of Adelaide, North Terrace, G.P.O.Box 498, ADELAIDE, S.A. 5001, Australia
a Skeletal changes induced by hybridisation. (Leptodactylidae, Anura)
b Ontogeny of skeleton. (Hylidae & Leptodactylidae: Anura)
DAVIS, J. C. † Ph.D. – Dept. of Physiol. and Cell Biol., Univ. of Kansas, LAWRENCE, KS 66045, USA
DAVIS, Ms. R. E.; B.Sc. – Dept. of Dairy Sci., Coll. of Agric. Sci., Clemson Univ., CLEMSON, SC 29631, USA
a Role of bovine serum albumin (BSA) in in vitro culture of preimplantation embryos. Pig
DAWID, I. B.; Ph.D. – Lab. of Biochem., Natl. Canc. Inst., N.I.H., Bldg. 37 Rm. 4D-06, BETHESDA, MD 20205, USA
a Organisation and expression of ribosomal RNA genes. Drosophila melanogaster (Diptera)
b Properties of RNA populations in the embryo. Xenopus laevis (Anura)
DEARLOVE, G. E.; Ph.D. – Biol. Dept., Hofstra Univ., HEMPSTEAD, NY 11550, USA
a Isozyme patterns of developing larval and regenerating limbs (LDH, MDH, GOT, esterase, 6-PGD). Ambystoma maculatum (Urodela)
b Minimal amount of dedifferentiated tissue required to continue limb regeneration following denervation in adults. Notophthalmus viridescens (Urodela)
c Effects of concanavalin A administered directly into regeneration blastema (autoradiography, gross morphology). Same species as b
d Immunofluorescence of collagen type and proteoglycan type during limb regeneration in larval, neotenous, and post-metamorphic animals. Ambystoma mexicanum (Urodela)
e Protein profiles of aqueous and vitreous humors and lens during lens regeneration; characterisation of redifferentiation biochemically. Species as b
f Regeneration of limb and lens after irradiation at selected dosages and times post amputation or lentectomy. Species as b
DE BAVAY, J. M. F. X.; B.Sc. – Dept. of Zool., Univ. of New England, ARMIDALE, N.S.W. 2351, Australia
no developmental research in progress
DECK, J. D.; Ph.D. – Dept. of Anat., Univ. of Virginia Med. Ctr., Box 439, CHARLOTTESVILLE, VA 22908, USA
a Cytological changes in muscle after injury. Diemictylus viridescens (Urodela)
b Wound healing and scar formation in skin. Pig, Man
c Growth, development and tissue turnover in heart valves. Rat

DECKER, R. S.; Ph.D. – Dept. of Cell Biol., Health Sci. Ctr., Univ. of Texas, 5323 Harry Hines Blvd., DALLAS, TX 75235, USA

de FABRO, Ms. S. P.; Ph.D., Prof. – Ila Cát. de Histol., Embriol. y Genet., Fac. Cienc. Med. de Córdoba, C.P. 362, CÓRDOBA, Argentina

DE GENNARO, L. D.; Ph.D., Prof. – Dept. of Biol., Le Moyne Coll., LeMoyne Heights, SYRACUSE, NY 13214, USA

a Growth and differentiation of glycogen body (ultrastructure,metabolism). Chicken

b Effects of lead on development of nervous system. Chicken, Mouse

DeHAAN, R. L.; Ph.D., Prof. – Dept. of Anat., Emory Univ., ATLANTA, GA 30322, USA

a Pacemaker formation and the initiation of the heartbeat; developmental electrophysiology and spontaneous activity of embryonic heart cells in tissue culture; rate regulation in the developing heart. Chicken

b Communication and electrical coupling among cells; differentiation of membrane function. Chicken

c Cellular mechanisms underlying cardiac morphogenesis; regulation of cell adhesiveness, motility and mitotic activity. Chicken

DE JAGER, Ms. L.; M. Med. Sci. – Dept. of Anat., Univ. of the Orange Free State, P.O.Box 339, BLOEMFONTEIN 9300, S. Africa

a Origin of the cartilaginous ear capsule. Chicken

DELAHUNTA, A.; D.V.M., Ph.D., Prof. – Dept. of Anat., NY State Coll. of Vet. Med., Cornell Univ., ITHACA, NY 14850, USA

a Myelopathy of Afgan hounds. Dog

b Myelin deficiency. Dog, Cat

c Developmental anomalies. Domestic and laboratory animals. (Mammalia)

del PINO E. J.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, S. M. de TUCUMÁN, Argentina

del PINO, Ms. E. M.; Ph.D., Prof. – Inst. de Cienc., Pontificia Univ. Catól. del Ecuador, Apartado 2184, QUITO, Ecuador

a Morphological and physiological maternal adaptations for embryonic incubation and characteristics of embryonic development in the maternal pouch. Gastrotheca riobambae, Flectonotus pygmaeus (Hylidae, Anura)

b Comparative studies of oogenesis, pouch morphology and histology, and of embryonic development. Amphignathodon spec., Cryptobatrachus spec., Flectonotus spec., Gastrotheca spec., Hemiphractus spec., Stefania spec. (Hylidae, Anura)

del RÍO, A. G. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMÁN, Argentina

a Sperm maturation: epididymal activity. Cavia porcellus, Rat (Rodentia)

b Thyroid gland and epididymal function. Rat

DeMAGGIO, A. E.; Ph.D., Prof. – Dept. of Biol. Sci., Dartmouth Coll., HANOVER, NH 03755, USA

a Experimental developmental morphology. (Pteridophyta; Spermatophyta)

b Biochemistry and ultrastructure of germinating spores. Dawsonia superba (Musci), Dryopteris filix-mas, Onoclea sensibilis (Filices)

DENT, J. N.; Ph.D., Prof. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

DENTON, C. J.; Ph.D. – Dept. of Behav. Biol., Res. Sch. of Biol. Sci., Austr. Natl. Univ., CANBERRA, A.C.T. 2601, Australia

a Formation of foreign, fast-type synapses by a transplanted nerve, upon denervated, slow-type muscle fibres; physiological and ultrastructural changes of established foreign synapses following regeneration of the native nerve. Chicken

b Effects of chronically induced electrical activity of denervated muscle membrane upon the post-denervation spread of extra-junctional acetylcholine receptors. Chicken

DERBY, A. A.; Ph.D. – Biol. Dept., Univ. of Missouri-St. Louis, 8001 Natural Bridge Rd., ST. LOUIS, MO 63121, USA

DESMOND, Ms. M. E.; Ph.D. – Dept. of Biol., Villanova Univ., VILLANOVA, PA 19085, USA

DE SOUZA, Ms. M. L.; M.Sc. – Dept. de Morfol. e Fisiol., Fac. de Ciênc. Agrár. e Vet., Univ. Estadual Paulista "Julio de Mesquita Filho", Rodovia Carlos Tonanni, Km 5 s/n°, 14870 JABOTICABAL, S. P., Brazil

DE TERRA (WHITTAKER), Ms. N.; Ph.D. –Dept. of Anat., Hahnemann Med. Coll., PHILADELPHIA, PA 19102, USA

a Morphogenesis and nucleo-cytoplasmic interactions (microsurgery, autoradiography, electron microscopy). Stentor coeruleus (Ciliata)

b Control of cell division and morphogenesis (microsurgery, autoradiography, EM)

DEVLIN, R.; Ph.D. – Dept. of Biol., Emory Univ., ATLANTA, GA 30322, USA

a Changes in the rate of synthesis, processing, degradation, and transport of contractile protein mRNAs during muscle differentiation. Quail

b Activity and synthesis of aldehyde oxidase, pyrodoxyl oxidase, and xanthine dehydrogenase during larval development. Drosophila melanogaster (Diptera)

DEVOR, M.; Ph.D. – Dept. of Zool., Hebrew Univ., JERUSALEM 91000, Israel
also: Neurobiol. Unit, Life Sci. Inst., Hebrew Univ., JERUSALEM, Israel

a Late consequences of neonatal brain and peripheral nerve lesions; neuroanatomy of somatosensory system; behavior. Mouse, Rat, Cat

b Nerve regeneration and cutaneous reinnervation. Rat

c Consequences of peripheral nerve lesions to CNS

DiBERARDINO, Ms. M.A.; Ph.D., Prof. – Dept. of Anat., Med. Coll. of Pennsylv., 3300 Henry Ave., PHILADELPHIA, PA 19129, USA
a Nuclear, chromosomal, cytoplasmic and protein changes during development. Rana pipiens (Anura)
b Nucleo-cytoplasmic exchange of non-histone proteins in embryos. Same species as a
c Developmental potential of nuclei investigated by means of nuclear transplantation. Same species as a
d Oocyte maturation. Species as a

DICKEY, J. F.; Ph.D., Prof. – Dept. of Dairy Sci., Coll. of Agric. Sci., Clemson Univ., CLEMSON, SC 29631, USA
a Causes (cytogenetics, protein synthesis, embryo-uterine interactions) of early embryonic mortality. Cow, Sheep, Pig
b Recovery, culture and transfer of embryos. Species as a

DICKINSON, W. J.; Ph.D. – Dept. of Biol., Univ. of Utah, SALT LAKE CITY, UT 84112, USA
a Genetical and biochemical characterisation of mutants showing altered tissue and/or stage specificity of expression of selected enzymes. Drosophila melanogaster (Diptera)
b Mechanism underlying differences in patterns of expression of selected enzymes in species of the picture-winged group. Drosophila spp. (Diptera)

DICKSON, D. R.; Ph.D., Prof. – Dept. of Pediat., Mailman Ctr. for Child Devl. (D-820), Univ. of Miami, P.O.Box 016820, MIAMI, FL 33101, USA
a Normal embryology and developmental morphology of the head and neck; specific interest in anatomical bases of craniofacial anomalies such as cleft palate. Homo sapiens (Primates) (with W. MAUE-DICKSON)
b Radiologic assesment of craniofacial anomalies. Same species as a
c Muscular morphology of palatal clefts. Same species as a

DILLARD, W. L.; Ph.D. – Dept. of Zool., Univ. of Oklahoma, 730 Van Vleet Oval, Rm. 222, NORMAN, OK 73019, USA
a Regulation of uridine diphosphate glucose (UDPG) pyrophosphorylase in morphogenesis. Acetabularia mediterranea, A. crenulata (Chlorophyceae)
b Activity of alkaline phosphatase during development. Species as a

DIMOND, Sister M. T.; Ph.D., Prof. – Dept. of Biol., Trinity Coll., WASHINGTON, DC 20017, USA

DINSMORE, C. E.; Ph.D. – Dept. of Anat., Coll. Health Sci., Rush Univ., CHICAGO, IL 60612, USA
a Spinal cord and ganglion neogenesis during tail regeneration in adults. Plethodon cinereus, Notophthalmus viridescens (Urodela)
b Ultrastructure of regenerating caudal spinal cord. Plethodon cinereus (Urodela)
c Effect of tail skin on limb regeneration. Species as b
d Effect of carbonic anhydrase inhibitors, which are teratogenic in developing limbs, on limb regeneration. Species as a

DIXON, K.E.; Ph.D. – Sch. of Biol. Sci., Flinders Univ., BEDFORD PARK, S.A. 5042, Australia

DOANE, Ms. W. W.; Ph.D., Prof. – Dept. of Zool., Arizona State Univ., TEMPE, AZ 85281, USA
a Developmental and physiological genetics of amylase isozymes: analysis of genetic regulatory mechanism in cellular differentiation (biochemistry, genetics, cytogenetics). Drosophila melanogaster (Diptera)
b Developmental and experimental analysis of mutants characterized by abnormalities in lipid and carbohydrate metabolism, as well as in endocrine and reproductive physiology. Drosophila melanogaster (Diptera)

DONADY, J. J.; Ph.D. – Dept. of Biol., Wesleyan Univ., MIDDLETOWN, CT 06457, USA
a Identification and localization of major genes involved in myogenesis: cell free mRNA translation, in situ hybridization to polytene chromosomes, cDNA synthesis for cloning and identification of genomic DNA clones, restriction analysis and base sequencing of myogenic genes. Drosophila melanogaster (Diptera)
b Developmental analysis of RNA and protein synthesis in myogenesis (molecular and ultrastructural analysis, 2-dimensional gel electrophoresis, cell free translation, electron microscopy). Same species as a

DONALDSON, E. M.; D.Sc., Ph.D. – Nutrit. and Appl. Endocrinol. Program, Resource Serv. Branch, Dept. of Fish. and Oceans, 4160 Marine Drive, WEST VANCOUVER, B.C. V7V 1N6, Canada
a Reproduction (all aspects). Oncorhynchus gorbusha, O. tshawytscha, O. kisutch (Teleostei)

DONALDSON, W.E.; Ph.D., Prof. – Poultry Sci. Dept., Sch. of Agric. and Life Sci., N. Carolina State Univ., Box 5307, RALEIGH, NC 27607, USA

DONEEN, B. A.; Ph.D. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Role of pituitary hormones in development and in fetal hydromineral balance. Rat
b Hormonal control of hydromineral balance and ion transport in the embryo. Chicken

DOOHER, G. B.; Ph.D. – Devl. Genet. Lab., Mem. Sloan-Kettering Canc. Ctr., 1275 York Ave., NEW YORK, NY 10021, USA
a Effects of mutant genes on spermatogenesis. Mouse
b Serological and topographical characterization of mutant gene products on cell surfaces during spermatogenesis. Mouse

DOR, M.; M.D. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel Aviv Univ., TEL HASHOMER, Israel

DORFMAN, A.; Ph.D., Prof. – Depts. of Pediat. and Biochem., Univ. of Chicago, 1101 E. 57th St., CHICAGO, IL 60637, USA

DOTSU, Y.; Dr. Agr., Prof. – Dept. of Mar. Zool., Fac. of Fish., Nagasaki Univ., 1–14 Bunkyo-machi, NAGASAKI 852, Japan
a Induction of spawning by hormone operation; embryonic development, and rearing of larvae. Eleotris spec., Hypseleoris spec., Tridentiger spec., Mugilogobius spec. (Gobioidei, Teleostei)
DOVE, W. F.; Ph.D., Prof. – McArdle Lab. for Canc. Res., Univ. of Wisconsin, 450 N. Randall Ave., MADISON, WI 53706, USA
a Differentiation within gene families for tubulin and actin during the life cycle. Physarum polycephalum (Myxomycetes)
DRACHMAN, D. B.; M.D., Prof. – Dept. of Neurol., Johns Hopkins Univ. Hosp., 601 N. Broadway, BALTIMORE, MD 21205, USA
DRESDEN, M. H.; Ph.D. – Dept of Biochem., Baylor Coll. of Med., 1200 Moursund Ave., HOUSTON, TX 77030, USA
a Limb regeneration. Triturus viridescens (Urodela)
b Collagen synthesis and degradation; collagenolytic enzymes. Species as a
c Mechanism of transformation from cercaria to schistosomula. Schistosoma mansoni (Trematoda)
DRUM, R. W.; Ph.D. – General Delivery, WALDRON ISLAND, WA 98297, USA
a Using pattern variation in wild and cultured populations to study the process(es) of silica deposition during frustule formation (EM of carbon replicas). Navicula spp., Licomorpha spp., Gomphonema spp. (Diatomeae) (with R. GORDON, Winnipeg)
DUBEY, P. N.; D.Phil., Prof. – Dept. of Anat., Med. Coll., NAGPUR 3, M.S., India
DuFRAIN, R. J.; Ph.D. – Med. and Health Sci. Div., Oak Ridge Assoc. Univ., P.O.Box 117, OAK RIDGE, TN 37830, USA
DUKE, K. L.; Ph.D., – Dept. of Anat., Med. Ctr., Duke Univ., DURHAM, NC 27710, USA
a Comparative histology of the ovary, including developmental stages and history of germ cells. (Mammalia)
b Development of rete ovarii. Various spp. (Mammalia)
DUNG, H. C.; Ph.D. – Dept. of Anat., Health Sci. Ctr., Univ. of Texas, 7703 Floyd Curl Drive, SAN ANTONIO, TX 78284, USA
a Abnormal serum patterns in a neurological mutation with immune defects. Mouse
DUNN, B. E. – Dept. of Anat., Med. Univ. of S.Carolina, CHARLESTON, SC 29403, USA
a Pinocytosis in calcium transport by chorioallantois and intestinal epithelium, part. mechanisms of induction of calcium transport function in cells, epithelia. Chicken, Rat
b Interaction between extracellular matrix and presumptive heart cushion tissue, part. relation between abnormal jelly composition and valve defects. Chicken
DURAN de LOPEZ, Ms. L.; M.D. – Cat. de Embriol., Fac. de Med., Univ. de Los Andes, Apartado 38, MÉRIDA, Venezuela
DUTTON, R. W.; Ph.D., Prof. – Ctr. for Devl. Biol. M–001, Univ. of California, San Diego, LA JOLLA, CA 92093, USA
DWORKIN, M.; Ph.D., Prof. – Dept. of Microbiol., Univ. of Minnesota, 1060 Mayo Mem. Bldg., (Mayo Box 196), MINNEAPOLIS, MN 55455, USA
DWORKIN, M. B.; Ph.D. – Dept. of Biol. Chem., Sch. of Med., Univ. of California, DAVIS, CA 95616, USA
a Mobilisation and regulation of specific mRNA sequences following fertilisation, using a recombinant cDNA library. Xenopus laevis (Anura)
EAKIN, R. M.; Ph.D., Prof. – Dept. of Zool., Univ. of California, BERKELEY, CA 94720, USA
a Electron microscopy of induction systems. Hyla regilla (Anura)
b Development of photoreceptors. Helix aspersa (Gastropoda), and other spp. (Invertebrata)
EAPPEN, Ms. V. P.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Comparative study of wound healing and regeneration. Many spp. (Lacertilia)
EBERT, J. D.; Ph.D., Prof. – Carnegie Inst. of Washington, Office of the President, 1530 P St., NW, WASHINGTON, DC 20005, USA
no work on developmental biology in progess
EDDS (LUCKENBILL), Ms. L.; Ph.D. – Dept. of Neurosci., Children's Hosp. Med. Ctr., 300 Longwood Ave., and Dept. of Neuropathol., Harvard Med. School, BOSTON, MA 02115, USA
correspondence: 512 Dedham St., NEWTON, MA 02159, USA
EGAMI, N.; Ph.D., Prof. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Change in radiation sensitivity during embryonic development. Oryzias latipes (Teleostei)
b Embryology of endocrine organs. Same species as a
EGUCHI, G.; Ph.D., Prof. – Inst. of Molec. Biol., Fac. of Sci., Nagoya Univ., Chikusa-ku, NAGOYA, 464 Japan
a Microenvironments controlling transdifferentiation of pigmented epithelial cells in vitro (immunochemistry, EM, biochemistry). Cynops pyrrhogaster (Urodela), Chicken, Quail, Rat, Mouse, Cow
b Cellular functions and behaviour of epithelial tissues in morphogenesis and regeneration (culture, EM, cinematography, immunochemistry, biochemistry). Cynops pyrrhogaster (Urodela), Chicken, Cow
EICHENBRENNER, J.; M.D. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel-Aviv Univ., TEL HASHOMER, Israel
EISENBERG ZALIK, Ms. S.; Ph. D., Prof. – Dept. of Zool., Fac. of Sci., Univ. of Alberta, EDMONTON, Alta. T6G 2E9, Canada
EL DIN, Ms. A. M. N.; B.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt

a Effect of thiourea on development of thyroid glands and hind limbs. Bufo regularis (Anura) (with M. I. MICHAEL)

ELINSON, R. P.; Ph.D. – Ramsay Wright Zool. Labs., Dept. of Zool., Univ. of Toronto, 25 Harbord St., TORONTO, M5S 1A1, Ont., Canada

a Activation response of the egg; behavior and activity of the sperm and egg pronuclei prior to first cleavage. Rana pipiens and other spp. (Amphibia)

b Lethal hybrids, especially those cases where unilateral incompatibility exists. Rana spp., Bufo spp. (Anura)

c Formation and role of grey crescent. (Anura)

ELLGAARD, E. G.; Ph.D. – Dept. of Biol., Tulane Univ., NEW ORLEANS, LA 70118, USA

ELLINWOOD, W. E.; Ph.D. – Dept. of Reprod. Physiol., Oregon Region. Primate Res. Ctr., 505 N.W. 185th Ave., BEAVERTON, OR 97005, USA

a Ontogenesis and control of gonadoptropin secretion in the fetus. Macaca mulatta (Primates)

b Steroidogenesis in fetal gonads. Species as a

ELLIS, D. H.; M.Sc. – E.M. Unit, Dept. of Histopathol., Adelaide Children's Hosp., 72 King William Rd., NORTH ADELAIDE, S.A. 5006, Australia

a Comparative ultrastructure, part. of ascocarp and ascosporogenesis of Thermoascus spec., Chaetomium spec. (Ascomycetes), and conidial structure and conidiogenesis of Thermomyces spec., Humicola spec. (Fungi Imperfecti)

EL MEKKAWY, D. A.; Ph.D. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt

a Comparative study of histogenesis and cytogenesis of the retina. Bufo regularis (Anura)

ELMER, W. A.; Ph.D. – Dept. of Biol., Emory Univ., ATLANTA, GA 30322, USA

a Cell interactions during early limb morphogenesis in the mutant Brachypodism: 1. regulatory mechanisms related to stability of the chondrogenic phenotype; 2. synthesis and turnover of membrane components. Mouse

b Isolation and characterization of a growth regulator in chondrodystrophic animals. Mouse

EL TAWIL, M. H.; B.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt

a Effect of some vitamins on limb regeneration. Bufo regularis (Anura) (with M. I. MICHAEL)

b Fore limb ontogenesis and regeneration. Species as a (with M. I. MICHAEL)

EMERSON, C. P., Jr.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

ENDO, A.; M.D., Prof. – Dept. of Hyg. and Prevent. Med., Sch. of Med., Yamagata Univ., Zao-Iida, YAMAGATA, 990–23 Japan

a Cytogenesis of the effects of environmental mutagens on oocytes. Mouse, Mesocricetus auratus (Rodentia)

ENDO, Ms. S.; M.Sc. – Dept. of Biophys. and Biochem., Univ. of Tokyo, 7–3–1 Hongo, Bunkyo-ku, TOKYO, 113 Japan

a Centriolar complex during early cleavage. Hemicentrotus pulcherrimus, Pseudocentrotus depressus (Echinoidea)

ENLOW, D. H.; Ph.D., Prof. – Orthodont. Dept., Sch. of Dent., Case Western Reserve Univ., 2123 Abington Rd., CLEVELAND, OH 44106, USA

a Development of craniofacial skeleton in fetuses having severe facial anomalies. Man

ENSLEE, E. C.; Ph.D. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA

a Cytochemical analysis of methyl mercury-induced teratogenesis. Fundulus heteroclitus (Teleostei)

b Ultrastructure of regenerating cerci. Acheta domesticus (Orthoptera)

c Ultrastructure of organogenesis. Pyrrhocoris apterus (Heteroptera)

EPEL, D.; Ph.D., Prof. – Dept. of Biol. Sci., Hopkins Mar. Station, Stanford Univ., PACIFIC GROVE, CA 93950, USA

a Biochemistry and physiology of fertilization, especially chemistry of cortical granules and cortical reactions, block to polyspermy, and activation. Strongylocentrotus purpuratus and other marine spp. (Invertebrata)

b Biochemistry and physiology of early development, especially role of Ca^{++} and intracellular pH in activating development. Same species as a

EPSTEIN, D. S.; Ph.D. – Sch. of Dent. Med., Washington Univ., 4559 Scott Ave., ST. LOUIS, MO 63110, USA

ERHART, E. A.; M.D., Ph.D., Prof. – Sect. of Neuroanat., Dept. of Anat., Univ. de São Paulo, Caixa Postal 2921, SÃO PAULO, Brazil

ERICKSON, Ms. C. A.; Ph.D. – Dept. of Zool., Univ. of California, DAVIS, CA 95616, USA

a Role of extracellular matrix in neural crest cell morphogenesis. Chicken, Mouse

b Control of morphogenetic cell movement

ERNEST, M. J.; Ph.D. – Dept. of Biol., Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA

a Hormonal regulation of gene expression in fetal, neonatal and adult liver. Mouse, Rat

ETHERIDGE, A. L.; Ph.D. – Dept. of Biol., Univ. of Arkansas, MONTICELLO, AR 71655, USA

a Suppression of kidney formation by neural crest cells. Xenopus laevis (Anura), Ambystoma maculatum (Urodela)

b Origin of the 8th cranial ganglion cells. Same species as a

c Growth and food conversion rates. Xenopus laevis (Anura)

ETO, K.; D.D.S., Ph.D., Prof. – Sect. Craniofac. Devl. and Anomalies, Inst. of Stomatognathic Sci., Fac. of Dent., Tokyo Med. & Dent. Univ., 1–5–45, Yushima, Bunkyo-ku, TOKYO, 113 Japan
a Experimental induction and suppression of cleft lip. Mouse
b Experimental study of primary palate in whole embryo culture. Rat
ETOH, H.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa-4-chome, CHIBA, 260 Japan
a Effect of radionuclides (3H, 90Sr) on embryonic gonads. Oryzias latipes (Teleostei)
EVANS, H. E.; Ph.D., Prof. – Dept. of Anat., NY State Coll. of Vet. Med., Cornell Univ., ITHACA, NY 14853, USA
a Skeletal development in regard to inter-litter variation utilizing cesarian removals. Dog
b Veratrum induced cyclopia. Sheep
c Serial sections of embryos at spaged ages, available for inspection. Dog, Cat, Cow, Sheep and other spp. (Mammalia)
EYAL (GILADI), Ms. H.; Ph.D., Prof. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Differentiation potencies of the uterine embryo and its ultrastructure. Chicken
b Development of symmetry in the uterine embryo. Chicken
c Interaction between epiblast and hypoblast. Chicken
d Communication between cells during symmetrisation (SEM, TEM). Chicken
e Origin of primordial germ cells. Chicken
FABIAN, B. C.; Ph. D. – Dept. of Zool., Univ. of the Witwatersrand, Jan Smuts Ave., JOHANNESBURG 2001, S. Africa
FAHY, W. E.; Ph. D. – Inst. of Marine Sci., Univ. of North Carolina, P.O.Drawer 809, MOREHEAD CITY, NC 28557, USA
a Possible temperature influence on number of "complex" vertebrae; Fundulus majalis (Teleostei)
b Determination of the morphological time of fixation of the ray number of caudal, anal and dorsal fins. Species as a
c Influence of crowding on ray number in pectoral, dorsal, anal and caudal fins. Species as a
FAINSTAIN (HAMERMAN), Ms. N.; M.Sc. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Ultrastructural changes in the egg from ovulation through fertilization and cleavage. Chicken
b Reserve materials of the embryo; correlation between their metabolism and ultrastructural changes during intrauterine stages. Chicken
FALK, R.; Ph.D., Prof. – Dept. of Genet., The Hebrew Univ., JERUSALEM, Israel
FALLON, J. F.; Ph.D. – Dept. of Anat., Univ. of Wisconsin, 1215 Linden Drive, MADISON, WI 53706, USA
a Pattern formation in development. Ambystoma mexicanum, Notophthalmus viridescens (Urodela), Chelydra serpentina, Chrysemys picta (Chelonia), Chicken, Mouse, Pig, Horse
b Cell death during morphogenesis. Chicken, Mouse, Man
FAMBROUGH, D. M., Jr.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA
a Biosynthesis, spatial organization and degradation of membrane glycoproteins of embryonic skeletal muscle fibers; influences of motor innervation. Chicken
b Biosynthesis and secretion of acetylcholinesterases by embryonic skeletal muscle fibers; neuronal influences. Chicken
FANKHAUSER, G.; Ph.D., Prof. (Emer.) – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
FANTEL, A.; Ph.D. – Centr. Lab. for Hum. Embryol., Dept. of Pediat., Univ. of Washington, SEATTLE, WA 98195, USA
a Experimental teratogenesis. Rat
b Biotransformation of teratogenic drugs in vitro. Rat
FARBEROV, A. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Origin of primordial germ cells (pre-streak stages). Chicken
b Chimaeras. Chicken/Quail
FAULKNER, J.; Prof. – Dept. of Physiol., Univ. of Michigan, Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Regeneration and transplantation of muscles. Rat, Cat (with B. M. CARLSON, Dept. of Anat.)
FAUSTO-STERLING, Ms. A.; Ph.D. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA
a Cellular adhesivity in imaginal disc cells and embryonic cell lines. Drosophila melanogaster (Diptera)
b Analysis of the "rudimentary" locus at the biochemical level. Species as a
FEDOROFF, Ms. N. V.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA
a Controlling elements. Zea mays (Gramineae)
FEDOROFF, S.; Ph.D., Prof. – Dept. of Anat., Univ. of Saskatchewan, Health Sci. Bldg., SASKATOON, Sask. S7N 0W0, Canada
a Development of nervous system. Chicken, Mouse
FEIN, A.; M.Sc. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel-Aviv Univ., TEL HASHOMER, Israel
FELDMAN, M. L.; Ph.D. – Dept. of Anat., Boston Univ., 80 E. Concord St., BOSTON, MA 02118, USA
a Postnatal development of cochlea and cochlear nucleus
b Neurogenesis and postnatal development in cerebral cortex (EM, Golgi impregnation). Rat

FELDMAN, S. C.; Ph.D. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Development of peptide-containing neurons in brain (immunocytochemistry, autoradiography, fluorescence microscopy, other techniques). (Rodentia)
FELTS, W.; Ph. D., Prof. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O. Box 26901, OKLAHOMA-City, OK 73190, USA
a Biomechanics of bone including developmental changes. (Soricidae, Insectivora). Mouse, Rat (Rodentia), (Cetacea; Pinnipedia), Man
FERKOVICH, S. M.; Ph.D. – Insect Attract. Behav. and Basic Biol. Res. Lab., Agric. Res. Serv., U.S.D.A., P.O.Box 14565, GAINESVILLE, FL 32604, USA
a Hormonal control of chitin synthesis in imaginal wing discs. Plodia interpunctella (Lepidoptera)
FERM, V. H.; M.D., Ph.D., Prof. – Dept. of Anat./Cytol., Dartmouth Med. Sch., HANOVER, NH 03755, USA
a Teratogenic effects of heavy metals and environmental factors. Mesocricetus auratus (Rodentia)
FERNÁNDEZ, Ms. S. N.; Pharm. M. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina
a Influence of oviductal secretions on vitelline membrane properties and its involvement in fertilization. Bufo arenarum (Anura)
FERREIRA da SILVA, C. – Sect. of Neuroanat., Dept. of Anat., Univ. de São Paulo, CP 2921, SÃO PAULO, Brazil
FILOSA, M. F.; Ph.D., – Dept. of Zool., Scarborough Coll., Univ. of Toronto, WEST HILL, Ont. M1C 1A4, Canada
a Development; macrocyst formation; role of cell surface. (Acrasiales)
FINNEGAN, C. V.; Ph.D., Prof. – Dept. of Zool., Univ. of Brit. Columbia, VANCOUVER V6T 1W5, B.C., Canada
a Analysis of postgastrula axial mesoderm differentiation in vitro. Taricha torosa, Ambystoma gracile (Urodela), Chicken
b Cytochemical and electron microscopic examination of myoblast, endo- and ectomesenchymal differentiation. Taricha torosa, Ambystoma gracile (Urodela)
FISCHMAN, D. A.; M.D., Prof. – Dept. of Anat. and Cell Biol., State Univ. of New York, Downstate Med. Ctr., 450 Clarkson Ave., NEW YORK, Brooklyn NY 11203, USA
a Muscle cell fusion and cell surface antigens; myofibrillogenesis. Chicken
b Cardiac development: intercellular junction formation; cell aggregation; cell division; in vitro analysis of innervation. Chicken
FISER, P. S.; Ph.D. – Dept. of Anim. and Poultry Sci., Ontario Agric. Coll., Univ. of Guelph, GUELPH, Ont. N1G 2W2, Canada
FISHER, D. L.; Ph.D. – Dept. of Anat., Univ. of Michigan, Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Teratogenesis, with emphasis on the postimplantation stages. Mouse
b Postimplantation in vitro development. Mouse
c Ovarian transplantation with emphasis on embryogenesis. Mouse
d Prostatic and seminal vesicle transplants with emphasis on ageing. Mouse
FISHER, K. R. S.; Ph.D. – Dept. of Biomed. Sci., Ontario Vet. Coll., Univ. of Guelph, GUELPH, Ont. N1G 2W2, Canada
a Gonadogenesis and sexual differentiation in very young embryos. Chicken, Mouse, Rat, Pig
b Neuron differentiation, spinal cord and neuronal precursor cells. Same species as a
FISHER, L. J.; Ph.D. – Dept. of Anat., Univ. of Michigan, Med. Sci. Bldg. II, ANN ARBOR, MI 48109, USA
a Development of the synaptic organisation of the retina, using quantitative electron microscopy. Rana pipiens, Xenopus laevis (Anura), Mouse, Rabbit
b Factors affecting development of the synaptic organisation of the retina; quantitative studies. Mouse
c Quantitative analysis of the development of central visual projections. Mouse
FITZHARRIS, T. P.; Ph.D. – Dept. of Anat., Med. Univ. of S. Carolina, 171 Ashley Ave., CHARLESTON, SC 29403, USA
a Formation of valves and septa in the heart. Chicken
b Role of extracellular matrix (cardiac jelly) in heart differentiation, morphogenesis and motility. Chicken
FITZSIMMONS, R. C.; Ph.D. – Dept. of Poultry Sci., Univ. of Brit. Columbia, VANCOUVER, BC V6T 1W5, Canada
a Interrelationships of the bursa of Fabricius, the thymus and the ontogeny of the immune system in the embryo. Gallus domesticus (Aves)
b Generation of diversity in the immune response – a new theory
FLICKINGER, C. J.; M. D., Prof. – Dept. of Anat., Med. Ctr., Univ. of Virginia, Box 439, CHARLOTTESVILLE, VA 22908, USA
a Fetal and postnatal development of male sex accessory organs (LM, EM). Rat
FLICKINGER, R. A.; Ph.D., Prof. – Dept. of Biol. Sci., Div. of Cell & Molec. Biol., State Univ. of New York, Cooke Hall, BUFFALO, NY 14260, USA
a Induction by various compounds of hemoglobin synthesis in cultured Friend erythroleukemia cells (DNA fiber autoradiography to determine the effect upon replicon size and rate of elongation). Mouse

b Nuclei from different embryonic stages are allowed to synthesise RNA with tritiated ATP or GTP under conditions which will show if initiation sites for transcription become more or less A-T rich and if H1 histone covers more A-T rich and repetitive initiation sites for transcription during development. (Anura)

FLOOD, P. F.; Ph.D. – Dept. of Vet. Anat., Western Coll. of Vet. Med., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada

a Maternal recognition of pregnancy: production of humoral agents (especially luteolytic agent) by the conceptus affecting uterine function. Sheep, Pig, Horse

b Egg morphology in relation to its transport through the uterine tube; differences between fertilised eggs and those that do not pass into the uterus either because they are unfertilised or because they have been experimentally treated. Horse

FORBES, M. S.; Ph.D. – Dept. of Physiol., Sch. of Med., Univ. of Virginia, CHARLOTTESVILLE, VA 22908, USA

a Ultrastructure of heart and skeletal muscle. Chicken, Rat, Cavia porcellus (Rodentia)

b Pre- and neonatal development of membrane systems. Anolis c. carolinensis (Lacertilia), Mouse, Cavia porcellus (Rodentia)

FORET, J. E.; Ph.D. – Dept. of Zool., Univ. of New Hampshire, Spaulding Bldg., DURHAM, NH 03824, USA

a Role of nerves in limb regeneration. Ambystoma spec., Notophthalmus viridescens (Urodela)

FOSKET, D. E.; Ph.D. – Dept. of Devl. and Cell Biol., Univ. of California, IRVINE, CA 92717, USA

a Cytokinin control at translational level of availability of specific cell division proteins (culture in vitro). Glycine max (Papilionaceae), Rosa spec. (Rosaceae)

b Phenotypic variability in populations of cultured cells: control of gene expression. Species as a, and Parthenium argentatum (Compositae)

FOWLER, J. A.; Ph.D. – Dept. of Biol., State Univ. of New York, STONY BROOK, NY 11794, USA

a Computer models of developing networks and patterns

b Theoretical models of developing systems

FRANCIS, Ms. E. Z.; Ph.D. – Dept. of Anat., Hahnemann Med. Coll., 230 N. Broad St., PHILADELPHIA, PA 19102, USA

a Analysis of amniotic fluid and its cells in normal and abnormal pregnancies. Rat, Man

FRANK, G. H.; D.Sc. – Dept. of Zool., Univ. of Durban-Westville, Private Bag X54001, DURBAN 4000, S. Africa

a Developmental morphology and evolution of the columella auris. Caretta caretta, Dermochelys coriacea (Chelonia)

b Early ontogeny of the visceral skeleton, part. composition of, and secondary contributions to, the hyoid arch. (Reptilia; Aves)

FRANKEL, J.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA

a Developmental genetics: analysis of the cortical pattern. Tetrahymena thermophila (Ciliata)

b Developmental genetics: analysis of temporal sequences of development. Same species as a

c Mutations that bring about a mirror-image reversal of a portion of the cell-surface pattern. Same species as a

FRASER, F. C.; Ph.D., M.D., Prof. – Dept. of Biol., McGill Univ., 1205 McGregor Ave, MONTREAL, Que. H3A 1B1, Canada

FRASER, R.C.; Ph.D., Prof. – Dept. of Zool., Univ. of Tennessee, KNOXVILLE, TN 37916, USA

FREDERICKSON, R. G.; Ph.D – Dept. of Anat., Med. Ctr., West Virginia Univ., MORGANTOWN, WV 26506, USA

a Effect of inhibited protein polysaccharide and collagen synthesis on formation of unit collagen fibrils and normal differentiation of epithelial and connective tissue cells. Chicken

b Development of connective tissue fibrils and protein polysaccharides in early postnatal lung: effect of inhibition on normal growth and resulting alteration in cellular differentiation. Didelphis virginiana (Marsupialia)

c Influence of developing innervation of respiratory epithelium on differentiation of mucous cells. Species as b

d Effects of by-products of coal combustion on the developing respiratory epithelium (x-ray analysis, mapping of heavy metals). Species as b

FREEMAN, G.; Ph.D. – Dept. of Zool., Univ. of Texas, AUSTIN, TX 78712, USA

a Factors setting up axes of symmetry in early embryo. (Coelenterata)

b Mode of action of genes determining dextral and sinistral symmetry. Lymnaea peregra (Gastropoda)

c Mechanisms causing localisation and translocation of cytoplasmic determinants during cleavage. (Ctenophora; Nemertina)

FRIEDLANDER, M.; Ph.D. – Dept. of Biol., Ben Gurion Univ. of the Negev, BEER-SHEVA, Israel

FRIEDMAN, H. P.; Ph.D. – Biol. Dept., Univ. of Missouri-St. Louis, 8001 Natural Bridge Rd., ST. LOUIS, MO 63121, USA

FRITZ, H. I.; Ph.D., Assoc. Prof. – Dept. of Biol. Chem., Coll. of Sci. and Engin., and Sch. of Med., Wright State Univ., Col. Glenn Highway, DAYTON, OH 45431, USA

FROMSON, D. R.; Ph.D. – Dept. of Biol. Sci., Calif. State Univ., FULLERTON, CA 92634, USA

FRY, Ms. A. E.; Ph.D., Prof. – Dept. of Zool., Ohio Wesleyan Univ., DELAWARE, OH 43015, USA

a Control of prolactin secretion. Notophthalmus viridescens (Urodela)

b Inductive interactions in tadpole skin. Rana pipiens (Anura)

FRYE, B. E.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA

a Prolactin, somatotropin and thyroxine interactions during development, growth, and metamorphosis. Rana pipiens (Anura), Ambystoma mexicanum (Urodela), Chicken

b Endocrine regulation of carbohydrate metabolism, especially changing patterns of control during metamorphosis. Rana pipiens (Anura), Ambystoma mexicanum, A. tigrinum (Urodela)

FUCHS, M. S.; Ph.D., Prof. – Dept. of Biol., Univ. of Notre Dame, NOTRE DAME, IN 46556, USA

a Hormonal and biochemical aspects of ovarian development. Aedes aegypti, Drosophila melanogaster (Diptera)

FUJII, T.; Ph.D., Prof. (Emer.) – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan

FUJIMOTO, T.; M.D., Prof. – Dept. of Anat., Kumamoto Univ., 2–1–1 Honjo, KUMAMOTO, 860 Japan

a Mechanisms for primordial germ cell migration. Chicken, Man

b Induction of cleft palate by methylmercury chloride. Mouse

FUJISAWA, H.; Ph.D. – 2nd Dept. of Anat., Kyoto Pref. Univ. of Med., Kawaramachi-Hirokoji, Kamikyo-ku, KYOTO, 602 Japan

a Formation of neuronal connections in the visual system during development and regeneration. (Anura; Urodela)

b Neuronal differentiation in neural retina and visual centers. (Amphibia), Chicken

FUKE, M. T.; D.Sc. – Biol. Inst., Fac. of Sci., Univ. of Kanazawa, Marunouchi–1, KANAZAWA, 920 Japan

a Discrimination of "not self" from "self". Halocynthia roretzi (Ascidiacea)

b Development. Same species as a

FULLER, M. S.; Ph.D., Prof. – Dept. of Bot., Univ. of Georgia, ATHENS, GA 30602, USA

FULLILOVE, Ms. S. L.; Ph.D. – Cell Res. Inst., Biol. Labs. 220, Univ. of Texas, AUSTIN, TX 78712, USA

FULTON, C. M.; Ph.D., Prof. – Dept. of Biol., Brandeis Univ., WALTHAM, MA 02154, USA

FURUSAWA, M.; D.Sc. – Lab. of Embryol., Dept. of Biol., Osaka City Univ., 459 Sugimoto-cho, Sumiyoshi-ku, OSAKA, 558 Japan

a Erythroid differentiation of Friend virus-induced tumor cells. Mouse

b Mechanism of gene expression by means of intracellular microinjection using Sendai virus (HVJ) and erythrocyte ghosts. Mouse, Man

c Genetics of early development. Caenorhabditis elegans (Nematoda)

FURUYA, M.; Prof. – Dept. of Biol., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan

a Sexual differentiation. Gelasinospora reticulispora (Ascomycetes), Lygodium japonicum (Filices)

b Photocontrol of cell division, growth, and germination. Pteris vittata, Adiantum capillus-veneris (Filices)

c Phytochrome-dependent development. Pisum sativum (Papilionaceae)

GABRIEL, M. L.; Ph.D., Prof. – Biol. Dept., Brooklyn Coll., NEW YORK, Brooklyn, NY 11210, USA

a Development of vertebrae; meristic variation. (Teleostei)

GAGE, L. P.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA

a Silk gland development and differentiation, part. internal structure and polymorphism in the fibroin gene; rRNA gene structure, transcription and processing; tRNA gene structure and function. Bombyx mori (Lepidoptera) (with R. F. MANNING and D. R. SAMOLS)

GALBRAITH, D. B.; Ph.D., Prof. – Dept. of Biol., Trinity Coll., HARTFORD, CT 06106, USA

a Role of epithelial-mesenchymal interactions in development and differentiation of tooth germs, especially: 1. effect of 6-diazo-5-oxonorleucine; 2. effect of procollagen upon the development of embryonic tooth rudiments continuously exposed to the proline analogue, L-azetidine-2-carboxylic acid in vitro. Mouse

b Expression of genes at the agouti locus: 1. histochemical localization of sulfhydryl reducing compounds in melanocyte cytoplasms of genetically yellow, black and agouti animals; 2. dermal-epidermal interactions and expression of genes; 3. phenotypic expression of various agouti-locus compounds. Mouse

GALL, J. G.; Ph.D., Prof. – Dept. of Biol., Kline Biol. Tower, Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA

a In situ nucleic acid hybridisation in lampbrush chromosomes. Triturus spec. (Urodela)

b rDNA gene amplification during macronuclear development. Tetrahymena pyriformis (Ciliata)

GALOR, Ms. O.; B.Sc. – Inst. of Life Sci., Hebrew Univ., JERUSALEM, Israel

a Morphology of chromatin during outgrowth of spores. Bacillus subtilis (Bacteria)

GANCHROW, D.; Ph.D. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. School., P.O.B. 1172, JERUSALEM 91000, Israel

a LM and SEM of the development of nerve-taste bud connections and papillae in the fetus. Man

b Effects of deafferentiation on development of sensory brain nuclei in embryo and hatchling (TEM, Golgi). Chicken

GARBER, Ms. B. B.; Ph.D. – Depts. of Anat. and Biol., Univ. of Chicago, 1103 East 57th St., CHICAGO, IL 60637, USA

GARRIDO, O.; M.V. – Inst. de Embriol., Univ. Austral de Chile, Casilla no. 567, VALDIVIA, Chile

a Structural, comparative and functional aspects of spermatozoa (TEM, SEM). (Anura)

b Changes of spermatozoa associated with passage through the jelly envelopes, fusion and evolution of their different parts in the egg (TEM, SEM). (Anura)

GASSER, R. F.; Ph.D., Prof. – Anat. Dept., Med. Ctr., Louisiana State Univ., 1542 Tulane Ave., NEW ORLEANS, LA 70112, USA

a Neuromuscular development. Mouse, Rat, Man

b Effects of biomechanical fields on cell differentiation during embryogenesis. Man

c Craniofacial development. Macaca mulatta, Man (Primates)

d Effect of expansile growth movements of the neural tube on position and shape of surrounding cell masses. Rat

e Effects of growth movements on cell differentiation

GATES, A. H.; Ph.D. – Dept. of Obstet. & Gynecol., Med. Ctr., Univ. of Rochester, P.O.Box 668, ROCHESTER, NY 14642, USA
a Reproductive and cytogenetic consequences of gamete aging and exposure to environmental pollutants. Mouse
GAUDIN, A. J.; Ph.D., Prof. – Dept. of Biol., California State Univ., 18111 Nordhoff St., NORTHRIDGE, CA 91330, USA
a Osteocranial development. (Anura; Squamata)
GAVIN, R. H.; Ph.D. – Dept. of Biol., Brooklyn Coll., NEW YORK, Brooklyn, NY 11210, USA
a Assemblage of molecular components into structures: biochemical characterization of basal bodies, microtubules and filaments, and the protein-interactions of these organelles which bring about the assembly of the oral apparatus. Tetrahymena pyriformis (Ciliata)
GAY, Ms. H.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Molecular structure of chromosomes during genetic activity, especially nucleic acids and proteins of heterochromatin and euchromatin (electron microscopy, cytochemistry, autoradiography, biochemistry). Drosophila melanogaster (Diptera)
GEARHART, Ms. P. J.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a Different immunoglobulins produced in clonal progeny of lymphocytes following stimulation with antigen. Mouse
GEORGE, J. C.; Ph.D., Prof. – Dept. of Zool., Univ. of Guelph, GUELPH, Ont. N1G 2W1, Canada
a Ultrastructural studies on the embryo. Lychas tricarinatus (Scorpiones, Arachnida)
b Development of the supraneural haematopoietic tissue. Petromyzon marinus (Cyclostomata)
c Energy reserves in embryonic development and post-hatch survival. (Aves)
GEORGE, Ms. M. E.; B.Sc. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Morphogenesis. Hydra attenuata (Hydrozoa)
GERBI, Ms. S. A.; Ph.D. – Div. of Biol. and Med., Brown Univ., Box G, PROVIDENCE, RI 02912, USA
a Amplified DNA (DNA puffs). Sciara coprophila (Diptera)
b Satellite DNAs (in situ hybridization). Same species as a, and Cow
c Cloning and restriction enzyme mapping of ribosomal DNA; studies of adjacent sequences in x-heterochromatin (in situ hybridization). Sames species as a
d Fine structure of ribosomal RNA: mapping of sequences conserved during evolution, secondary structure, hairpin regions, and sites of methylation by restriction enzyme analysis of various ribosomal DNA clones. Saccharomyces spec. (Ascomycetes), Dictyostelium spec. (Acrasiales), Drosophila melanogaster (Diptera), Xenopus laevis (Anura) and others
GILANI, S. H.; Ph.D. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Effect of cyclophosphamide on cardiogenesis in 1–4 day embryos (histology, histochemistry, EM). Chicken
GINSBURG, Ms. M.; M.Sc. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Origin of primordial germ cells (pre-streak stages). Chicken
b Chimaeras. Chicken/Quail
GINZBURG, Ms. D.; Ph.D. – Inst. of Life Sci., Hebrew Univ., JERUSALEM, Israel
a Differentiation of spores into vegetative cells. Bacillus subtilis (Bacteria)
GLASS, Ms. L. E.; Ph.D., M.D., Prof. – Dept. of Anat., Sch. of Med., Univ. of California, Parnassus and Third Ave., SAN FRANCISCO, CA 94143, USA
a Cell interactions and molecular differentiation during fetal and postnatal gonadogenesis. Mouse
b Zona pellucida as a target for immunologic contraception. Mouse, Man and other spp. (Mammalia)
c Macromolecular transfer to follicular oocytes and preimplantation embryos. Mouse
GLOBERSON, A.; Dr. – Dept. of Cell Biol., Weizmann Inst. of Sci., P.O.Box 26, REHOVOT, Israel
a Ontogeny of immunosuppressor cells and immune reactive cells in the embryo (cell and tissue culture, in vivo test systems). Mouse
GMUER, R.; Dr. Sc. nat. – Wistar Inst. of Anat. and Biol., 36th St. at Spruce, PHILADELPHIA, PA 19104, USA
GOEL, S. C.; Ph.D. – Dept. of Zool., Univ. of Poona, PUNE 411007, India
a Histology, cytochemistry and teratology of limb, eye and parietal eye development. Calotes versicolor (Lacertilia)
b Culture of embryos and embryonic organs. Species as a (with S. L. SHINDE)
c Characterisation and ontogeny of lens crystallins. Species as a (with J. K. PAL and A. R. NERURKAR)
d Ecology of development. Species as a
e Cell death during development. Species as a, and Chicken
GOETINCK, P. F.; Ph.D., Prof. – Dept. of Anim. Genet., Storrs Agric. Exper. Station, Univ. of Connecticut, STORRS, CT 06268, USA
a Mesoderm-ectoderm interaction in differentiation (limb, scales, and feathers). Chicken
b Proteoglycan and collagen metabolism in micromelic mutants. Chicken
GOICOECHEA, O.; Dr. Biol. – Inst. de Embriol., Univ. Austral de Chile, Casilla 567 VALDIVIA, Chile
a Heterospecific recombinations of ocular structures. Chicken and Rat
b Cytodifferentiation of embryonic kidney cells. Chicken
GOLDBERG, R. B.; Ph.D. – Dept. of Biol., State Univ. of New York, FREDONIA, NY 14063, USA
a Timing and pattern of nuclear protein synthesis and replacement during spermatogenesis (cell separation). Mouse

b Interdependence of histone and DNA synthesis during meiotic prophase and spermiogenesis. Mouse
c Organ culture of seminiferous tubules. Mouse
d Aging effects on spermatogenesis. Mouse

GOLDBERG, S.; M.D. – Dept. of Anat., Sch. of Med., Univ. of Miami, P.O.Box 520875, Biscayne Annex, MIAMI, FL 33152, USA

GOLDIE, M.; Ph.D. – Dept. of Biol., Loyola Univ., 6525 N. Sheridan Rd., CHICAGO, IL 60626, USA
a Effects of excess nutrients on early development in ovo and in vitro. Chicken
b Function of arginase in early development. Chicken, Quail
c Definitive staging of embryos. Quail

GOLDIN, G. V.; Ph.D. – Zool. Dept., Univ. of the Witwatersrand, Jan Smuts Ave., JOHANNESBURG 2001, S. Africa

GOLDSMITH, Ms. M. H. M.; Ph.D. – Dept. of Biol., Kline Biol. Tower, P.O.Box 2169, NEW HAVEN, CT 06520, USA
a Growth and development in response to hormones; hormone transport; tropistic responses. Zea mays, Avena sativa (Gramineae), Coleus blumei (Labiatae)

GOLDSMITH, Ms. M. R.; Ph.D. – Dept. of Devl. and Cell Biol., Univ. of California, IRVINE, CA 92717, USA
a Use of cloned chorion cDNAs to analyse patterns of RNA synthesis in differentiating follicular epithelium and to select chromosomal DNA clones containing chorion genes for fine structure analysis. Bombyx mori (Lepidoptera)
b Characterisation of protein synthesis and secretion and of chorion ultrastructure of the Gr mutant in a comparative study with wild type strain C108. Species as a

GOLDWASSER, E.; Prof. – Dept. of Biochem. and Commit. on Developm. Biol., Div. of Biol. Sci., Univ. of Chicago, CHICAGO, IL 60637, USA

GOMEZ DE MARTIN, Ms. M.I. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 TUCUMÁN, Argentina
a Ultrastructural changes in the vitelline envelope during fertilisation. Bufo arenarum (Anura)

GONA, A. G.; Ph.D., Prof. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Effects of thyroidectomy on cerebellar maturation. Rana catesbeiana (Anura)

GONDOS, B.; M.D., Prof. – Dept. of Pathol., Sch. of Med., Univ. of Connecticut, FARMINGTON, CT 06032, USA

GOPINATH, K. Menon; Ph.D. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Development of integument and plumage, part. endocrinology. (Aves)

GORDON, R.; Ph.D. – Quant. Morphol. Unit, Univ. of Manitoba, 753 McDermot Ave., WINNIPEG, Man. R3E 0W3, Canada
a Change of shape of the neural plate during neurulation is analyzed experimentally, mathematically, and by computer simulation in terms of physical forces generated by the behavior of its constituent cells; development of a generally applicable theory of morphodynamics based on continuum mechanics; this work is being extended to neural tube and eye formation. Taricha torosa (Urodela)
b Methods to analyze postnatal development of linear receptive fields of cells in the visual cortex. Cat (with H. V. B. HIRSCH, Albany, NY)
c Valve morphogenesis explained in terms of instabilities in diffusion limited precipitation of amorphous hydrated silica (computer simulation of striae formation at macroscopic and molecular levels). Gomphonema spec., Navicula spec. (Diatomeae) (with R. W. DRUM, Waldron Island)
d Individual melanocytes are followed in three dimensions by a computer driven microscope to investigate formation of the first stripes in the embryo. Brachydanio rerio (Teleostei)

GOSS, R. J.; Ph.D., Prof. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA
a Organ growth regulation. Rat
b Appendage regeneration. Various spp. (Mammalia)

GOTO, A.; Ph.D. – Lab. of Embryol. and Genet., Dept. of Biol., Fac. of Fish., Hokkaido Univ., HAKODATE, 041 Japan
a Morphological divergence and adaptation in ontogenesis. Cottus nozawae, C. hangiongensis (Teleostei)

GOTO, Y.; M.D. – Dept. of Biochem., Nippon Med. School, 1–1–5 Sendagi, Bunkyo-ku, TOKYO 113, Japan
a Erythrocyte transition and hemoglobin metabolism during metamorphosis. Rana catesbeiana (Anura)
b Phosphoenolpyruvate carboxykinase and the regulation of gluconeogenesis. Same species as a
c Mitochondriogenesis during metamorphosis. Species as a

GOTOH, T.; B.Sc. – Dept. of Anat., Saitama Med. School, 38 Morohongo, Moroyama, Iruma-gun, SAITAMA 350–04, Japan
a Metabolic change of lipid and glycogen during development of heart. Rat

GOTTLIEB, G.; Ph.D. – Psychol. Lab., Dorothea Dix Hosp., Box 7595, RALEIGH, NC 27611, USA
a Behavioral development of fetuses and embryos. Anas platyrhynchos, Chicken, Aix sponsa (Aves)
b Auditory and vocal development. Species as a

GOUDSMIT, Ms. E. M.; Ph.D. – Dept. of Biol. Sci., Oakland Univ., ROCHESTER, MI 48063, USA
a Neurosecretory regulation of galactogen and glycogen synthesis in the albumen gland (EM, organ culture, biochemistry). Helix pomatia (Gastropoda)

GOULD-SOMERO, M. C.; Ph.D. – Ctr. for Devl. Biol. B–022, Univ. of California, San Diego, LA JOLLA, CA 92093, USA

GRABOWSKI, C. T.; Ph.D., Prof. – Lab. for Quant. Biol., Dept. of Biol., Univ. of Miami, P.O.Box 249118, CORAL GABLES, FL 33124, USA

GRANT, P.; Ph.D., Prof. – Dept. of Biol., Univ. of Oregon, EUGENE, OR 97403, USA

a Patterns of retino-tectal connectivity during development. Xenopus laevis (Anura)

b Nucleo-cytoplasmic interactions during development. Rana pipiens (Anura)

GRAVER, H. T.; D.D.S., Ph.D. – Dept. of Histol., Embryol., and Genet., Sch. of Dent. Med., Univ. of Pennsylvania, 4001 Spruce St., PHILADELPHIA, PA 19174, USA

a Effects of operations on formation of dental lamina and tooth buds in the regenerating mandible. Triturus viridescens (Urodela)

b Lung regeneration. Same species as a

c Biochemistry, cytochemistry and ultrastructure of amelogenesis, especially biosynthesis, secretion and absorption of unique enamel proteins (immunofluorescence). Bos taurus (Artiodactyla)

GRAY, D. J.; Ph.D., Prof. (Emer.) – Dept. of Anat., Sch. of Med., Stanford Univ., STANFORD, CA 94305, USA

GREEN, P. B.; Ph.D., Prof. – Dept. of Biol. Sci., Stanford Univ., STANFORD, CA 94305, USA

GREENE, R. M.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA

a Regulatory role of cyclic nucleotides and prostaglandins in normal and abnormal embryogenesis (radioimmunoassay, EM, autoradiography, immunocytochemistry, tissue culture). (Rodentia)

GREENGARD, Ms. O.; Ph.D. – Dept. of Pediat., Abg. 17–40, Mt. Sinai Med. Ctr., One Gustave L. Levy Place, NEW YORK, NY 10029, USA

a Hormonal regulation of enzyme synthesis in fetal and newborn liver, kidney, brain and spleen. Rat

b Enzyme synthesis in explants of fetal liver cultured in vitro. Rat

GREENWOOD, M. S.; Ph.D. – Res. Lab., Weyerhaeuser Co., P.O.Box 1060, HOT SPRINGS, AR 71901, USA

a Reproductive development and vegetative propagation. Pinus taeda (Pinaceae)

GREGG, J. H.; Ph.D., Prof. – Dept. of Zool., Univ. of Florida, GAINESVILLE, FL 32611, USA

GREGG, J. R.; Ph.D., Prof. – Dept. of Zool., Duke Univ., DURHAM, NC 27706, USA
no work on developmental biology in progress

GREY, R. D.; Ph.D. – Dept. of Zool., Univ. of California, DAVIS, CA 95616, USA

a Fertilisation: 1. ultrastructure of sperm-egg interactions; 2. role of jellycoat factors in fertilisation (sperm penetration and block to polyspermy); 3. development of cell-surface constituents during oogenesis; 4. Post-ovulatory transformations of the cell surface required for fertilisation. Xenopus laevis, Bombina orientalis, Rana pipiens (Anura)

GREYSON, R. I.; Ph.D. –Dept. of Plant Sci., Univ. of W. Ontario, LONDON, Ont. N6A 5B7, Canada

a Hormonal basis of sexuality. Zea mays (Gramineae) and other spp. (Angiospermae)

GRIMBERG, J. I.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA

a Regulation of tRNA biosynthesis in posterior silk gland in in vitro transcription of clonal tRNA genes. Bombyx mori (Lepidoptera)

GRIMES, L. N.; Ph.D. – Dept. of Anat., Health Sci. Ctr., Univ. of Texas, 7703 Floyd Curl Drive, SAN ANTONIO, TX 78284, USA

a Morphogenetic role of extracellular matrix during cutaneous and cartilaginous repair. Rabbit, Chinchilla spec. (Rodentia), Pig

GROSCH, D. S.; Ph.D. – Dept. of Genet., North Carolina State Univ., Box 5487, RALEIGH, NC 27607, USA

a Egg production and survival of embryos after mother has ingested, or been injected with, chemical agents; without and with irradiation. Habrobracon spec. (Hymenoptera)

b The effects of space flight on reproductive performance (weightlessness, dynamic factors of launching and recovery, and radiation effects). (Insecta)

c Mosaic and gynandromorph formation (techniques for altering proportion obtained). Same species as a

GROSS, P. R. – Marine Biol. Lab., WOODS HOLE, MA 02543, USA

GRUBB, R. B.; Ph.D. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O. Box 26901, OKLAHOMA-City, 73190, USA

a Intestinal regeneration: origin and developmental potentiality of blastemal cells. Notophthalmus viridescens (Urodela)

b Jaw regeneration: origin and developmental potentiality of blastemal cells. Same species as a

GUBLER, U.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA

a Gene regulation, part. in expression of tRNA involved in fibroin synthesis. Bombyx mori (Lepidoptera)

GULATI, A. K.; Ph.D. – Lab. of Neurochem., NINCDS, Natl. Inst. of Health, Bldg. 36, Rm. 40–25, BETHESDA, MD 20205, USA

a Morphological and biochemical changes in neural retina during lens regeneration; trophic relationship of neural retina and developing lens. Notophthalmus viridescens (Urodela) (with R. W. REYER, Morgantown, W. Va.)

GÜLDNER, F. H.; Dr. med. – Dept. of Anat., Monash Univ., CLAYTON, Vict. 3168, Australia

a Regeneration of optic nerve axons and their synapses; ingrowth of retinal fibers into the ipsilateral tectum; morphology of synaptic competition and repression phenomena. Cyprinus carpio, Carassius auratus (Teleostei), Ambystoma mexicanum (Urodela)

b Development of optic nerve afferents and/or non-optic synapses in the suprachiasmatic nucleus post partum under different lighting conditions or after bilateral enucleation. Rat

GULYAS, B. J.; Ph.D. – Pregn. Res. Branch, Natl. Inst. of Child Health and Human Devl., N.I.H., Bldg 18, Rm 101, BETHESDA, MD 20205, USA

a Polyspermy. Rabbit

b Induced parthenogenesis; ultrastructure and culturing of such eggs. Rabbit

c Effects of fetal pituitary on development of gonads. Macaca mulatta (Primates)

d Function of corpus luteum: cell type separation, cell culture, steroid assay, TEM and SEM. Species as c

GUMBRECK, L.; Ph.D., Prof. (Emer.) – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O.Box 26901, OKLAHOMA-City, OK 73190, USA

a Development of genital, ophthalmic, and urinary anomalies as related to genes, with emphasis on hermaphroditic alterations. Rat

GUNASEGARAN, J. P.; M.Sc. – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY 605006, India

a Effect of prolactin on reproductive axis of male. Mouse

GUNBERG, D. L.; Ph.D., Prof. – Anat. Dept., Sch. of Dent., Univ. of Oregon Health Sci. Ctr., 611 SW Campus Drive, PORTLAND, OR 97201, USA

a Test of teratogens in varying concentrations, using postimplantation embryos cultured for 24–48 hours on homologous serum; chemistry and morphology. Rat

b Effect of metabolites, using postimplantation embryos cultured for 24–48 hours on dialyzed homologous serum; chemistry and morphology. Rat

GUNDLING, G.; B.Sc. – Biol. Sci. Grp., Univ. of Connecticut, Box U–42, STORRS, CT 06268, USA

a Hemoglobin synthesis: mRNA isolation and quantification during development. Chironomus spec. (Diptera)

GUPTA, D. K.; M.Sc. – Dept. of Biochem., Fac. of Sci., Allahabad Univ., ALLAHABAD 211002, India

GUPTA, S. K.; M.Sc. – Dept. of Biochem., Allahabad Univ., ALLAHABAD 211002, India

GURAYA, S. S.; Ph.D., D.Sc., Prof. – Dept. of Zool., Punjab Agric. Univ., LUDHIANA, Punjab, India

a Comparative morphology, histochemistry, and biochemistry of oocyte and follicle growth. (Vertebrata)

b Comparative morphology, histochemistry, and biochemistry of development and maturation of ovary and testis. Millardia meltada, Cavia porcellus (Rodentia), Man

c Morphology, histochemistry and biochemistry of oocyte growth and of embryology. (Acanthocephala) (with V. R. PARSHAD)

d Morphology, histochemistry, biochemistry and physiology of spermatozoa. Bubalus bubalis (Artiodactyla)

e Morphology, histochemistry, biochemistry and physiology of testis and ovary of farm animals. (Mammalia)

f Histophysiology and biochemistry of gonads. (Aves) (with H. R. DANG and R. K. PARSHAD)

g Morphology, histochemistry, biochemistry and physiology of gametogenesis and early embryology. (Platyhelminthes) (with V. R. PARSHAD)

h Morphology and histochemistry of gametogenesis. Amphioxus spec. (Cephalochordata)

i Morphology, histochemistry, biochemistry and physiology of gametogenesis, fertilisation, egg-shell formation and embryology. Ascaridia galli (Nematoda) (with V. R. PARSHAD)

j Morphology, histochemistry, and physiology of gametogenesis, fertilisation and egg-shell formation; gonad development in proglottids. Raillietina cesticillus (Cestoda) (with V. R. PARSHAD)

GWATKIN, R. B. L.; Ph.D. – Inst. for Therap. Res., Merck Sharp & Dohme Res. Labs., P.O.Box 2000, RAHWAY, NJ 07065, USA

a Studies on fertilisation, implantation, and early development. Mouse, Mesocricetus auratus (Rodentia)

HADFIELD, M. G.; Ph.D., Prof. – Kewalo Lab., Pacif. Biomed. Res. Ctr., Univ. of Hawaii, 41 Ahui St., HONOLULU, HI 96813, USA

a Metamorphosis, developmental genetics, embryology, Marine spp. (Gastropoda)

HAIGHT, J. R.; Ph.D. – Dept. of Behav. Biol., Res. Sch. of Biol. Sci., Austr. Natl. Univ., CANBERRA, A.C.T. 2600, Australia

a Comparative anatomy of CNS development. Macropus eugenii and other spp. (Marsupialia)

HAKIM, R. S.; Ph.D. – Dept. of Anat., Howard Univ., 520 West St. N.W., WASHINGTON, DC 20059, USA

a Development of silk glands to salivary glands: stability of cell determination; sequence of steps in cell differentiation. Manduca sexta (Lepidoptera)

b Embryogenesis. Species as a

HALEY, L. E.; Ph.D. – Dept. of Biol., Dalhousie Univ., HALIFAX, N.S. B3H 4J1, Canada

a Time of activation of genes controlling some enzymes in development. Mytilus edulis, Crassostrea virginica (Bivalvia)

HALEY, S. R.; Ph.D. – Dept. of Zool., Univ. of Hawaii, 2538 The Mall, HONOLULU, HI 96822, USA

a Reproduction and prelarval development. Hippa pacifica (Anomura, Decapoda, Crustacea)

b Histogenesis of embryonic and larval organs. Same species as a

HALL, B. K.; Ph.D., D.Sc., Prof. – Dept. of Biol., Dalhousie Univ., Life Sci. Ctr., HALIFAX, N.S. B3H 4J1, Canada

a The origin of cartilage and bone from common germinal cells. Chicken, Mouse

b Epithelial-mesenchymal interactions in skeletal development, part. from the neural crest. Same species as a
c Induction of scleral ossicles. Chicken

HALL, H. G.; Ph.D. – Lab. of Chem. Biodynamics, Lawrence Berkeley Lab., Univ. of California, BERKELEY, CA 94720, USA
a Differentiation and growth of epithelia in vitro in response to basal lamina substratum. (Mammalia)
b Topography of cell surface components and cytoskeletal organisation as a result of cell to cell and cell to substratum interactions during epithelial organisation and morphogenesis. (Mammalia)

HAMA, T.; D.Sc., Prof. (Emer.) – Lab. of Biol., Aichi Med. Univ., NAGAKUTE 480–11, Aichi, Japan
a Induction and morphogenetic movement of organiser. Cynops pyrrhogaster (Urodela)
b Origin of the pigment granules of the various chromatophores. Oryzias latipes (Teleostei), Xenopus laevis (Anura), Cynops pyrrhogaster (Urodela)

HAMADA, K.; Ph.D., Prof. – Lab. of Embryol. and Genet., Dept. of Biol., Fac of Fish., Hokkaido Univ., HAKODATE, 041 Japan
a Morphological divergence and ecology in ontogenesis. Hypomesus transpacificus nipponensis, H. olidus, H. pretiosus japonicus (Teleostei)

HAMADA, S. H.; Ph.D. – Dept. of Biol. Sci., Fordham Univ., NEW YORK, Bronx, NY 10458, USA

HAMAGUCHI, S.; D.Sc. – Dept. of Biol., Coll. of Gen. Educ., Niigata Univ., NIIGATA, 950–21 Japan
a Gonadal development and germ cell differentiation: 1. change in morphological interactions between germ and somatic cells; 2. germinal dense bodies. Oryzias latipes (Teleostei)

HAMBLEY, J. W.; B.Sc. (Hons.) – Dept. of Behav. Biol., Res. Sch. of Biol. Sci., Austr. Natl. Univ., P.O.Box 475, CANBERRA, A.C.T. 2601, Australia
a Biochemical correlates of retarded behavioral development in young animals. Chicken
b Biochemistry of the developing visual system. Chicken
c Behavioral and cellular lesions produced by amino acids in developing brain. Chicken

HAMBURGER, V.; Ph.D., Prof. (Emer.) – Dept. of Biol., Washington Univ., Skinner and Lindell Ave., ST. LOUIS, MO 63130, USA
a Neuroembryology. Chicken

HAMILTON, H. L., Ph.D., Prof. (Emer.) – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

HAMNER, Ch. E.; D.V.M., Ph.D., Prof. – Dept. of Obstet. and Gynecol., Div. of Reprod. Biol., Univ. of Virginia Med. Sch., Box 387, CHARLOTTESVILLE, VA 22903, USA
a Composition of oviduct secretions of ovariectomized females with and without estrogen and progesterone injections and the effect of these secretions on sperm metabolism, fertilizing ability and blastocyst development. Rabbit, Cat
b Reproductive physiology; artificial insemination technique, sperm characterization, seminal plasma constituents, in vitro fertilization. Cat

HAMPEL, A. E.; Ph.D., Prof. – Dept. of Biol. Sci., Northern Illinois Univ., DeKALB, IL 60115, USA
a Protein and nucleic acid synthesis in late tailbud stages (incorporation study). Xenopus laevis (Anura)

HANADA, A.; DVS – Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O.Box 5, Ibaraki, 305 Japan
a Fertilisation in vivo and in vitro. Domestic spp. (Mammalia)
b Sex determination of early embryos. Species as a

HANADA, H. – Lab. of Genet. Disorders, Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O. Box 5, Ibaraki, 305 Japan
a Effects of various chemicals on embryonic development. Chicken, Mouse

HANAOKA, Y.; D.Sc. – Dept. of Comp. Endocrinol., Inst. of Endocrinol., Gunma Univ., Showamachi, MAEBASHI, 371 Japan

HANCOCK, R. L.; M.D. – Div. of Med. Biochem., Health Sci. Ctr., Univ. of Calgary, CALGARY, Alta. T2N 1N4, Canada
a Alpha-fetoprotein in developing and neoplastic liver. Rat, Man

HANSON, T. E.; Ph.D. – Dept. of Biol., Temple Univ., Broad & Berks St., PHILADELPHIA, PA 19122, USA
a Pattern formation in the retina. Drosophila spec. (Diptera)
b Retinotectal neurospecificity. Xenopus leavis (Anura)

HANZELY, L.; Ph.D. – Dept. of Biol. Sci., Northern Illinois Univ., DeKALB, IL 60115, USA
a Ultrastructure of the mode of nucleolar reformation. Allium sativum (Liliaceae)
b Fine structure and cytochemistry of microbodies. (Algae)

HARADA, H.; D.Sc. – Inst. of Biol. Sci., Univ. of Tsukuba, Sakura-mura, TSUKUBA, Ibaraki-ken, 305 Japan
a Hormonal control of somatic embryogenesis (tissue culture). Daucus carota (Umbellifera)
b Effects of amino acids and growth regulators on in vitro organogenesis. Species as a
c Chemical and physical control of flowering in vitro. Torenia fournieri (Scrophulariaceae), and of androgenesis. Nicotiana tabacum (Solanaceae)

HARDY, Ms. M. H.; Ph.D., Prof. – Dept. of Biomed. Sci., Ontario Vet. Coll., Univ. of Guelph, GUELPH, Ont. N1G 2W2, Canada
a Induction of mucous metaplasia of skin and hair follicles in vitro by vitamin A (EM, separation and recombination of dermis and epidermis, autofluorescence of vitamin A). Mouse
b Differentiation of the dermis, its cell types and intercellular matrix in 12–18 day embryos (histochemistry, LM, EM). Mouse

c Part played by tissue interactions in development of some skin diseases including psoriasis. Mouse and various domestic animal species (Mammalia), Man
d Effect of retinoic acid (injected) on 7–14 day embryo development. Chicken (with D. DHOUAILLY, Grenoble)

HARRIS, Ms. P. J.; Ph.D. – Biol. Dept., Univ. of Oregon, EUGENE, OR 97403, USA
a Intracellular membrane systems and their role in regulating cytoplasmic ion concentrations, including ionic control of microtubule and microfilament polymerisation during cleavage (cytochemistry, EM). Strongylocentrotus purpuratus (Echinoidea)
b Role of microtubules and microfilaments in the migration of pigment vesicles and other particles following fertilisation. Species as a
c Indirect immunofluorescence microscopy of tubulin and actin in unfertilised eggs; changes in the cytoskeleton following fertilisation and during early cleavage. Species as a, and other marine spp. (Invertebrata)

HARRISON, J. R.; Ph.D., Prof. – Dept. of Zool., State Univ. of New York, OSWEGO, NY 13126, USA

HARTMANN, J. F.; Ph.D. – Merck Inst. for Therap. Research, P.O.Box 2000, RAHWAY, NJ 07065, USA

HASEGAWA, M.; D.Sc., Prof. – Lab. of Biol., Women's Coll. of Tokai-Gakuen, Tenpaku-cho, Tenpaku-ku, NAGOYA, 468 Japan
a Restitution of the eye. (Teleostei)
b Morphogenesis of the retinal pigment cell. (Cobitidae, Teleostei)

HASSONA, A. A. S.; M.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Experiments on determination of the proximo-distal axis of the developing hind limb. Bufo regularis (Anura) (with M. I. MICHAEL, S. N. SEDRA and S. H. KHALIL)

HASWELL, Ms. P.; M.Sc. – Dept. of Zool., Washington State Univ., PULLMAN, WA 99164, USA
a Biochemical differentiation of mammary epithelial cells in culture: normal preneoplastic and tumor cells. Mouse

HAY, D. M.; Ch.B., Prof. – Div. of Obstet. & Gynecol., Health Sci. Ctr., Univ. of Calgary, CALGARY, Alta, T2N 1N4, Canada

HAY, Ms. E. D.; M.D., Prof. – Dept. of Anat., Harvard Med. School, 25 Shattuck St., BOSTON, MA 02115, USA
a Localization of regeneration cells. Planaria spec. (Turbellaria), Triturus viridescens (Urodela)
b Fine structure of the developing cornea, and localization and identification of proteins secreted by the epithelium (autoradiography and chromatography). Gallus domesticus (Aves)
c Migration of corneal endothelium and mesenchymal cells; role of glycosaminoglycans in cell migration and development. Same species as b
d Secretion of collagen by neural tube and other embryonic epithelia; its role in tissue interaction. Same species as b

HAY, R. J.; Ph.D. – Cell Cult. Dept., Amer. Type Culture Collection, 12301 Parklawn Drive, ROCKVILLE, MD 20852, USA
a Lung, myelogenous and gastrointestinal cell cultures for studies of differentiation, physiology, and senescence. (Mammalia)

HAYASHI, Y.; M.D., D. Med. Sci. – Dept. of Devl. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan
a E. M. of experimentally induced malformations of the CNS. Mouse, Rat
b Effects of low-dose x-irradiation upon the developing brain. Mouse (with Y. KAMEYAMA and K. HOSHINO)

HEATH, H. D.; Ph.D., Prof. – Dept. of Biol. Sci., Calif. State Univ., HAYWARD, CA 94542, USA
a Growth regulation in larvae. Taricha torosa (Urodela)
b Tentacle regeneration. Hydra littoralis, Chlorohydra viridissima (Hydrozoa)

HEIM, W. G.; Ph.D., Prof. – Dept. of Biol., Colorado Coll., COLORADO SPRINGS, CO 80903, USA
a Neurotrophic effects in limb regeneration. Xenopus laevis (Anura)
b Genetic control of longevity. Drosophila spp. (Diptera)
c Developmental effects of genetic abnormalities. Man

HEIN, Ms. R. R.; Ph.D., Prof. – Div. of Nat. Sci. and Mathem., St. Mary's Coll. of Maryland, ST. MARY'S-City, MD 20686, USA
a Effect of chemical agents (usually metals) on development, and possible correlation with the effect of selected enzyme systems present in developing and regenerating tissues. Dugesia dorotocephala (Turbellaria), (Echinodermata)

HEMING, B. S.; Ph.D. – Dept. of Entomol., Univ. of Alberta, EDMONTON, Alta T6G 2E3, Canada
a Descriptive study of metamorphosis. Frankliniella fusca, Haplothrips verbasci and other spp. (Thysanoptera)
b Descriptive study of embryogenesis. Haplothrips verbasci (Thysanoptera)
c Descriptive study of late embryogenesis; sense organs. Lytta viridana (Meloidae, Coleoptera)
d Embryogenesis, especially anatomy of mouth part development. Macrosteles fascifrons (Homoptera)

HENDRICKX, A. G.; Ph.D. – Calif. Primate Res. Ctr., Univ. of California, DAVIS, CA 95616, USA
a Temporal and endocrine relationships of ovulation, fertilisation, implantation, and early embryonic development. Macaca mulatta, M. radiata, Papio cynocephalus (Primates)
b Teratogenic effects of corticosteroids (triamcinolone and dexamethasone) on development of skull, lymphoid and nervous system. Species as a
c Teratogenic and embryotoxic effects of contraceptives (Norlestrin: Norethindrone acetate and ethinyl estradiol). Macaca mulatta, M. radiata (Primates)

d Cellular kinetics of the CNS and reproductive system of early embryos by means of autoradiography. Macaca mulatta (Primates)
e Teratogenic effects of tritiated water on gonadal development. Species as c
f Teratogenic and embryotoxic effects of oral hormonal pregnancy tests (primados: ethinyl estradiol and norethisterone acetate). Papio cynocephalus (Primates)
g Development of fetoscopy and fetal blood sampling. Macaca mulatta, Papio cynocephalus (Primates)
h Pharmacokinetics of corticosteroids (triamcinolone) in the fetal-maternal unit. Species as d

HENNEN, Ms. S.; Ph.D. – Dept. of Biol., Marquette Univ., 530 North 15th St., MILWAUKEE, WI 53233, USA
a Nucleo-cytoplasmic interactions in development. (Amphibia)
b Localization of rDNA sequences in chromosomes. (Amphibia)
c Oogenesis. Drosophila spec. (Diptera)
d Pole cell transfers in female sterile mutants. Species as c

HERKOVITS, J.; M.D., Prof. – Inst. de Biol. de la Reprod. y Desarrollo Embrion., Univ. Nac. de Lomas de Zamora, CC 95 – 1832 LOMAS de ZAMORA, B.A., Argentina

HERMAN, L.; Ph.D. Prof. – Dept. of Anat., New York Med. Coll., VALHALLA, NY 10595, USA

HERNANDEZ de BARRIOS, Ms. C. E.; M.D. – Cat. de Embriol., Fac. de Med., Univ. de Los Andes, Apartado 38, MÉRIDA, Venezuela

HEROLD, R. C.; Ph.D. – Dept. of Histol., Embryol. and Genet., Sch. of Dent. Med., Univ. of Pennsylvania, 4001 Spruce St., PHILADELPHIA, PA 19174, USA
a Comparative development and ultrastructure of dentines (osteodentine and vasodentine). Esox lucius, Gadus callarias (Teleostei)
b Development of embryonic skeletal structure; normal ultrastructure, and effect of sodium fluoride. Echinarachnius parma (Echinoidea)
c Teratogenic effects of cortisone and vitamin A on development of primary and secondary fetal palate in organ culture. Mouse
d Immunofluorescence study of enamel amelogenin localization in teeth and tooth-like structures; biosynthesis, secretion and absorption of amelogenin proteins. (Vertebrata)

HERRMANN, H.; M.D., Prof. – Genet. and Cell Biol. Sect., Biol. Sci. Grp., U-125, Univ. of Connecticut, STORRS, CT 06268, USA

HERZFELD, Ms. A.; Ph.D. – Mammal. Different. Dept., Canc. Res. Inst., New England Deaconess Hosp., 185 Pilgrim Rd., BOSTON, MA 02215, USA
a Effects on enzyme composition of liver, small intestine, and kidney, of starvation, dietary or injected amino acid supplementation, endocrine gland ablations, and hormone injections, compared in fetus, neonate, and adult. Rat
b Changes in amount and isozymes of enzymes in tumors and uninvolved host tissues (liver, small intestine, kidney) compared with normal development of enzymes during ontogenesis of these tissues; possible reversion to a more fetal pattern. Rat, Man

HEYWOOD, S. M.; Ph.D., Prof. – Dept. of Genet. and Cell Biol., Univ. of Connecticut, STORRS, CT 06268, USA

HICKS, G. S.; Ph.D. – Dept. of Biol., Dalhousie Univ., Life Sci. Ctr., HALIFAX, N.S. B3H 4J1, Canada
a Causal mechanism in flower development, especially sex determination (organ culture, microsurgery in vitro). Nicotiana tabacum (Solanaceae)
b Refining the cell layer technique with a view to developing a synchronous system for exploring molecular biology of organogenesis. Gynura spp., Spirea spp., Begonia spp. (Angiospermae)
c In vitro leaf determination (microsurgery, leaf co-culture). Osmunda cinnamomea (Filices)

HIGASHINAKAGAWA, T.; D.Sc. – Lab. of Devl. Biol., Mitsubishi-Kasei Inst. of Life Sci., 11 Minami-ooya, Machida, TOKYO 194, Japan

HILFER, S. R.; Ph.D., Prof. – Dept. of Biol., Temple Univ., Broad & Berks St., PHILADELPHIA, PA 19122, USA
a Early development of the thyroid gland. Chicken
b Formation of the optic cup. Chicken, Mouse

HINDS, J. W.; Ph.D. – Dept. of Anat., Boston Univ., 80 E. Concord St., BOSTON, MA 02118, USA
a Analysis of developing retina using serial electron microscopic sections. Mouse

HINDS, Ms. L.; B.Sc. (Hons.) – Div. of Wildlife Res., C.S.I.R.O., P.O.Box 84, LYNEHAM, A.C.T. 2602, Australia
a Factors involved in resumption of development by blastocysts in diapause. Macropus eugenii (Marsupialia)
b In vitro culture of blastocyst and vesicle stages. Same species as a

HINSCH, Ms. G. W.; Ph.D. – Dept. of Biol., Univ. of South Florida, TAMPA, FL 33620, USA

HIRADHAR, P.; Ph.D. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Tail regeneration in the adult, especially evaluation of endocrine involvement and physiological responses; evocation of regenerative response by transplantation; evaluation of morphogenetic interactions between stump and regenerate. Hemidactylus flaviviridis (Lacertilia)
b Histophysiology of limb regeneration. Paratelphusa (Decapoda, Crustacea), Periplaneta americana (Blattodea)

HIRAKOW, R.; M.D., Prof. – Dept. of Anat., Saitama Med. School, 38 Morohongo, Moroyama, Iruma-gun, SAITAMA, 350–04 Japan
a Development of blood and nerve supply to the heart. Rat
b Ultrastructure of bulbus region. Chicken

HIRAMA, M. N.; D.Sc. – Kanebo Inst. for Canc. Res., 1–9–1, Misaki-cho. Hyogo-ku, KOBE, 652 Japan

HIRAMOTO, Y.; D.Sc., Prof. – Biol. Lab., Tokyo Inst. of Technol., O-Okayama, Meguro-ku, TOKYO, 152 Japan
a Sperm motility and fertilisation. (Echinodermata)
b Chromosome movement in the egg and cleavage. (Echinodermata)
HIRANO, H.; M.D. – Bone Res. Lab., Univ. of California, 1000 Veteran Ave., LOS ANGELES, CA 90024, USA
a Bone morphogenesis: physiology and biochemistry of bone matrix; osteosarcoma derived bone morphogenetic protein; transplantation; calcification; ossification. Mus perognathus, Rattus sigmoidon, Cavia porcellus (Rodentia), (Lagomorpha), Homo sapiens (Primates)
HIROSE, S.; Ph.D. – Dept. Devl. Biol., Natl. Inst. for Basic Biol., Myodaiji, OKAZAKI, 444 Japan
a Regulation of silk fibroin gene. Bombyx mori (Lepidoptera)
HIROSHIMA, T.; B.Sc. – Biol. Inst., Kanazawa Med. Univ., UCHINADA-machi, Ishikawa-ken, 920–02 Japan
HIRSCH, H. V. B. – Dept. of Biol. Sci., State Univ. of New York, ALBANY, NY 12222, USA
a Methods to analyze the postnatal development of linear receptive fields of cells in the visual cortex. Cat (with R. GORDON, Winnipeg)
HISANAGA, S.; M.Sc. – Dept. of Biophys. & Biochem., Fac. of Sci., Univ. of Tokyo, 7–3–1 Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Purification and characterisation of dynein from embryonic cytoplasm; its biological significance in mitosis in embryos. Hemicentrotus pulcherrimus, Anthocidaris crassispina (Echinoidea)
HISANO, Ms. K.; M. Ph. – Dept. of Genet., Nagasaki Univ., 12–4, Sakamoto-machi, NAGASAKI, 852 Japan
a Chemical mutagenesis (germ cells). Drosophila melanogaster (Diptera)
HISCOCK, Ms. J.; B.Sc. (Hons.) – Dept. of Human Morphol., Sch. of Med., Flinders Univ., BEDFORD PARK, SA 5042, Australia
a Morphometry of eye development in metamorphic and post-metamorphic animals. Xenopus laevis (Anura)
b Morphometry of optic fibre projection in dually innervated tectum (3H-proline autoradiography, planimetry). Species as a
HISHIDA, T.; D.Sc., Prof. – Lab. of Biol., Gifu Coll. of Dent., 1851 Takano, Hozumi-cho, Motosu-gun, GIFU-ken, Japan
a Sex differentiation and sex reversal. Oryzias latipes (Teleostei)
HO, Ms. W. C.; B.Sc. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Prostaglandin production during chondrogenesis. Mouse
b Biochemical mechanisms involved in cell death. Mouse
HOAR, R. M.; Ph.D. – Teratol. Sect., Dept. of Toxicol., Res. Div., Hoffmann-La Roche Inc., Bldg. 100, NUTLEY, NJ 07110, USA
HOLLINGER, T. G.; Ph.D. – Dept. of Anat., Coll. of Med., Univ. of Florida, Box J–235, JHMHC, GAINESVILLE, FL 32610, USA
a Maturation of oocytes. Xenopus laevis, Rana pipiens (Anura)
b Protein synthesis and degradation in oocytes. Xenopus laevis (Anura)
HOLLYFIELD, J. G.; Ph.D. – Cullen Eye Inst., Baylor Coll. of Med., HOUSTON, TX 77030, USA
a Development of the retina, time of appearance of specific neuronal properties (uptake, synthesis and release of neurotransmitters). Rana spec., Xenopus spec. (Anura)
b Development of photoreceptors – interaction with environmental lighting for the onset of membrane addition and loss. Species as a
HOLOWINSKY, A. W.; Ph.D. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA
a Early events in light induced chloroplast development: membrane biogenesis. Euglena gracilis (Euglenophyceae)
b Effect of culture conditions on chloroplast replication. Same species as a
c Changes in respiratory metabolism as a consequence of light induced chloroplast development. Species as a
HOLT, R. K.; Ph.D. – Dept. of Anat., Med. Coll. of Georgia, AUGUSTA, GA 30902, USA
HOLTFRETER, J. K. F.; Ph.D., Prof. (Emer.) – Dept. of Biol., Univ. of Rochester, ROCHESTER, NY 14627, USA
HONDA, S. I.; Ph.D., Prof. – Dept. of Biol. Sci., Coll. of Sci. and Engin., Wright State Univ., Col. Glenn Highway, DAYTON, OH 45431, USA
a Structure and function of organelles, especially chloroplasts. (Angiospermae)
HOPPE, P. C.; Ph.D. – The Jackson Lab., BAR HARBOR, ME 04609, USA
HORI, I.; D.med. – Biol. Inst., Kanazawa Med. Univ., UCHINADA-machi, Ishikawa-ken, 920–02, Japan
HORI, R.; D.Sc., Prof. – Biol. Inst., Toyama Univ., Gofuku 3190, TOYAMA, 930 Japan
a Activation analysis of trace elements (Mn, Zn and V) in the egg and their absorption from the surrounding medium. Hemicentrotus pulcherrimus (Echinoidea), Halocynthia roretzi (Ascidiacea), Oryzias latipes (Teleostei)
b Submicroscopic structure of the cortex and cortical alveoli of the unfertilized egg and the fertilization phenomena. Oryzias latipes (Teleostei)
HORIGUCHI, T. – Dept. of Biol., Sch. of Dent. Med., Tsurumi Univ., 2–1–3 Tsurumi, YOKOHAMA 230, Japan
HORIUCHI, S.; B.Sc. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Toyonaka, OSAKA, 560 Japan
a Cell kinetics of developing digestive organs. Rhacophorus spec., Xenopus spec., Rana spec. (Anura)

HOSHINO, K.; M.D., Dr. med. sci., Prof. – Congen. Anomaly Res. Ctr., Dept. of Anat., Fac. of Med., Kyoto Univ., Sakyo-ku, KYOTO 606, Japan

HOSHINO, K.; M.D., D. Med. Sci. – Dept. of Devl. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan

a Morphogenesis of genetic microphthalmia. Mouse (with Y. KAMEYAMA and S. ODA)

b Autoradiography of the generation cycle in the neural cells of the embryonic brain. Mouse

c Effects of low-dose x-irradiation upon the developing brain. Mouse (with Y. KAMEYAMA and Y. HAYASHI)

d Influences of intrauterine environment on the manifestation of genetic malformations. Mouse (with Y. KAMEYAMA and S. ODA)

HOSICK, H. L.; Ph.D. – Dept. of Zool., Washington State Univ., PULLMAN, WA 99164, USA

a Morphogenesis and differentiation of mammary epithelium, part. cell interactions and responses to hormones, in tissue culture. Mouse, Man

b Control of production of secretory proteins in larval salivary gland, incl. isolation of RNA of Balbiani ring II and its translation in cell-free systems. Chironomus tentans (Diptera)

HOTTA, Y.; Ph.D. – Ctr. for Devl. Biol. B–022, Univ. of California, San Diego, LA JOLLA, CA 92093, USA

HOUGH-EVANS (RAYMOND), Ms. B.; Ph.D. – Div. of Biol., Calif. Inst. of Technol., PASADENA, CA 91125, USA

HOWELL, S. H.; Ph.D. – Ctr. for Devl. Biol. C–016, Univ. of California, San Diego, LA JOLLA, CA 92093, USA

HOWES, R. I.; D.D.S., Ph.D. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O.Box 26901, OKLAHOMA-City, 73190, USA

a Histologic and morphogenic development of tooth crowns and roots (ectopic tooth transplants). Rana pipiens (Anura), Iguana iguana (Lacertilia), Heterodontis francisci (Elasmobranchii) and other lower Vertebrata

HSÜ (LIANG), Ms. C. Y.; Ph.D., Prof. – Dept. of Biomorphics, Natl. Defense Med. Ctr., P.O.Box 8244, TAIPEI 107, Taiwan, Rep. of China

a Experimental gonadal differentiation. (Anura)

b Steroid analysis in larvae. Rana catesbeiana (Anura)

c Development of enzyme activity in larvae. Species as b

HSU, Yu-Chih; M.D., D. M. Sc., Prof. – Lab. of Mammal. Devl. and Oncogen., Dept. of Pathobiol., Sch. of Hyg. and Publ. Health, Johns Hopkins Univ., 615 N. Wolfe St., BALTIMORE, MD 21205, USA

a Regulation of embryo development in vitro. Mus musculus (Rodentia)

b Embryo growth factors beyond the implantation stage. Same species as a

c Culture of individually isolated whole embryos from blastocyst to early somite stage. Same species as a

HUBBERT, W. T.; D.V.M., Prof. – Dept. of Epidemiol. and Comm. Health, Sci. of Vet. Med., Louisiana State Univ., BATON ROUGE, LA 70803, USA

HUBER, I.; Ph.D. – Dept. of Biol., Fairleigh Dickinson Univ., 285 Madison Ave., MADISON, NJ 07940, USA

no work on developmental biology in progress

HUMPHREYS, T. D.; Ph.D., Prof. – Kewalo Lab., Pacif. Biomed. Res. Ctr., Univ. of Hawaii, 41 Ahui St., HONOLULU, HI 96813, USA

a RNA and protein synthesis in embryos. Colobocentrotus atratus, Lytechinus pictus, Tripneustes gratilla (Echinoidea)

b Characterization of aggregation factor. Microciona prolifera, Terpioz zeteki, Haliclona occulata (Porifera)

HUMPHREYS, W. J.; Ph.D., Prof. – Dept. of Zool., Univ. of Georgia, ATHENS, CA 30602, USA

a Ultrastructure of blastomeres in mosaic eggs. Mytilus edulis (Bivalvia)

b Desiccated cytoplasm of viable, encysted embryos, studied by transmission EM, freeze-fracturing, and scanning EM. Artemia salina (Anostraca, Crustacea)

c Inhibition and induction of the acrosome reaction in spermatozoa. Rabbit

HUMPHRIES, A. A., Jr.; Ph.D., Prof. – Dept. of Biol., Emory Univ., ATLANTA, GA 30322, USA

a Fertilization: role of jelly envelopes; polyspermy control; membrane potential changes. Triturus cristatus, Notophthalmus viridescens (Urodela)

b Oogenesis and development in marsupial species. Gastrotheca riobambae, G. ovifera, Flectonotus pygmaeus (Anura)

HUNT, E. L. † Ph.D., D.Sc., Prof. – Dept. of Biol., Emory Univ., ATLANTA, GA, USA

HUNT, Ms. L. M.; Ph.D. – Dept. of Biol., Univ. of Notre Dame, NOTRE DAME, IN 46556, USA

a Development under various conditions, part. effects of juvenile hormone on control of larval pigment deposition. Oncopeltus fasciatus and other Lygaeidae (Hemiptera)

b Definition of the term metamorphosis, part. as it applies to the supernumerary instars and precocious adults of Hemimetabola. (Lygaeidae, Hemiptera)

HUSKEY, R. J.; Ph.D. – Dept. of Biol., Univ. of Virginia, CHARLOTTESVILLE, VA 22901, USA

HUTCHINSON, C. F.; B.S. – Merck Inst. for Therap. Research, P.O.Box 2000, RAHWAY, NJ 07065, USA

HYODO, (TAGUCHI), Ms. Y.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa–4-chome, CHIBA, 260 Japan

a Chronic radiation effects on spermatogenesis. Oryzias latipes (Teleostei)

b Production of several homozygous strains inbred by full-sib matings. Species as a

IANNACCONE, P. M.; M.D., Ph.D. – Dept. of Pathol. and Canc. Ctr., Northwestern Univ. Med. School, 303 E. Chicago Ave., CHICAGO, IL 60611, USA

a Pathogenesis of neoplasia in experimental chimaeras. Mouse, Rat
b Acute and long term effects of toxic chemicals on preimplantation embryos. Mouse

IBATA, Y.; M.D., Dr. Med. Sci., Prof. – Dept. of Anat., Kyoto Pref. Univ. of Med., Kawaramachi Hirokoji, KYOTO, 602 Japan
a Correlative studies on the peptidergic ontogenic development of peptidergic neurons and aminergic neurons in the hypothalamus

IDE, C.; M.D. – Dept. of Anat., Jichi Med. School, 3311 Yakushiji, Minamikawachi-machi, TOCHIGI, 329–04, Japan
a Enzyme histochemistry of the growing nerve tip (growth cone) in vivo and in vitro. Chicken
b Cholinesterase for axonal growth in early development. Mouse
c Mechanism of reinnervation of Vater-Pacini corpuscles. Mouse

IDE, H.; D.Sc. – Biol. Inst., Fac. of Sci., Tohoku Univ., Aramaki, SENDAI, 980 Japan
a Transformation between chromatophores in vitro. Rana catesbeiana (Anura)
b Pigment pattern formation in cell culture. Species as a

IKENISHI, K.; D.Sc. – Dept. of Biol., Fac. of Sci., Osaka City Univ., Sugimoto-cho, Sumiyoshi-ku, OSAKA, 558 Japan
a Possible development of isolated germ plasm-bearing cells into primordial germ cells. Xenopus laevis (Anura)

IKEUCHI, T.; D.Sc. – Dept. of Cytogenet., Med. Res. Inst., Tokyo Med. and Dent. Univ., Yushima 1–45, Bunkyo-ku, TOKYO, 113 Japan
a Chromosome studies in early embryogenesis, part. induced and spontaneous abortions, and sex ratio. Man

IKUSHIMA, N.; D.Sc. – Biol. Lab., Kansai Med. School, HIRAKATA, 573 Japan.
a Differences of adhesiveness between cells of various parts of embryos. (Amphibia)

ILAN, J.; Ph.D., Prof. – Dept. of Anat., Developm. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Regulation of protein synthesis and control of mRNA translation during development and morphogenesis. (with Judith ILAN)

ILAN, Ms. Judith; Ph.D. – Reprod. Biol. and Dept. of Anat., Devl. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Regulation of protein synthesis and control of mRNA translation during development and morphogenesis. (with J. ILAN)

IMAHORI, K.; D.Sc., Prof. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Toyonaka, OSAKA, 560 Japan
a Morphogenesis, especially of sporelings. (Charophycae)
b Origin and cytogenesis of prokaryotic and eukaryotic cells. Chara spec., Nitella spec. (Charophyceae), Acetabularia spec. (Chlorophyceae)

IMBERSKI, R. B.; Ph.D. – Dept. of Zool., Univ. of Maryland, COLLEGE PARK, MD 20742, USA
a Developmental genetics of enzymes and isozymes. Drosophila spp. (Diptera), Ephestia kühniella (Lepidoptera)
b Mutants with altered duration of development and adult lifespan. Drosophila melanogaster (Diptera)
c Effects of mitotic inhibitors on development. Species as a

INBAM, Ms. C.; M.Sc. – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY 605006, India
a Placental enzymes in normal and abnormal pregnancy. Man

INFANTE, A. A.; Ph.D., Prof. – Dept. of Biol., Wesleyan Univ., MIDDLETOWN, CT 06457, USA
a Control of protein and nucleic acid synthesis during embryonic development (density gradient centrifugation, in vivo and in vitro protein synthesis, electrophoretic separations). Strongylocentrotus purpuratus, Lytechinus pictus (Echinoidea)
b Role of a DNA-nuclear membrane complex in DNA-synthesis (enzymology, gradient centrifugation, light and EM autoradiography, cell synchrony). Strongylocentrotus purpuratus (Echinoidea) and several cell lines (Mammalia)

INOUE, T.; M.Sc. – Dept. of Obstet., Fac. of Vet. Med., Hokkaido Univ., N. 18, W9, SAPPORO, 060 Japan
a Low temperature preservation of embryos. Mouse, Cow

INOUE, Y.; Dr. – Dept. of Biol., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Formation of sexual organs. Gelasinospora reticulispora (Ascomycetes)

INOUE, Ms. Y. – Biol. Lab., Doshisha Univ., Karasuma Imadegawa, Kamikyo-ku, KYOTO, 602 Japan
a Culture of embryonic heart cells. Cynops pyrrhogaster (Urodela), Chicken

INOUYE, M.; Ph.D. – Dept. of Embryol., Inst. of Devl. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03 Japan
a Morphogenesis of the cerebellum. Mouse, Rat
b Effects of ionising and nonionising radiation on developing brain. Mouse, Rat

ISHIDA, K.; Ph.D. – Dept. of Anim. Husbandry, Fac. of Agric., Niigata Univ., 8050 Igarashi 2, NIIGATA, 950–21 Japan
a Histochemistry of hydroxysteroid dehydrogenase, prostaglandin synthetase, prostaglandin dehydrogenase and adenylate cyclase in developing eggs. Meriones spec., Mesocricetus spec. (Rodentia), Pig

ISHIKAWA, M.; D.Sc., Prof. – Dept. of Biol., Fac. of Sci., Ehime Univ., MATSUYAMA, Ehime, 790 Japan
a Physiology of fertilization and artificial parthenogenesis. Hemicentrotus pulcherrimus, Pseudocentrotus depressus (Echinoidea)

b Metamorphosis. Halocynthia roretzi, Chelyosoma siboya, Ciona intestinalis (Tunicata)
c Isolation of centrioles from sperm, and their behaviour in fertilized and activated eggs. Hemicentrotus pulcherrimus (Echinoidea)

ISHIKAWA, T.; D.V.M., Prof. – Dept. of Vet. Obstet., Fac. of Vet. Med., Hokkaido Univ., N 18, W 9, SAPPORO, 060 Japan
a Cytogenetics of congenital anomalies. Cow

ISHIMODA-TAKAGI, T.; D.Sc. – Dept. of Biol., Tokyo Gakugei Univ., 4–1–1, Nukui Kita-machi, Koganei, TOKYO, 184 Japan
a Comparative biochemistry of tropomyosin from adult and embryonic muscles. (Invertebrata; Vertebrata)
b Immunology and biochemistry of tropomyosin from eggs. Anthocidaris crassispina, Pseudocentrotus depressus, Hemicentrotus pulcherrimus (Echinoidea)

ISHIZAKI, H.; D.Sc. – Dept. of Biol., Nagoya Univ., Chikusa, NAGOYA, 464 Japan
a Circadian rhythm in ecdysone release from prothoracic glands., part. neuroendocrine and/or neurotransmitter mediation. Samia cynthia ricini (Lepidoptera)
b Purification of prothoracicotropic hormone. Bombyx mori (Lepidoptera)

ISONO, N.; Ph.D. – Dept. of Biol., Keio Univ., 4–1–1 Hiyoshi, YOKOHAMA 223, Japan

IUCHI, I.; D.Sc. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Ontogeny of hemoglobins in embryos and larvae. Salmo gairdneri (= irideus) (Teleostei)
b Mechanism of hatching. Same species as a and Oryzias latipes (Teleostei)

IUCHI, S.; Ph.D. – Dept. of Morphol., Univ. of São Paulo, P.O.B. 301, 14.100 RIBEIRÃO PRÊTO, S.P., Brazil

IWAMATSU, T.; Ph.D., Prof. – Dept. of Biol., Aichi Univ. of Educ., 1-Hirosawa, Igaya-cho, KARIYA, Aichi Pref., 448 Japan
a The acquisition of developmental capacity by the oocyte during maturation in vitro. Oryzias latipes (Teleostei)
b Differentiation of primordial germ cells implanted into the eye cavity of castrated adults. Same species as a
c Morphological and functional changes of mitochondria during oocyte maturation. Misgurnus anguillicaudatus, Oryzias latipes (Teleostei)
d Mechanism of ovulation. Same species as c

IWASA, K.; D.Sc. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Toyonaka, OSAKA, 560 Japan
a Comparative morphology and biochemistry of cell wall and jelly coat. Chlamydomonas reinhardi, Volvox aureus, V. carteri (Volvocales, Chlorophyceae), Navicula pelliculosa, Phaeodactylum tricornutum (Diatomeae)
b Physiology and biochemistry of development and differentiation of unicellular and coenobial forms. Chlamydomonas reinhardi, Eudorina elegans, Volvox aureus, V. carteri (Volvocales, Chlorophyceae), Phaeodactylum tricornutum (Diatomeae)
c Comparative morphology, biochemistry and behavioral biology from the viewpoints of development, sexuality and phylogeny. Chlamydomonas spec., Haematococcus spec., Gonium spec., Pandorina spec., Eudorina spec., Pleodorina spec., Volvox spec., (Volvocales, Chlorophyceae)

IWASAKI, T.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa–4-chome, CHIBA, 260 Japan
a Effects of ionising radiation on oogenesis and embryonic development (cytology). Artemia salina (Anostraca, Crustacea)

IWASAWA, H.; D.Sc., Prof. – Biol. Inst., Fac. of Sci., Niigata Univ., NIIGATA, 950–21 Japan
a Embryological study on endocrine correlation. (Amphibia)
b Comparative embryology of reproductive organs. (Anura; Urodela)
c Mechanism of sex differentiation (electron microscopy, organ culture). Rana spp., Xenopus laevis (Anura)

IWATA, F.; D.Sc., Prof. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N.10, W.8, SAPPORO, 060 Japan
a Comparative embryology, especially taxonomic interrelationships. (Nemertina)
b Development and regeneration. Lineus vegitus (Nemertina)
c Comparative embryology. Cladonema uchidai, Plumularia undulata (Hydroidea, Hydrozoa), Notoplana humilis (Polycladida, Turbellaria), Pugettia quadridens, Cancer amphioetus, (Brachyura, Decapoda, Crustacea)

IYER, R. D.; Ph.D. – Div. of Genet., Centr. Plantation Crops Res. Inst., KASARAGOD-670124, Kerala State, India

IZAIKE, Y.; BVS – Livestock Div., Chugoku Nat. Agric. Exp. Stat., Kawai-cho, OODA-shi, 694-01 Japan
a Development and aging of placenta (DNA synthesis, mitosis, histochemistry). Cow
b Implantation and lost implantation (uterine pregnancy preparation). Cow
c Uterine environment for development of fertilised ova. Cow
d Relationship between fetal development and alpha-fetoprotein level in amniotic and allantoic fluid. Cow (with A. OKANO)

IZAWA, K.; B.Fish. – Fac. of Fish., Mie Univ., 2–80 Edobashi, TSU, Mie Pref. 514, Japan
a Postembryonic development: nauplius, copepodid and chalimus stages. (Cyclopoida & Caligoida & Lerneopodoida: Copepoda, Crustacea)

IZZARD, C. S.; Ph.D. – Dept. of Biol. Sci., State Univ. of New York, 1400 Washington Ave., ALBANY, NY 12222, USA
a Motility in fibroblast-like cells and its role in morphogenesis (critical optical techniques); role of substrate adhesions, contractile proteins and calcium. Xenopus laevis (Anura), Chicken, Mouse

JACOBS-LORENA, M.; Ph.D. – Dept. of Anat., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Regulation of transcription and translation during oogenesis; characterization of RNA and protein molecules accumulated in the egg. Drosophila melanogaster (Diptera)

JACOBSON, A. G.; Ph.D., Prof. – Dept. of Zool., Univ. of Texas, AUSTIN, TX 78712, USA
a Somite, notochord, and neural plate determination and morphogenesis; ultrastructural, cinematographic and experimental analysis. Taricha torosa (Urodela), Chicken
b Form changes in coherent sheets of cells mediated by programmed cell-shape changes (eye, early embryonic germ layers, extra-embryonic membranes). Species as a
c Shaping of the early brain. Species as a
d Computer simulation of neurulation. Species as a

JACOBSON, M.; Ph.D., Prof. – Dept. of Anat., Coll. of Med., Univ. of Utah, SALT LAKE CITY, UT 84132, USA
a Analysis of development, using genetic mosaics. (Amphibia; Teleostei)
b Development of nervous system

JACOBY, Ms. M.; M.Sc. – Dept. of Genet., Hebrew Univ., JERUSALEM, Israel
a Mutations affecting bristles on labellum. Drosophila melanogaster (Diptera)

JAFFE, L. F.; Ph.D., Prof. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA
a Transcellular developmental currents and ion fluxes through developing cells (vibrating probe detecting nanovolt differences). Drosophila melanogaster (Diptera), Callosobruchus spec. (Coleoptera), Oryzias latipes (Teleostei)
b Free calcium gradients and changes during early development (aequorin). Species as a
c Nature and role of endogenous electrical currents through regenerating systems. Rana pipiens, Xenopus laevis (Anura), Triturus viridescens (Urodela)
d Electrophysiology of the control of cell shape, cell division and cell movements in the early embryo. Quail, Chicken (with C. D. STERN, London)

JAFFEE, O. C.; Prof. – Biol. Dept., Univ. of Dayton, DAYTON, OH 45469, USA
a Effects of altered physiologic states upon heart development by studying direct hemodynamic changes. Chicken
b Effects of an organophosphate insecticide on cardiovascular development. Chicken

JANSSENS, P. A.; Ph.D. – Dept. of Zool., Austr. Natl. Univ., P.O.Box 4, CANBERRA, A.C.T. 2600, Australia
a Development of metabolic pathways, part. gluconeogenesis. Macropus eugenii (Marsupialia)
b Development of kidney function and its hormonal control. Species as a

JAYSHREE MENON, Ms.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Endocrinology and tail regeneration. Hemidactylus flaviviridis (Lacertilia)

JEFFERY, W. R.; Ph.D. – Dept. of Zool., Univ. of Texas, AUSTIN, TX 78712, USA
a Spatial localisation of maternal mRNA in oocytes, eggs, and embryos. Bithynia tentaculata (Gastropoda), Styela spp. (Ascidiacea), Xenopus laevis (Anura)
b Mechanism of stabilisation and activation of stored mRNA in sclerotia. Physarum polycephalum (Myxomycetes)
c Detection of maternal mRNA localisations by use of recombinant DNA probes. Drosophila melanogaster (Diptera), Styela plicata, Ciona intestinalis (Ascidiacea)
d Relationship of RNA localisation and ooplasmic segregation to the cytoskeleton. Styela plicata, Ciona intestinalis (Ascidiacea), Xenopus laevis (Anura)
e Development of assay methods to measure the determinative potential of the polar lobe cytoplasm. Ilyanassa obsoleta (Gastropoda), Crassostrea virginica (Bivalvia)

JEFFREY, P. L.; Ph.D. – Dept. of Biochem., Monash Univ., CLAYTON, Vict. 3168, Australia
a Formation of neuromuscular junction sarcolemma from normal and denervated mixed, fast and slow fibre types; glycoprotein and protein composition and metabolism. Chicken, Rat
b Synapse formation in CNS, subcellular fractionation; protein and glycoprotein composition; RNA metabolism. Chicken, Rat

JENSH, R. P.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Teratogenic and growth-retarding effects of suspect agents. Rat
b Effects of irradiation on prenatal and postnatal development. Rat
c Postnatal behavioral modifications due to prenatal insults. Rat

JETTEN, A. M.; Ph.D. – Natl. Canc. Inst., Natl. Inst. of Health, Bldg. 37, Rm. 2B26, BETHESDA, MD 20205, USA
a Systematic characterization of the components of the surface of embryonal carcinoma cells and early embryonic cell types, and determination of their significance in several aspects of embryonic development. Mouse

JIT, I.; Ph.D., Prof. (Emer.) – Dept. of Anat., Postgrad. Inst. of Med. Educ. and Res., CHANDIGARH 160011, India

JOHN, U. P.; B.Sc. – Dept. of Zool., Univ. of Adelaide, North Terrace, G.P.O.Box 498, ADELAIDE, S.A. 5001, Australia
a Formation, structure, composition and function of the jelly envelopes of the egg. (Hylidae & Leptodactylidae: Anura)

JOHNSON, E. M.; Ph.D., Prof. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Analysis of amniotic cells to predict non-genetic malformations. Rat, Man
b Postnatal effects of prenatal insults. (Rodentia)
c In vitro determination of teratogenic potential. Hydra attenuata (Hydrozoa)

JOHNSON, K. E.; Ph.D. – Dept. of Anat., George Washington Univ. Med. Ctr., WASHINGTON, DC 20027, USA
a Extracellular matrix synthesis in gastrulas. Rana pipiens and hybrids, Xenopus laevis (Anura)
b Changes in cell motility and gastrulation. Same species as a, and Xenopus mulleri (Anura)
JOLLIE, M. T.; Ph.D., Prof. – Dept. of Biol. Sci., Northern Illinois Univ., DeKALB, IL 60115, USA
a Development of the bony systems of the head. Amia spec., Lepisosteus spec. (Holostei), Acipenser spec. (Chondrostei), Squalus spec. (Elasmobranchii), Salmo spec., Esox spec. (Teleostei), and others (Vertebrata)
JONEJA, M. G.; Ph.D., Prof. – Dept. of Anat., Queen's Univ., KINGSTON, Ont. K7L 3N6, Canada
a Electron microscopy of the sequential changes in skeletal structures following treatment with the lathyrogen beta-aminopropionitrile and protective agents (flavonoids). Mesocricetus auratus (Rodentia)
JORQUERA, N.; M.V., Prof. – Inst. de Embriol., Univ. Austral de Chile, Casilla no. 567, VALDIVIA, Chile
a Heterospecific recombinations of ocular structures. Chicken and Rat
b Cytodifferentiation of embryonic kidney cells. Chicken
JOSEPHSON, I.; B.Sc. – Dept. of Physiol., Sch. of Med., Univ. of Virginia, CHARLOTTESVILLE, VA 22908, USA
a Electrophysiology of cultured heart cells. Chicken
JUDY, K. J.; Ph.D. – Zoecon Corp., 975 California Ave., PALO ALTO, CA 94304, USA
JURILOFF, Ms. D.; Ph.D. – The Jackson Lab., BAR HARBOR, ME 04609, USA
a Attempt to map major genes contributing to the spontaneous cleft lip trait of A/J animals, using translocation stocks. Mouse
b Characterization of a radiation-induced, recessive, embryonic lethal mutation that is located in the region of an inversion on chromosome 1. Mouse
c Adult characteristics correlated with expression of split face in Patch homozygote embryos. Mouse
JUURLINK, B. H. J.; Ph.D. – Dept. of Anat., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada
a Hormonal effects on astroglial cell differentiation in vitro. Mouse
b Factors involved in determination of optic stalk ventricular cells towards the glial lineage (Theiler stages 11–12). Mouse
KADOTA, A.; M.Sc. – Dept. of Biol., Fac. of Sci., Univ. of Tokyo, Hongo, TOKYO, 113 Japan
a Photocontrol of apical growth in protonemata. Adiantum capillus-veneris (Filices)
KALT, M. R.; Ph.D. – Dept. of Anat., Univ. of Connecticut Health Ctr., FARMINGTON, CT 06032, USA
a Ultrastructure and biochemistry of regulation and synthesis of RNA and proteins during spermatogenesis. Xenopus laevis (Anura), Mouse
b Effects of steroids and humoral factors on gonadal and germ cell differentiation. Species as a
KALTER, H.; Ph.D. – Children's Hosp. Res. Found., Div. of Teratol., Elland & Bethesda Aves., CINCINNATI, OH 45229, USA
KALTHOFF, K.; Dr. rer. nat., Prof. – Dept. of Zool., Univ. of Texas, AUSTIN, TX 78712, USA
a Morphogenetic determinants in eggs. (Diptera)
b Photoreactivation of UV-irradiated eggs. (Insecta)
KAMAKSHI, Ms. V.; Ph.D. – Dept. of Anat., Postgrad. Inst. of Basic Med. Sci., Univ. of Madras, Taramani, MADRAS 600042, India
a Morphometry of the fetal blood vessels of the placenta. Man
b Morphometry of abnormal placentae, part. from preeclamptic toxemic cases. Man
KAMAR, G. A. R.; Ph.D., Prof. – Dept. of Anim. Prod., Fac. of Agric., Cairo Univ., GIZA, Egypt
a Factors influencing reproduction and production as far as the endocrines and gonads are concerned. (Aves)
b Growth and factors affecting especially the endocrines. (Aves)
c Factors influencing production and reproduction as far as the environmental conditions are concerned. (Aves)
KAMEYAMA, Y.; M.D., D. Med. Sci., Prof. – Dept. of Devl. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan
a Mechanism responsible for malformations of the extremities in the embryo. Mouse, Rat
b Morphogenesis of genetic microphthalmia. Mouse (with K. HOSHINO and S. ODA)
c Effects of low-dose x-irradiation upon the developing brain. Mouse (with K. HOSHINO and Y. HAYASHI)
d Influences of interauterine environment on manifestation of genetic malformations. Mouse (with K. HOSHINO and S. ODA)
KAMIMURA, Ms. M.; Dr. Med. Sci. – Dept. of Anat., Sch. of Med., Kinki Univ., Sayamo-cho, OSAKA, 589 Japan
a Teratogenic mechanism of chemicals and their pathogenesis. Mouse, Rat; Macaca fascicularis (Primates)
KAMRAT, Ms. D.; B.Sc. – Dept. of Genet., Hebrew Univ., JERUSALEM, Israel
a Interactions between homoeotic mutations. Drosophila melanogaster (Diptera)
KANAGAWA, H.; Ph.D. – Dept. of Obstet., Fac. of Vet. Med., Hokkaido Univ., N 18, W 9, SAPPORO, 060 Japan
a Experimental embryology. (Rodentia and other small Mammalia)
b Embryo transfer. Farm animals (Mammalia)
KANATANI, H.; D.Sc., Prof. – Dept. of Devl. Biol., Natl. Inst. for Basic Biol., 38 Nishigonaka, Myodaiji-cho, OKAZAKI 444, Japan
a Mechanism of spawning. Asterias amurensis, Asterina pectinifera (Asteroidea)

b Mode of action of l-methyladenine on oocyte maturation. (Asteroidea)
c Mechanism of oocyte maturation. Same species as a

KANE, R. E.; Ph.D., Prof. – Kewalo Lab., Pacif. Biomed. Res. Ctr., Univ. of Hawaii, 41 Ahui St., HONOLULU, HI 96813, USA
a Role of cortical granules in formation of hyaline and fertilization membrane. (Echinodermata)
b Mechanism of cell division, studied by means of the isolated mitotic apparatus. (Echinodermata)
c Cytoplasmic actin and other cytoskeletal proteins in fertilization and early development. Tripneustes gratilla (Echinoidea)

KANKEL, D. R.; Ph.D. – Dept. of Biol., Kline Biol. Tower, Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA
a Clonal analysis and general embryology of the nervous system; use of genetic mosaics in an analysis of neural wiring specificity. Drosophila melanogaster (Diptera)

KAPLAN, S.; Ph.D. – Dept. of Anat., Med. Coll. of Wisconsin, P.O.Box 26509, MILWAUKEE, WI 53226, USA
a Physiological causes of caudal dysplasia syndrome. Chicken, Mesocricetus auratus (Rodentia), Man
b Normal and abnormal physiological development of the heart; factors initiating the first heartbeats. Chicken
c Mechanisms underlying congenital malformations; bio-energetics of development and influence of teratogens thereon. Chicken

KAPLANIS, J. N.; Ph.D. – Insect Physiol. Lab., US. Dept. of Agric., AR Sci. and Educ. Administr., BARC-East Bldg. 467, BELTSVILLE, MD 20705, USA
a Chemistry and biochemistry of molting hormones from different stages of insects, from related arthropods, and from plants. Manduca sexta (Lepidoptera), Oncopeltus fasciatus (Heteroptera), Musca domestica (Diptera)

KASHIWAMATA, S.; M.D., Ph.D. – Dept. of Perinatol., Inst. for Devl. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan
a Pathogenic mechanism of bilirubin encephalopathy and relationship between neurotoxicity of bilirubin and development of central nervous system. Rat

KASINSKY, H. E.; Ph.D. – Dept. of Zool., Univ. of Brit. Columbia, VANCOUVER, B.C. V6T 1W5, Canada

KASPI (VISHNIVETSKI), Ms. Th.; M.Sc. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel-Aviv Univ., TEL HASHOMER, Israel

KATAGIRI, C.; D.Sc. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N 10, W 8, SAPPORO, 060 Japan
a Sperm-egg interactions in fertilisation. Rana spec., Bufo spec. (Anura)
b Characterisation and development of hatching enzyme. Species as a
c Ontogeny of immune system. Rana spec., Xenopus spec. (Anura)

KATER, S. B.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA
a Functional regeneration of identified neurons in vivo and in vitro (electrophysiology, intracellular staining). Helisoma trivolvis (Gastropoda)

KATO, K.-I.; D.Sc., Prof. – Dept. of Biol., Osaka Kyôiku Univ., Tennoji-ku, OSAKA 543, Japan
a Strobilation. (Scyphozoa)
b Growth and medusa bud formation. Cladonema spec. (Hydrozoa)
c Reconstruction mechanism. (Hydrozoa; Scyphozoa)

KATO, M.; B.Sc. – Dept. of Anat., Tokyo Med. and Dent. Univ., 1–5–45, Yushima, Bunkyo-ku, TOKYO, 113 Japan
a The development and arrangement of collagen fibers. Rana japonica, Bufo b. japonicus, Xenopus laevis (Anura), Hynobius tokyoensis, Triturus pyrrhogaster (Urodela)
b Limb malformation induced with anesthetics. Bufo b. japonicus (Anura)

KATOH, A. K.; Ph.D. – Div. of Nucl. Pathol. and Oncol., Mercy Hosp., 1400 Locust St., PITTSBURGH, PA 15219, USA
a Differentiation of the embryonic lens in vitro. Chicken

KATOW, H.; Ph.D. – Dept. of Anat., Sch. of Dent., Tokyo Med. and Dent. Univ., 1–5–45 Yushima, Bunkyo-ku, TOKYO 113, Japan

KATSURA, S.; M.D., Prof. – Dept. of Oral Anat., Sch. of Dent., Tokushima Univ., Kuramoto-cho 3, TOKUSHIMA, 770 Japan
a Mechanisms of pole differentiation in larvae. Hemicentrotus pulcherrimus, Temnopleurus toreumaticus (Echinoidea)
b Biogenesis of cell organelles during early development. Same species as a
c Cell differentiation and biogenesis of organelles during development of salivary glands. (Rodentia)
d Histogenesis of jaw muscle fibers. Rat

KAUFFMAN, Ms. S.; M.D., Prof. – Dept. of Pathol., Downstate Med. Ctr., State Univ. of New York, 450 Clarkson Ave., NEW YORK, Brooklyn, NY 11203, USA
a Transplacental carcinogenesis, part. relation of developmental stage in lung to development of tumors of the terminal bronchiolar epithelium. Mouse
b Development and proliferation of pulmonary mesenchyme and its alteration by glucocorticoids in fetus and neonate. Mouse

KAUFMAN, P. B.; Ph.D., Prof. – Dept. of Bot., Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Hormonal regulation of stem elongation; endogenous gibberellins, auxins and ethylene in inflorescence, node, internode and leaf. Avena sativa, Zea mays (Gramineae)
b Mechanisms of the geotropic response in pulvini. Species as a, and Equisetum spec. (Equisetophyta)

c Silica deposition sites (SEM/x-ray analysis, neutron activation analysis); silicification mechanisms. Species as b, and Oryza sativa, Saccharum spec. (Gramineae), Cyperus alternifolius (Cyperaceae), Cannabis sativa (Cannabaceae)
d Cell and tissue culture. (Gramineae, Orchidaceae)
e Development of stomata (EM). (Gramineae)

KAWAI, S.; D.Sc. – Dept. of Biol., Osaka Dent. Univ., HIRAKATA, 573 Japan
a Developmentally regulated membrane proteins. Dictyostelium discoideum (Acrasiales)
b Development of nervous system. Rat

KAWAKAMI, I.; D.Sc., Prof. (Emer.) – Hakomatsu 3-chome, 3–29, Higashiku, FUKUOKA, 812 Japan
a Vegetalising factor from fish swimbladder and differentiation stimulating effect of neurulising agents. Cynops pyrrhogaster (Urodela)
b Inductive effect of concanavalin A

KAWAMURA, K. – Dept. of Biol., Fac. of Sci., Kochi Univ., Akebono-cho, KOCHI, 780 Japan
a Determination of body axes in the buds of colonial forms. Symplegma reptans, Polyandrocarpa misakiensis (Ascidiacea)
b Morphogenesis and pattern formation in asexual reproduction. (Ascidiacea)

KAWAMURA, T.; D.Sc., Prof. (Emer.) – Lab. for Amph. Biol., Hiroshima Univ., Higashisenda-cho, HIROSHIMA, Japan
a Hybridisation among European and Far Eastern forms. (Ranidae & Bufonidae: Anura)
b Morphological and sexual abnormalities in the offspring of animals derived from irradiated eggs or sperm. Rana nigromaculata (Anura)

KEDES, L. H.; M.D. – Dept. of Med., Stanford Med. School, Vet. Adm. Hosp., 3801 Miranda Ave., PALO ALTO, CA 94304, USA
a Molecular and genetic analysis of histone gene organization and regulation in development. (Echinodermata; Mammalia and others)

KEINO, H. – Dept. of Perinatol., Inst. for Developm. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan
a Teratogenesis of exencephaly induced by cadmium. Mouse

KELLEY, R. O.; Ph.D., Prof. – Dept. of Anat., Univ. of New Mexico, North Campus, ALBUQUERQUE, NM 87131, USA
a Electron microscopy of induction systems. Xenopus laevis (Anura)
b Electron microscopy of limb morphogenesis. (Mammalia)
c Growth and regulation of limb mesenchyme. Man
d Relationships of the cell surface with cell behavior in vitro. Man
e Development of the aging cell surface in diploid fibroblasts

KEMP, N. E.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Differentiation and growth of teeth and skeleton in vivo and in vitro. (Chondrichthyes; Osteichthyes; Amphibia)
b Fine structure of rays in regenerating tailfins. Tilapia mossambica, Carassius auratus (Teleostei)
c Polymerisation of collagen fibrils in connective tissue. (Elasmobranchii; Teleostei; Anura)

KENNEDY, L. A.; Ph.D. – Dept. of Anat., Coll. of Med., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada
a Effects of alcohol on fetal neopallium (in vivo, tissue culture). Mouse

KEREEM, A. A.; B.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Development of optic tectum. Bufo regularis (Anura) (with M. I. MICHAEL and S. H. KHALIL)

KERR, N. S.; Ph.D., Assoc. Prof. – Dept. of Zool., Univ. of Minnesota, ST. PAUL, MN 55101, USA

KESSEL, R. G.; Ph.D., Prof. – Dept. of Zool., Coll. of Lib. Arts, Univ. of Iowa, IOWA-City, IA 52242, USA
a Analysis of variations in cell structure and function, especially developmental phenomena (gametogenesis) (electron microscopy, cytochemistry, radioautography, biochemistry, hydrostatic pressure). Various organisms
b Scanning electron microscopy of early embryonic development. Rana pipiens (Anura)
c Scanning electron microscopy of tissues and organs. (Mammalia)
d Structure, function, and biogenesis of annulate lamellae and nuclear pores. Various organisms

KEYNAN, A.; Dr. – Inst. of Life Sci., Hebrew Univ., JERUSALEM, Israel
a Differentiation of spores into vegetative cells. Bacillus cereus (Bacteria)
b Cell cycle dependence of sporulation. Bacillus subtilis, B. cereus (Bacteria)
c Isolation and translation of sporulation specific mRNA during sporulation. Bacillus subtilis (Bacteria)
d Involvement of DNA gyrase in outgrowth of spores. Species as c
e Changes in DNA during outgrowth of spores. Species as c

KHALIL, S. H.; Ph.D. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Retino-diencephalic and retino-tectal projections. Bufo regularis (Anura)
b Development of optic tectum. Same species as a (with M. I. MICHAEL and A. A. KEREEM)
c Regeneration of limbs implanted in the orbit and changes in the optic nerve after eye cup removal. Same species as a (with M. I. MICHAEL and E. A. MOUSSAD)
d Effect of some vitamins on limb regeneration. Same species as a (with M. I. MICHAEL)
e Experiments on determination of the proximo-distal axis of the developing hind limb. Same species as a (with M. I. MICHAEL, S. N. SEDRA and A. A. S. HASSONA)

KHAN, M. S.; M.Sc., Prof. – Dept. of Zool., Talim-Ul-Islam Coll., RABWAH, Distr. Jhangh, Pakistan
a Normal table: larval and post-larval stages. Rana tigerina (Anura)
b A checklist of larvae of Pakistan, with a key. (Amphibia)
c Double headed monster. Hemidactylus flaviviridis (Lacertilia)

KHARE, M. K.; D. Phil. – Dept. of Zool., Sch. of Life Sci., North Eastern Hill Univ., SHILLONG 793003, India

KIDDER, G. M.; Ph.D. – Dept. of Zool., Univ. of W. Ontario, LONDON, Ont. N6A 5B7, Canada
a Synthesis and localization of mRNA in early development, using poly(A) as mRNA marker; poly(A) metabolism in embryos. Ilyanassa obsoleta (Gastropoda), Mouse
b Nucleolus formation and ribosomal gene expression in embryos. Ilyanassa obsoleta (Gastropoda)
c Molecular biology and genetics of preimplantion development. Mouse

KIDO, T.; D.Sc., Prof. – Biol. Inst., Kanazawa Med. Univ., UCHINADA-machi, Ishikawa-ken, 920–02 Japan

KIEFER, B. I.; Ph.D., Prof. – Dept. of Biol., Wesleyan Univ., MIDDLETOWN, CT 06457, USA
a Genetic control of differentiation and development of male germ cells (electron microscopy, electrophoresis, autoradiography, density gradient centrifugation). Drosophila melanogaster (Diptera)
b Structure and function of the mitotic apparatus as compared to other motile systems (electron microscopy, density gradient centrifugation). Strongylocentrotus purpuratus (Echinoidea)
c Regulation of ribosomal RNA and ribosomal protein synthesis during development (density gradient centrifugation, electrophoresis, autoradiography). Same species as a

KIHARA, T.; M. Pharm. – Dept. of Anat., Sch. of Med., Kinki Univ., Sayamo-cho, OSAKA, 589 Japan
a Teratogenic mechanism of chemicals and their pathogenesis. Mouse, Rat; Macaca fascicularis (Primates)

KIMMEL, Ms. C. A.; Ph.D. – Natl. Ctr. for Toxicol. Res., Publ. Health Serv., JEFFERSON, AR 72079, USA

KIMMEL, C. B.; Ph.D. – Dept. of Biol., Univ. of Oregon, EUGENE, OR 97403, USA
a Patterning and neurospecification in the early nervous system; development of Mauthner's cell and its synaptic connections. Brachydanio rerio (Teleostei), Ambystoma mexicanum (Urodela)

KIMMEL, D. L., Jr.; M.D., Ph.D. – Dept. of Biol., Davidson Coll., DAVIDSON, NC 28036, USA
a Development of neural centers regulating web building behavior. Nephila clavipes (Araneae, Arachnida)

KIMURA, I.; D.Sc. – Natl. Ctr. for Nervous, Mental and Muscular Disorders, TOKYO, Japan

KINARIWALA, Ms. R. V.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Physiological response of certain organs in relation to tail regeneration. Mabuya carinata (Lacertilia)

KING, Ms. D. Wei; Ph.D., Prof. – Dept. of Zool., Natl. Taiwan Univ., TAIPEI 107, Taiwan, Rep. of China

KING, R. C.; Ph.D., Prof. – Dept. of Biol. Sci., Northwestern Univ., Hogan Hall, EVANSTON, IL 60201, USA
a Genetic control of oogenesis. Drosophila melanogaster (Diptera)

KINOSHITA, S.; Ph.D., Prof. – Misaki Mar. Biol. Stat., Univ. of Tokyo, MISAKI, Kanagawa-ken 238–02, Japan
a Nucleo-cytoplasmic interactions and regulation of embryonic differentiation. Clypeaster japonicus (Echinoidea)
b Mucopolysaccharide-protein complex in chromatin, part. gene activation. Quail

KIRCHEN, R. V.; M.S. – Dept. of Devl. Biol., Carolina Biol. Supply Co., 2800 York Rd., BURLINGTON, NC 27215, USA
a Mitotic activity in early development. Oryzias latipes (Teleostei)

KIRK, D. L.; Ph.D. – Dept. of Biol., Washington Univ., Skinner and Lindell Ave., ST. LOUIS, MO 63130, USA
a Mechanism of action of control genes regulating cellular determination, cytodifferentiation and morphogenesis. Volvox carteri f. nagariensis (Volvocales, Chlorophyceae)

KIRSCHNER, M. W.; Ph.D. – Dept. of Biochem. and Biophys., Univ. of California, SAN FRANCISCO, CA 94143, USA
a Cell cycle in early development including surface contraction waves, DNA synthesis and mitosis. Xenopus laevis (Anura)
b Midblastula transition: determination of events depending on new transcription and those preprogrammed into the egg. Species as a

KISCHER, C. WARD; Ph.D. – Dept. of Anat., Coll. of Med., Univ. of Arizona, TUCSON, AZ 85724, USA
a Etiology and ultrastructure of the hypertrophic scar. Homo sapiens (Primates)
b Biochemical ultrastructural studies on organogenesis
c Ultrastructural and biochemical analyses of development of skin derivatives. Chicken, Mouse
d Effects of prostaglandins on developing skin and skin derivatives. Same species as c

KISHIDA, Y.; D.Sc., Prof. – Dept. of Biol., School of Educ., Okayama Univ., Tsushima-Naka-3–1–1, OKAYAMA, 700 Japan
a Depigmentation of eye after treatment with thiocarbamide and its derivatives. Dugesia japonica (Turbellaria)
b Mechanisms of eye formation during regeneration. Same species as a
c Role of the nervous system in regeneration. Same species as a
d Mechanism of asexual fission. Same species as a

KISHIMOTO, T.; D.Sc. – Dept. of Devl. Biol., Natl. Inst. for Basic Biol., 38 Nishigonaka, Myodaiji-cho, OKAZAKI 444, Japan
a Mechanism of oocyte maturation. Asterina pectinifera, Asterias amurensis (Asteroidea), Xenopus laevis (Anura)
KITAJIMA, T.; M.Sc. – Embryol. Sect., Dept. of Biol., Tokyo Metropolitan Univ., 2–1–1, Fukazawa, Setagaya-ku, TOKYO, 158 Japan
a In vitro culture of precocious micromeres (formed before the 16-cell stage). Hemicentrotus pulcherrimus (Echinoidea)
b EM of spicule-forming cells in the embryo. Species as a
KITANI, H.; M.Sc. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Toyonaka, OSAKA, 560 Japan
a Effects of carcinogens on early embryos. Chicken
KLEIN, N. W.; Ph.D., Prof. – Dept. of Anim. Genet., Storrs Agric. Exper. Station, Univ. of Connecticut, STORRS, CT 06268, USA
a Protein metabolism and its relationship to growth and differentiation in cultured embryos. Chicken, Rat
b Mechanisms of teratogenic specificity in cultured embryos. Chicken, Rat
c The importance of serum protein synthesis by the yolk sac in relation to development, nutrition, and developmental abnormalities in early embryos. Chicken, Rat
d Serum proteins in the regulation of growth and development of early embryos. Chicken, Rat
e Estimation of serum teratogenic activity using head fold stage embryos cultured on serum from rats, monkeys and humans
KLEIN, W. H.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Transcription during early embryogenesis. (Echinoidea), Xenopus spec. (Anura)
KLEINSMITH, L. J.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Role of nuclear proteins in the regulation of gene expression. (Mammalia)
KLEISS, Ms. Ch.; Lic. Biol. – Cat. de Embriol., Fac. de Med., Univ. de Los Andes, MÉRIDA, Venezuela
KLEISS, E.; Dr. Med., Prof. (Emer.) – Cat. de Embriol., Fac. de Med., Univ. de Los Andes, Apartado 38, MÉRIDA, Venezuela
KNOX, W. E.; M.D. – Dept. of Biochem., Canc. Res. Inst., New England Deaconess Hosp., 185 Pilgrim Rd., BOSTON, MA 02215, USA
a Identification of isoenzymic variants present in embryonic tissues. Rat
KNUDSEN, T. B.; B.Sc. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Genetic mechanisms in abnormal limb development (stage 17–20; EM, biochemistry), studied in Hemimelia-extra toe (Hmx), using cell properties stable in vitro. Mouse
KOBAYASHI, H.; M.Sc. – Lab. of Biol., Gifu Coll. of Dent., 1851 Takano, Hozumi-cho, Motosu-gun, GIFU-ken, Japan
a Estrogen-induced vitellogenin. Quail
KOBAYASHI, K.; Ph.D. – Biol. Lab., Chiba Univ., Yayoi-cho 1–33, CHIBA, 260 Japan
a Radiation effects on epidermal regeneration (histology). Mouse
b Blood cell formation mechanism (immunohistochemistry). Xenopus laevis (Anura)
KOBAYASHI, N.; Ph.D., Prof. – Biol. Lab., Doshisha Univ., Karasuma Imadegawa, Kamikyo-ku, KYOTO, 602 Japan
a Marine pollution bioassay using eggs. (Echinoidea)
b Fresh water pollution bioassay using eggs. Radix spec. (Gastropoda)
KOCHHAR, D. M.; Ph.D., Prof. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Mechanism of action of teratogenic agents
b In vitro screening of teratogenic agents
c Limb and craniofacial development in mutants. Mouse
d Role of cell surfaces in cellular interactions
e Role in development of macromolecules of the extracellular matrix
KOEHLER, L. D.; Ph.D., Prof. – Dept. of Biol., Centr. Michigan Univ., Mt. PLEASANT, MI 48859, USA
a Comparative study of ultrastructure of sperm and spermiogenesis. (Decapoda, Crustacea)
b Ultrastructural aspects of spermatogenesis. Esox vermiculatus (Teleostei)
c Ultrastructure of spermiogenesis. (Aves)
KOGA, K.; Ph.D. – Dept. of Agronomy, Fac. of Agric., Hakozaki 6–10–1, Higashi-ku, FUKUOKA, 812 Japan
a Transcriptional or translational control of protein synthesis during embryogenesis and diapause, part. ribosomes and their factors. Bombyx mori (Lepidoptera)
KOJIMA, M. K.; D.Sc. – Sugashima Marine Biol. Lab., Nagoya Univ., Sugashima-cho, TOBA-shi, Mie-ken 517 Japan
a Physiology of egg cleavage. Hemicentrotus pulcherrimus, Pseudocentrotus depressus (Echinoidea)
KOLESARI, G. L.; M.D., Ph.D. – Dept. of Anat., Med. Coll. of Wisconsin, P.O.Box 26509, MILWAUKEE, WI 53226, USA
a Potential of amphetamines for causing congenital malformations. Chicken
b Caudal dysplasia syndrome in genetically rumpless strains. Chicken
KOLLAR, E. J.; Ph.D., Prof. – Dept. of Oral Biol., Sch. of Dent. Med., Univ. of Connecticut Health Ctr., FARMINGTON, CT 06032, USA

a Differentiation of skin derivatives (teeth, vibrissae, feathers); combinations of epithelium and mesoderm, roles of these tissues, inductive sequence, temporal and spatial stability and plasticity of the integument during early stages. Chicken, Mouse
b Suppression and stimulation of neural crest. Chicken, Mouse
c Development of Meckel's cartilage. Mouse
d Long-term culture of dental papillae cells. Mouse
e Tissue-collagen interactions during epithelial differentiation (specificity of collagen as a mediator of developmental information). Chicken, Mouse
f Role of innervation in dental and vibrissal patterning. Chicken, Mouse

KOLLROS, J. J.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-CITY, IA 52242, USA
a Influence of thyroid hormones upon limb regeneration in tadpoles. Bufo americanus, Pseudacris nigrita, Rana pipiens, R. clamitans (Anura)
b Tissue responses and control of sequence in metamorphosis. Rana pipiens, R. catesbeiana, Pseudacris nigrita, Ambystoma laterale (Amphibia)
c Development of spinal and cerebral centers. Rana pipiens. R. catesbeiana, Pseudacris nigrita, Bufo americanus (Anura)
d Delineation of skin territories of different developmental capacities, especially as indicated by gland development. Rana pipiens and other spp. (Anura)
e Beak development and loss in tadpoles. Rana pipiens, R. clamitans, Pseudacris nigrita (Anura)

KOMAMINE, A.; D.Sc. – Dept. of Biol., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Biochemistry and physiology of embryogenesis in suspension culture cells. Daucus carota (Umbelliferae)
b Biochemical mechanism of callus initiation (dedifferentiation) in tissue culture. Species as a
c Xylem differentiation in single cell culture. Zinnia elegans (Compositae)
d Cell wall metabolism in suspension culture and cell wall regeneration in protoplast. Vinca rosea (Apocynaceae)
e Biochemistry of cell cycle in synchronised suspension culture. Species as d
f Mechanism of expression of secondary metabolism during differentiation in tissue and cell culture. Species as a, and Stizolobium hassjoo (Leguminosae)

KONDO, H.; Ph.D. – Lab. of Cell Sci., Inst. of Biophys. and Molec. Biol., Univ. of Kyoto, Kitashirakawa, Sakyo-ku, KYOTO, 606 Japan
a Crystallin genes in developmental systems. Quail, Chicken

KONG, Yun-Cheung; D.Sc. – Dept. of Biochem., Chinese Univ. of Hong Kong, Univ. Sci. Ctr., SHATIN, N.T., Hong Kong
a Effect of Chinese medicinal plants on reproduction. (Mammalia)

KONIGSBERG, I. R.; Ph.D., Prof. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22903, USA

KONISHI, T.; D.Sc. – Kanebo Inst. for Canc. Res., 1–9–1, Misaki-cho, Hyogo-ku, KOBE, 652 Japan

KORNGUTH, S. E.; Ph.D., Prof. – Depts. of Neurol. and Physiol. Chem., Waisman Ctr. on Mental Retard. and Hum. Devl., Univ. of Wisconsin, 2605 Marsh Lane, MADISON, WI 53706, USA

KOSHIDA, Y.; D.Sc., Prof. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Toyonaka, OSAKA, 560 Japan
a Cell kinetics of developing digestive organs. Rhacophorus spec., Xenopus spec., Rana spec. (Anura)
b Development of cartilage. (Polychaeta; Gastropoda; Cephalopoda)

KOTANI, M.; D.Sc., Prof. – Dept. of Nat. Sci., Osaka Women's Univ., Daisen-cho, Sakai, OSAKA, 590 Japan
a Nature of germinal cytoplasm. Xenopus laevis (Anura)
b Significance of "nuage"-chromosome association in spermatogenesis. Triturus pyrrhogaster (Urodela)

KRAMER, Ms. B.; Ph.D. – Dept. of Gen. Anat., Dent. School, Univ. of the Witwatersrand, 1 Jan Smuts Ave., JOHANNESBURG 2001, S. Africa
a Experiments on the possible origin of individual pancreatic islet cell types from the trunk neural crest. Chicken
b Origin of the endocrine cells of the gastro-intestinal tract. Chicken (with A. ANDREW and B. B. RAWDON)
c Survey of the variations of the renal vessels (including renal collar): congenital malformations. Man

KRAUSE, W. J.; Ph.D. – Dept. of Anat., Coll. of Med., Univ. of Missouri, COLUMBIA, MO 65201, USA

KRAYANEK, Ms. S.; Ph.D. – Dept. of Anat., Sch. of Med., Univ. of Miami, P.O.Box 520875, Biscayne Annex, MIAMI, FL 33152, USA

KREJSA, R. J.; Ph.D., Prof. – Biol. Sci. Dept., Calif. Polytechn. State Univ., SAN LUIS OBISPO, CA 93407, USA
a Role of the epidermis in scale and fin-ray development. (Teleostei)
b Comparative aspects of integument morphogenesis. (Vertebrata)
c Shedding of skin and skin derivatives. Congiopodus spec. (Teleostei)

KRIDER, H. M.; Ph.D. – Inst. of Cell Biol., Univ. of Connecticut, U-125, STORRS, CT 06268, USA

KRUKOWSKI, M.; Ph.D. – Dept. of Biol., Washington Univ., Skinner and Lindell Ave., ST. LOUIS, MO 63130, USA
a Bone development and regulation of calcium metabolism before birth. Rat
b Origin and time of appearance of progenitor cells of osteoclasts. Quail, Chicken

KUBOTA, H. Y.; M.Sc. – Lab. of Devl. Biol., Dept. of Zool., Kyoto Univ., Sakyo-ku, KYOTO, 606 Japan

a Clock mechanism determining the time of onset of gastrulation. Xenopus spec. (Anura), Ambystoma spec., Cynops spec. (Urodela)
b Establishment of bilateral symmetry in the embryo. Species as a

KUBOTA, T.; D.Sc., Prof. – Dept. of Biol., Fac. of Sci., Kagoshima Univ., Korimoto, KAGOSHIMA, 890 Japan
a Effects of external calcium ion concentration on cleavage furrow membrane. Cynops pyrrhogaster (Urodela)

KUEHN, G. D.; Ph.D., Prof. – Dept. of Chem., New Mexico State Univ., Box 3C, LAS CRUCES, NM 88003, USA
a Effect of polyamines (putrescine, spermidine and spermine) on phenol-soluble nuclear phosphoprotein phosphorylation; correlation with inhibition of a nuclear localised adenylate cyclase. Physarum polycephalum (Myxomycetes)
b Regulation of enzyme activity levels during differentiation (spherulation); especially mRNA synthesis that may coincide with expression of these enzyme activities. Species as a
c Effect of polyamine-stimulated phosphorylation of nonhistone proteins in nucleoli on the transcription of ribosomal DNA. Species as a

KULIAWAT, Ms. R.; B.Sc. – Biol. Sci. Grp., Sect. Devl. Biol., Univ. of Connecticut, Life Sci. Bldg. U-42, STORRS, CT 06268, USA
a Hemoglobin genes during development. (Chironomidae, Diptera)

KULKA, R. G.; Dr. – Dept. of Biol. Chem., Hebrew Univ., JERUSALEM, Israel

KUMAR, A. – Dept. of Zool., Sch. of Life Sci., North Eastern Hill Univ., SHILLONG 793003, India

KUMAR, K.; Ph.D. – Dept. of Zool., Univ. of Gorakhpur, GORAKHPUR 273001, India

KUMARAN, A. KRISHNA; Ph.D., Prof. – Dept. of Biol., Marquette Univ., 530 North 15th St., MILWAUKEE, WI 53233, USA
a Control of juvenile hormone esterase synthesis; interaction of ecdysone and juvenile hormone in control of metamorphosis and ovarian development. Galleria spec. (Lepidoptera), Drosophila spec. (Diptera)
b Aging and tissue specific gene expression. Drosophila spec. (Diptera)

KUNKLE, M.; Ph.D. – Dept. of Anat., Univ. of Alabama, Univ. Station, BIRMINGHAM, AL 35294, USA
a Proteins which maintain the sperm nucleus in its conoid morphology. Strongylocentrotus purpuratus (Echinoidea)
b Purifying unfertilised egg cytoplasmic proteins which cause dispersion of the chromatin of sperm nuclei undergoing morphogenesis into male pronuclei. Species as a

KURIHARA, M. – Inst. of Appl. Entomol., Fac. of Agric., Iwate Univ., Ueda 3–18–8, MORIOKA, 020 Japan
a Histology and histochemistry of oogenesis. (Insecta)

KURIYAMA, K.; M.D., Ph.D., Prof. – Dept. of Pharmacol., Kyoto Pref. Univ. of Med., Kawaramachi-Hirokoji, Kamikyo-ku, KYOTO, 602 Japan
a Developmental changes of amino acid metabolism in brain. Mouse, Rat
b Effect of addictive drugs on the metabolism of developing brain. Mouse, Rat
c Developmental changes of cAMP metabolism in brain. Mouse, Rat

KURODA, Y.; D.Sc. – Dept. of Morphol. Genet., Natl. Inst. of Genet., Yata 1, 111, MISIMA, Sizuoka-ken, 411 Japan
a Gene expression in imaginal disc cells in organ and cell culture. Drosophila melanogaster (Diptera)
b Single cell cultivation of embryonic cells carrying some genetic markers. Same species as a
c Studies on histoformative cell aggregation from dissociated embryonic cells. Chicken, Mouse
d Gene expression and mutagenesis in diploid embryonic cells in culture. Man

LACALLI, T. C.; Ph.D. – Biol. Dept., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada
a Cell lineage patterns and morphogenesis in larval nervous system. Phyllodoce spec., Spirobranchus polycerus, Polygordius spec. (Polychaeta)
b Application of "chemical wave" models of morphogenesis to: 1. septum formation, tip growth and dichotomous branching. Micrasterias spec. (Desmidiales), Acetabularia spec. (Dasycladiales, Chlorophyceae), and 2. branching patterns (multicellular plants)

LAI-FOOK, Ms. J. E. I.; Ph.D. – Ramsay Wright Zool. Labs., Dept. of Zool., Univ. of Toronto, 25 Harbord St., TORONTO, Ont. M5S 1A1, Canada
a Spermatogenesis; development of the male genital tract; source and fate of the components of the spermatophore. Calpodes ethlius (Lepidoptera)

LAKSHMANAN, K. K.; Ph.D., Prof. – Dept. of Bot., Postgrad. Ctr., Madras Univ., COIMBATORE 641041, India

LAKSHMANAN, S.; M.Sc. – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY-605006, India
a A study of meiotic chromosomes in altered blood supply to testis. Mouse

LALA, P. K.; M.D., Ph.D., Prof. – Dept. of Anat., McGill Univ., 3640 University St., MONTREAL, Que. H3A 2B2, Canada
a Mechanism of fetoplacental survival in allogeneic pregnancy, studied by investigations on histocompatibility antigens in trophoblast cells and immune responses of the mother. Mouse
b Life history and function of decidual cells during pregnancy. Mouse

LAMPRECHT, DeV. B.; M.Sc. – Dept. of Anat., Univ. of the Orange Free State, P.O.Box 339, BLOEMFONTEIN 9300, S. Africa
no research on developmental biology in progress

LANDESMAN, R.; Ph.D. – Dept. of Zool., Univ. of Vermont, BURLINGTON, VT 05401, USA

LANG, A.; Ph.D., Prof. – Plant Res. Lab., Michigan State Univ., EAST LANSING, MI 48824, USA
a Physiology of flowering. Nicotiana spp., Hyoscyamus niger (Solanaceae) and other plants
LANGMAN, J.; M.D., Ph.D., Prof. – Dept. of Anat., Med. Ctr., Univ. of Virginia, Box 439, CHARLOTTESVILLE, VA 22908, USA
a Brain development under normal and abnormal conditions. Chicken, (Rodentia)
b Role of surface coat in fusion processes. Mouse
LASEK, R. J.; Ph.D., Prof. – Dept. of Anat., Devl. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Proteins associated with growth and development of the axon. Rat
LASNITZKI, Ms. I. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Tissue interactions in differentiation of prostatic buds in vitro. Mouse, Rat (with T. MIZUNO)
LAUDER, J. M.; Ph.D. – Lab. of Devl. Neurobiol., Dept. of Anat., Sch. of Med., Univ. of North Carolina, 111 Swing Bldg. 217H, CHAPEL HILL, NC 27514, USA
a Effects of hormones (thyroid, glucocorticoids) and neurotransmitters (monoamines) on pre- and postnatal brain development. Chicken, Rat
b Synaptogenesis: development of model systems using hormonal and humoral manipulations in cerebellum and hippocampus. Rat
LAUFER, H.; Ph.D., Prof. – Biol. Sci. Grp., Sect. Devl. Biol., Univ. of Connecticut, Life Sci. Bldg. U–42, STORRS, CT 06268, USA
a Effects of hormones on gene action as revealed by puffing of polytenic chromosomes. Chironomus spec. (Diptera)
b Regulation of metamorphosis by hormones. (Crustacea, Insecta)
c Regulation of yolk proteins, enzymes, salivary gland secretion proteins, and hemoglobins during metamorphosis. Species as b
d Hemoglobin synthesis (cytological hybridisation). Species as a
LaVAIL, J. H.; Ph.D. – Dept. of Anat., Univ. of California, SAN FRANCISCO, CA 94143, USA
a The retrograde movement of proteins in neurons of the visual system. Chicken
b The effect of genetically determined pigmentation on the projections of retinal ganglion cells. Mouse
LAVARACK, J. O.; Ph.D. – 33 Holroyd St., KEW, Vict. 3101, Australia
a Locomotion of embryonic cells in culture. Chicken
LaVELLE, A.; Ph.D., Prof. – Dept. of Anat., Univ. of Illinois, P.O.Box 6998, CHICAGO, IL 60680, USA
a Developmental cytology of the neuron, normally and after experimental alterations (axotomy, drug treatment, antibrain serum); changes in the nucleolar apparatus and in Nissl substance. Mesocricetus auratus (Rodentia)
b Protein and antigenic changes in brain and nuclear areas of brain. Same species as a
LaVELLE, Ms. F. W.; Ph.D. – Dept. of Anat., Stritch Sch. of Med., Loyola Univ., 2160 S. 1st Ave., MAYWOOD, IL 60153, USA
a Cytology of various neurons (e.g. cerebellar Purkinje cells and facial motor neurons) in neonates after fetal exposure to ethanol. Mesocricetus auratus (Rodentia)
b Development in several populations of brain neurons of an intranucleolar body serving as a cytological indicator of the balance of protein synthesis/utilisation. Species as a
LAYTON, W. M.; M.D., Prof. – Dept. of Anat./Cytol., Dartmouth Med. School, HANOVER, NH 03755, USA
a Teratogenic mechanisms of carbonic anhydrase inhibitors. Mouse, Rat, Mesocricetus auratus (Rodentia)
b Asymmetry of developmental patterns. Mouse
c Genetic determination of situs inversus viscerum. Mouse
LEACH, C. M.; Ph.D., Prof. – Dept. of Bot. and Plant Pathol., Oregon State Univ., CORVALLIS, OR 97331, USA
a Light induction of reproduction in phytopathogenic species. (Fungi)
b Interaction of light and temperature on the induction of reproduction and spore discharge. (Fungi)
LEBLOND, C. P.; M.D., Ph.D., Prof. – Dept. of Anat., McGill Univ., 3640 University St., MONTREAL, Que. H3A 2B2, Canada
a Tooth development as shown by immunodetection of the various types of procollagen. Rat
LEE, H. C.; Ph.D. – Dept. of Biol. Sci., Hopkins Marine Stat., Stanford Univ., PACIFIC GROVE, CA 93950, USA
a Ionic regulation and control of sperm motility (fluorescent probes used to monitor intracellular pH; calcium ion level and transmembrane potential). Lytechinus pictus, Strongylocentrotus purpuratus and other spp. (Echinoidea)
b Isolation and characterisation of structure and functions of egg plasma membrane. Species as a
LEE, H. H.; Ph.D., Prof. – Biol. Dept., Univ. of Toledo, 2801 W. Bancroft St., TOLEDO, OH 43606, USA
a Characterization of cell surface substances responsible for morphogenesis (testicular cells in vitro). Chicken
b Isolation of steroidogenic cells by sedimentation techniques. Chicken
c Differentiation of oocyte membrane with respect to receptors for a maturation-inducing substance, 1-methyladenine. (Asteroidea; Echinoidea)
d Intermediate(s) in the cytosol fraction after hormonal stimulation responsible for fertilization and embryogenesis. (Asteroidea)
e Membrane reactions in oocyte maturation and in fertilization. (Echinoidea)

LEESON, C. R.; M.D., Prof. – Dept. of Anat., Coll. of Med., Univ. of Missouri, COLUMBIA, MO 65201, USA
LEFFINGWELL, T. P.; Ph.D. – Cell Res. Inst., Biol. Labs. 220, Univ. of Texas, AUSTIN, TX 78712, USA
LEGNAME, A. H.; Dr. Biochem., Prof. – Inst. de Biol., Univ. Nac de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMÁN, Argentina
a Glycolysis and tricarboxylic acid cycle during early development: regulatory mechanisms. Bufo arenarum (Anura)
b Oocyte maturation: metabolism as an expression of cytoplasmic maturation. Same species as a
LEHMANN, Ms. R. – Dept. of Zool., Univ. of Washington, SEATTLE, WA 98195, USA
LEIGHTON, J.; M.D., Prof. – Dept. of Pathol., Med. Coll. of Pennsylvania, 3300 Henry Ave., PHILADELPHIA, PA 19129, USA
no work on developmental biology in progress
LEMANSKI, L. F.; Ph.D. – Dept. of Anat., Univ. of Wisconsin, MADISON, WI 53706, USA
a Myofibrillogenesis and heart inductive processes in normal and cardiac non-function (gene c) animals (tissue and organ culture), biochemistry, immunofluorescence, immuno-EM). Ambystoma mexicanum (Urodela)
b In vivo and in vitro heart development in normal and cardiomyopathic animals, part. myofibrillogenesis and regulatory processes in differentiating myoblasts (biochemistry, immunofluorescence, immuno-EM). Mesocricetus auratus (Rodentia)
LENHOFF, H. M.; Ph.D., Prof. – Dept. of Devl. and Cell Biol., Univ. of Calif., IRVINE, CA 92717, USA
a Chemistry, biosynthesis, and topography of mesoglea. Hydra littoralis, H. pseudoligactis (Hydrozoa)
b Movement and differentiation of interstitial cell. Hydra littoralis (Hydrozoa)
c Development of mutants. Hydra viridis (Hydrozoa)
d Control of pedal laceration. Undescribed spec. (Actinozoa)
LEOPOLD, R. A.; Ph.D. – Metab. and Radiat. Res. Lab., Agric. Res. Serv., US Dept. of Agric., P.O. Box 5674, State Univ. Station, FARGO, ND 58102, USA
a Reproductive physiology; development. Musca domestica (Diptera), Melanoplus differentialis (Orthoptera)
b Constructing interspecific hybrids, using mosaics produced by exchanging pole cells between embryos. Musca domestica, M. autumnalis (Diptera)
LESH-LAURIE, Ms. G. E.; Ph.D. – Dept. of Biol., Cleveland State Univ., CLEVELAND, OH 44115, USA
a Purification of neurotrophic substance(s) involved in interstitial cell differentiation. Hydra spec., Podocoryne spec., Hydractinia spec., Pennaria spec., Aurelia spec. (Hydrozoa)
b Control of differentiated state of interstitial cells. Same species as a
c Role of mesoglea in morphogenesis. Same species as a
LESSEPS, R. J. (S. J.); Ph.D. – Dept. of Biol. Sci., Loyola Univ., NEW ORLEANS, LA 70118, USA
a Sorting-out experiments to test hypotheses concerning morphogenetic movements (embryonic heart, neural retina, pigmented retina). Chicken
b Cell movements in early development. Nothobranchius korthausae (Cyprinodontoidea, Teleostei)
LEVENSON, G. E.; Ph.D., D.D.S. – Dept. of Histol., Embryol. and Genet., Sch. of Dent. Med., Univ. of Pennsylvania, 4001 Spruce St., PHILADELPHIA, PA 19174, USA
a Comparison of three types of embryonic cartilage when grown as monolayer cultures. Chicken
b Effect of ascorbic acid in medium on growth and differentiation of embryonic cartilage in monolayer culture. Chicken
c Effects of ascorbic acid on growth, differentiation and matrix (collagen) synthesis in tooth germs in vitro. Mouse
LEVINE, A. J.; Ph.D., Prof. – Dept. of Microbiol., Sch. of Basic Health Sci., Health Sci. Ctr., Sate Univ. of New York, STONY BROOK, NY 11794, USA
a Differentiation of embryonal carcinoma cells in culture. Mouse
LEVY, Ms. S.; Ph.D. – Dept. of Med., Stanford Med. School, Vet. Adm. Hosp., PALO ALTO, CA 94305, USA
a Expression of histone genes in embryonic development and during cell cycle. Strongylocentrotus purpuratus, Lytechinus pictus (Echinoidea)
LEWIS, C. A.; Ph.D. – A – 002 Marine Biol. Res. Div., Scripps Inst. of Oceanogr., Univ. of California, San Diego, LA JOLLA, CA 92093, USA
a Growth, seasonal reproductive activity and larval development: mariculture; settlement and distribution. (Cirripedia, Crustacea)
b Gamete interactions (EM, gel electrophoresis, biochemistry). Haliotis rufescens (Gastropoda)
LHOTKA, J. F., Jr.; M.D., Ph.D., Prof. – Dept. of Anat. Sci., Univ. of Oklahoma Health Sci. Ctr., P.O.Box 26901, OKLAHOMA-City, OK 73190, USA
a Localisation of calcium and iron in the developing embryo. Chicken, Pig, Man
b Histochemical localisations of polysaccharides in embryo and early fetus, with emphasis on vascular system. Man
c Coat colour and neoplastic degeneration in advanced aging. Mouse
LIANG, H. M.; Ph.D., Prof. – Dept. of Biomorphics, Natl. Defence Med. Ctr., P.O.Box 8244, TAIPEI 107, Taiwan, Rep. of China
a Ultrastructure of sex transformation in larvae. Rana spec. (Anura)
LILIEN, J. E.; Ph.D., Prof. – Dept. of Zool., Univ. of Wisconsin, 1117 W. Johnson St., MADISON, WI 53706, USA
a Morphogenesis, cell-cell interactions, cell surface in the embryo. Chicken

LIN, C. C.; Ph.D., Prof. – Div. of Pediat. and Med. Biochem., Health Sci. Ctr., Univ. of Calgary, CALGARY, Alta. T2N 1N4, Canada
a Gene expression in early spontaneous abortus. Man
LINDHOLM, S.; M.D. – Bone Res. Lab., Univ. of California, 1000 Veteran Ave., LOS ANGELES, CA 90024, USA
a Bone morphogenesis: physiology and biochemistry of bone matrix; osteosarcoma derived bone morphogenetic protein; transplantation; calcification; ossification. Mouse, Rat, Cavia porcellus (Rodentia), (Lagomorpha), Man
LINDNER, G. M.; Ph.D. – Dept. of Dairy Sci., Coll. of Agric. Sci., Clemson Univ., CLEMSON, SC 29631, USA
a Effects of bovine serum albumin (BSA) on the development of preimplantation embryos. Sheep
b Ultrastructural comparison of in vivo and in vitro developed embryos. (Mammalia)
LINDSAY, D. T.; Ph.D. – Dept. of Zool., Univ. of Georgia, ATHENS, GA 30602, USA
LINDSLEY, D. L.; Ph.D., Prof. – Ctr. for Devl. Biol. B–022, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA
LINSENMAYER, T. F.; Ph.D. – Dept. of Anat., Harvard Med. School, 25 Shattuck St., BOSTON, MA 02115, USA
a Role of collagen in development and regeneration (biochemistry, immunology). Ambystoma punctatum (Urodela), Chicken
LINTERN-MOORE, Ms. S. M.; Ph.D. – Macquarie Univ., School of Biol. Sci., NORTH RYDE, N.S.W. 2113, Australia
LIPKE, P. N.; Ph.D. – Dept. of Biol. Sci., Hunter Coll., Box 1008, NEW YORK, NY 10021, USA
a Isolation and characterisation of developmentally regulated sexual agglutinins, their molecular structure and the mechanisms of induction of agglutinability by sex pheromones. Saccharomyces cerevisiae (Ascomycetes)
LIPTON, B. H.; Ph.D. – Dept. of Anat., Univ. of Wisconsin, 1215 Linden Drive, MADISON, WI 53706, USA
a Pattern development in embryos; morphogenetic mechanisms responsible for axial structure formation. (Amphibia; Aves)
b Fine-structural analysis of myogenesis in vitro: cell fusion, cell substrate adhesion, basal lamina formation and satellite cell development. Quail, Chicken, Mouse, Man
LIVERSAGE, R. A.; Ph.D., Prof. – Ramsay Wright Zool. Labs., Dept. of Zool., Univ. of Toronto, 25 Harbord St., TORONTO, M5S 1A1, Ont., Canada
a In vivo and in vitro studies on the influence of nerves and endocrines in regeneration. (Amphibia)
LOCKE, M.; Ph.D., Prof. – Dept. of Zool., Univ. of W. Ontario, LONDON, Ont. N6A 5B7, Canada
a Developmental physiology and cell biology. Calpodes ethlius (Lepidoptera)
b Nucleolus during epidermal cell development; a new bismuth staining procedure for light and electron microscopy allows the selective visualization of certain nucleoproteins. (Animalia)
c Epidermis and cuticle secretion. (Insecta)
d Fat body development. (Insecta)
LOCKSHIN, R. A.; Ph.D. – Dept. of Biol. Sci., St. John's Univ., Grand Central and Utopia Parkways, JAMAICA, NY 11439, USA
LOEWENTHAL, Ms. L. A.; Ph.D. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Effects of teratogens on limb development. Chicken
LONG, S. Y.; Ph.D. – Dept. of Anat., Med. Coll. of Wisconsin, P.O.Box 26509, MILWAUKEE, WI 53226, USA
a Cleft palate and limb malformations as a model for genetic-teratogenetic interactions. Mouse
LOOMIS, W. F., Jr.; Ph.D. – Ctr. for Devl. Biol. B–022, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA
LOPES, R. A.; D.D.S., Sc.D. – Dept. de Patol., Fac. de Farm. e Odontol. de Ribeirão Prêto, 14100 RIBEIRÃO PRÊTO, S.P., Brazil
LORENZ, F. W.; Dr. – Dept. of Anim. Physiol., Univ. of California, DAVIS, CA, USA
LOUGHTON, B. G.; Ph.D. – Biol. Dept., York Univ., DOWNSVIEW, Ont. M3J 1P3, Canada
LOVE, D.; Ph.D. – Dept. of Anat., Developm. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Chemistry of developing muscle. Chicken
b Endocrine regulation of the rates of turnover of contractile proteins and metabolic enzymes during embryonic muscle development. Chicken
LOVETT, J. S.; Ph.D., Prof. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA
a Regulation of RNA and protein synthesis and its role in differentiation; messenger RNA storage in zoospores and its function during zoospore germination; regulation of protein synthesis in zoospores. Blastocladiella emersonii (Phycomycetes)
b Function of microtubules in rhizoid initiation and development during zoospore germination. Same species as a
c Cell wall composition and the regulation of discharge papilla formation during differentiation. Same species as a
LOY, J. B.; Ph.D. – Dept. of Plant Sci., Univ. of New Hampshire, Nesmith Hall, DURHAM, NH 03824, USA
a Hormonal and genetic regulation of cell division and elongation in the stem. Citrullus lanatus (Cucurbitaceae)
b Biochemical genetics of hull-less seed coat mutant. Cucurbita pepo (Cucurbitaceae)
LU, M.-H.; Ph.D. – Haskell Lab. for Toxicol. and Industr. Med., Du Pont Company, Elkton Rd., NEWARK, DE 19711, USA

a Teratogenicity of ethylenethiourea. Mesocricetus auratus (Rodentia)
b Teratogenicity of compounds used in agriculture. Rat
c Development of methodology to be used for determining the embryo-fetal toxicity and teratogenic potential of environmental chemicals. Rabbit

LUCAS, J. S.; Ph.D. – Zool. Dept., James Cook Univ. of N. Queensland, P.O. James Cook Univ., TOWNSVILLE, Qld. 4811, Australia
a Development of hybrids. Acanthaster planci, A. brevispinus (Asteroidea)

LUCK, D. N.; Dr. Phil. – Dept. of Biol., Oberlin Coll., OBERLIN, OH 44074, USA
a Regulation by estrogen of ribosome metabolism in the uterus. Rat

LUCKETT, W. P.; Ph.D. – Dept. of Anat., Creighton Univ., 2500 California St., OMAHA, NE 68178, USA
a Development of fetal membranes and placenta. (Ctenodactylidae, Rodentia)
b Development and phylogenetic analysis of deciduous and permanent dentition. Tarsius spec. and other spp. (Primates)

LUTHARDT, F. W.; Ph.D. – Div. of Med. Genet., Dept. of Psychiat., Univ. of California, LOS ANGELES, CA 90024, USA

LYERLA, T. A.; Ph.D. – Biol. Dept., Clark Univ., WORCESTER, MA 01610, USA
a Lysosomal enzymes and their role in cement gland regression. Xenopus laevis (Anura)
b Lactate dehydrogenase isozymes: genetics, tissue specificities and activation during embryogenesis. Same species as a
c Cell regression and pigment cell development. Same species as a
d Genetic and hormonal controls of isoenzymes: activation during embryogenesis. Same species as a
e Developmental appearance of enzymes. Species as a
f Role of lysosomal hydrolases in tissue regression. Species as a

LYKE, E. B.; Ph.D., Prof. – Dept. of Biol. Sci., Calif. State Univ., HAYWARD, CA 94542, USA
a Gametogenesis and fertilization, especially pro-acrosomal vesicle formation and role in fertilization. Polyorchis penicillatus (Hydrozoa)
b Gametogenesis, fertilization, and early development in solitary and colonial species. Metridium spec., Anthopleura spec., Epiactis spec., Clavularia spec. (Actinozoa)

LYMAN, H.; Ph.D. – Dept. of Biol., State Univ. of New York, STONY BROOK, NY 11794, USA
a Control mechanisms of chloroplast development and replication. Euglena gracilis (Euglenophyceae)

LYNE, A. G.; Ph.D. – Div. of Wildlife Res., Address: Div. of Anim. Product., CSIRO, P.O.Box 239, BLACKTOWN, N.S.W. 2148, Australia
a Embryology (light and electron microscopy). Perameles nasuta, Isoodon macrourus (Marsupialia)

LYSER (SHOUBY), Ms. K. M.; Ph.D., Prof. – Dept. of Biol. Sci., Hunter Coll., 695 Park Ave., Box 1030, NEW YORK, NY 10021, USA
a Early differentiation of spinal and sympathetic ganglia (organ and cell culture). Rat, Man
b Progressive differentiation of neuroblastoma in organ and cell culture. Rat, Man

MACARAK, E. J.; Ph.D. – Dept. of Histol., Embryol. and Genet., Sch. of Dent. Med., Univ. of Pennsylvania, 4001 Spruce St., PHILADELPHIA, PA 19174, USA
a Cellular interactions and stability of the differentiated state of vascular endothelium (tissue culture of umbilical cord vein endothelium). Man
b Biosynthesis of collagen by vascular endothelium and by smooth muscle cells

McAVOY, J. W.; Ph.D. – Dept. of Histol. and Embryol., Univ. of Sydney, SYDNEY, N.S.W. 2006, Australia
a Patterns of cell division and alpha, beta and gamma crystallin synthesis during development and growth of the lens. Rattus spec. (Rodentia)

McBURNEY, M. W.; Ph.D. – Dept. of Biol., Univ. of Ottawa, OTTAWA, Ont. K1N 6N5, Canada

McCAFFERTY, R. E.; Ph.D., Prof. – Dept. of Anat., Med. Ctr., West Virginia Univ., MORGANTOWN, WV 26506, USA
a Histochemistry and ultrastructure of the Harderian gland at pre- and postnatal stages. Rat, Pig
b Histochemistry of the lacrimal gland from early development through patient demise; normal and abnormal. Man

McCLAY, D. R.; Ph.D. – Dept. of Zool., Duke Univ., DURHAM, NC 27706, USA
a Molecular nature of cell-cell interactions in neural retina and the accompanying specificities that occur during development (quantitative techniques; immunology). Gallus domesticus (Aves)
b Timing and nature of specificity changes in adhesion that occur beginning at gastrulation. Lytechinus variegatus, Tripneustes esculentus and hybrids (Echinoidea)

McCREDIE, J.; M.D. – Dept. of Surg. (Diagnost. Radiol.), Univ. of Sydney, SYDNEY, N.S.W. 2006, Australia
a Effect of thalidomide on developing nervous system: quantitative neurohistology of dorsal root ganglia and nerve roots, incl. EM. Rabbit
b Effect of neural crest injury on developing sensory nervous system and limb (quantitative neurology). Chicken

McCULLOUGH, W. D.; Ph.D. – Dept. of Anat., Coll. of Med., Howard Univ., WASHINGTON, DC 20059, USA
a Effect of nerves on blastema cells in limb regeneration; RNA metabolism during regeneration. Notophthalmus viridescens (Urodela)

McDEVITT, D. S.; Ph.D. – Dept. of Anim. Biol., Sch. of Vet. Med., Univ. of Pennsylvania, 3800 Spruce St., PHILADELPHIA, PA 19174, USA

a Soluble lens proteins (crystallins) in lens differentiation (column chromatography, electrophoresis, immunofluorescence). (Anura; Urodela; Aves)
b Synthesis, ontogeny, location and immunochemistry of lens proteins in normal animals and mutants (immunofluorescence). (Anura), Chicken, Mouse (with R. M. CLAYTON, J. C. CAMPBELL, Edinburgh, D. J. PRITCHARD, Newcastle, and S. K. BRAHMA, Utrecht)
c Crystallins in lens development and regeneration from the dorsal iris. Notophthalmus viridescens (Urodela) (with T. YAMADA, Epalinges, S. K. BRAHMA, Utrecht, and L. R. CROFT, Salford)

McFADDEN, B. A.; Ph.D., D.Sc. (Hons.), Prof. – Biochem./Biophys. Program, Washington State Univ., PULLMAN, WA 99164, USA
a Function of glyoxylate cycle in embryogenesis and larval development. Caenorhabditis elegans (Nematoda)
b Function, compartmentation, and turnover of enzymes in the glyoxylate cycle during germination. Linum usitatissimum (Linaceae)

McGARRY, M. P.; Ph.D. – Springville Labs., Roswell Park Mem. Inst., 666 Elm St., BUFFALO, NY 14263, USA
a Humoral control of eosinophil granulocyte regeneration and proliferation in vivo and in vitro, by using eosinophil-specific cell response to antigen and helminth infections. Mouse

MACINTYRE, M. N.; Ph.D., Prof. – Dept. of Anat., Developm. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Cytogenetics of embryonic maldevelopment and reproductive failure. Homo sapiens (Primates)
b Morphology, biochemistry, and behaviour of fetal cells from amniotic fluid. Same species as a

McIVER, Ms. C. M.; B.A. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Cloning of total mRNA populations from early embryos using bacterial plasmids. Mouse

McKAY, J.; Ph.D. – Div. of Biol. and Med., Brown Univ., Box G, PROVIDENCE, RI 02912, USA
a Nucleo-cytoplasmic interactions in developing muscle (cell fusion, monoclonal antibodies to muscle-specific proteins). Chicken, Mouse, Rat

McKINNELL, R. G.; Ph.D., Prof. – Dept. of Genet. and Cell Biol., Univ. of Minnesota, ST. PAUL, MN 55103, USA

MACKLIN, M. R.; M.D., Ph.D., Assoc. Prof. – Dept. of Biomed. Engin., Case Western Reserve Univ., CLEVELAND, OH 44106, USA

McKNIGHT, S. L.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA
a Regulation of structural gene expression in cultured cells; transformation of thymidine kinase deficient cells with an isolated thymidine kinase gene. Mouse
b Construction and characterisation of mutated thymidine kinase genes in vitro

McMAHON, D.; Ph.D. – Depts. of Zool. & Genet., Washington State Univ., PULLMAN, WA 99164, USA
a Involvement of the plasma membrane in development; biochemistry of cellular position determination. Dictyostelium discoideum (Acrasiales)

McMASTER, G.; Lic. Biol. – Dept. of Biochem., Univ. of Florida, GAINESVILLE, FL, USA
a Quantitation of total DNA, RNA and proteins, and characterisation of cytoplasmic polyadenylated mRNAs in stage 1–13 blastoderm. Chicken (with S. P. MODAK, Switzerland)

McNUTT, C. W.; Ph.D., Prof. – Dept. of Anat., Health Sci. Ctr., Univ. of Texas, 7703 Floyd Curl Drive, SAN ANTONIO, TX 78284, USA
a Development of inner ear in a mutant, circling. Mouse

McWHINNIE, Ms. D. J.; Ph.D. – Dept. of Biol. Sci., De Paul Univ., 1036 W. Belden Ave., CHICAGO, IL 60614, USA
a Embryonic and adult bone: metabolic pathways; enzyme systems; effects of parathyroid hormone and calcitonin; regulation by these hormones of ion fluxes across membranes. Rana pipiens (Anura), Chicken

MADERSON, P. F. A.; Ph.D., D.Sc., Prof. – Dept. of Biol., Brooklyn Coll., Bedford Ave. & Ave. H, NEW YORK, Brooklyn, NY 11210, USA
a Epidermal cells kinetics, wound healing and regeneration. Iguana iguana, Anolis carolinensis, Dipsosaurus dorsalis, Gekko gecko, Coleonyx variegatus (Lacertilia)
b Influence of environmental factors and hormones on epidermal turnover, in vitro and in vivo. Same species as a, and Elaphe obsoleta (Ophidia)
c Descriptive and experimental studies of middle ear development. (Amniota)
d Experimental teratology, especially chondrocranial and otic development. (Aves; Mammalia)
e Thermal effects on embryonic sex determination. Chelydra serpentina (Chelonia)

MADHAVAN, K.; Ph.D. – Biol. Dept., Holy Cross Coll., WORCESTER, MA 01610, USA

MAHARAJAN, V.; Ph.D. – Embryol. Div., Cancer Res. Inst., Parel, BOMBAY-400012, India

MAHOWALD, A. P.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Analysis of embryonic germ plasm. Drosophila melanogaster (Diptera)
b Biochemistry of vitellogenesis. Same species as a
c Ultrastructure of oogenesis. Sames species as a

MAKINO, S.; D.Sc., Prof. (Emer.) – Chromos. Res. Unit, Hokkaido Univ., N. 10, W. 8, SAPPORO, 060 Japan
a Chromosome aberrations in patients with congenital disorders, with special regard to the relationship between karyological features and disease states. Man

MAKINODAN, T.; Ph.D. – Geriatr. Res., Educ. and Clin. Ctr., VA Wadsworth Hosp. Ctr., LOS ANGELES, CA 90073, USA
also: Dept. of Med., UCLA School of Med., LOS ANGELES, CA 90024, USA
a Growth and senescence of the thymus. Mouse, Rat, Man

MALACINSKY, G. M.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Isolation of cytoplasmic components which direct nuclear activity. Ambystoma mexicanum (Urodela), Rana pipiens (Anura)
b Developmental genetics and biochemistry of the egg cytoplasm. Ambystoma mexicanum (Urodela), Xenopus laevis (Anura)
MALLERY, C. H.; Ph.D. – Dept. of Biol., Univ. of Miami, CORAL GABLES, FL 33156, USA
MALONEY, M. S.; Ph.D. – Dept. of Biol., Radford Univ., RADFORD, VA 24142, USA
a Initiation of oral regeneration and its control by the cell surface, part. role of Ca and K ions and of cAMP (using lectins, local anesthetics and lanthanum as membrane probes, and in situ ciliary regeneration). Stentor coeruleus (Ciliata)
MANES, C.; M.D., Ph.D. – Ctr. for Neurol. Study, 2945 Science Park Rd., LA JOLLA, CA 92037, USA
a Identification of stage-specific messenger RNAs in preimplantation embryos; use of cDNAs prepared to cytoplasmic messenger RNA in the blastocyst; amplification of sequences of interest in plasmids. Rabbit
b DNA modifications and rearrangements during early embryogenesis; use of restriction endonucleases to fragment embryonic and adult DNAs, transfer of fragments to nitrocellulose paper, hybridisation to transcripts of repetitive DNA, methylation of DNA with restriction endonuclease isoschizomers. Rabbit
MANES, M. E.; Biol. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina
a Determination of bilateral symmetry: 1. descriptive and experimental analysis; 2. role of the spermatozoon. Bufo arenarum (Anura)
MANION, P. J.; M.A. – US. Fish and Wildlife Serv., Dept. of the Interior, Fed. Bldg., Fort Snelling, TWIN CITIES, MN 55111, USA
a Internal metamorphosis of landlocked animals (anatomy and histology of 16 organ systems). Petromyzon marinus (Cyclostomata)
MANN, P. M.; M.Sc. – Dept. of Biomed. Sci., Ontario Vet. Coll., Univ. of Guelph, GUELPH, Ont. N1G 2W2, Canada
a Embryonic and prenatal developmental anatomy, including development of placental membranes. Blarina brevicauda and other spp. (Soricidae, Insectivora), Myotis lucifugus and other spp. (Chiroptera, especially Microchiroptera)
MANNER, H. W.; Ph.D., Prof. – Dept. of Biol., Loyola Univ., 6525 N. Sheridan Rd., CHICAGO, IL 60626, USA
MANNING, R. F.; M.A. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Silk gland development and differentiation, part. fibroin gene structure; analysis of extreme polymorphism in internal gene organisation. Bombyx mori (Lepidoptera) (with L. P. GAGE and D. R. SAMOLS)
MANO, Y.; M.D., Prof. – Dept. of Physiol. Chem. and Nutr., Fac. of Med., Univ. of Tokyo, 7–3–1 Hongo, Bunkyo-ku, TOKYO, 113 Japan
MARCHESI, V.; M.D., Ph.D. – Dept. of Pathol., Sch. of Med., Yale Univ., 310 Cedar St., NEW HAVEN, CT 06510, USA
a Structure and function of cell membranes, part. isolation and characterisation of proteins
MARCHOK, Ms. A. C.; Ph.D. – Biol. Div., Oak Ridge Natl. Lab., P.O.Box Y, OAK RIDGE, TN 37830, USA
a Biochemistry, cytology, and morphology of normal and abnormal development of respiratory epithelium; mechanism of action of vitamin A in this process. Rat
MARIANO, Ms. M. I. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina
a Vitelline envelope: ultrastructural changes involved in fertilisation
b Cortical reaction in the oocyte. Bufo arenarum (Anura)
MARIN-PADILLA, M.; M.D. – Dept. of Pathol., Dartmouth Med. School, HANOVER, NH 03755, USA
a Development and morphogenesis of clinical and experimentally induced dysraphic disorders
b Normal and abnormal development of the cerebral cortex. (Mammalia)
MARK, R. F.; Doct. III, Prof. – Dept. of Behav. Biol., Austr. Natl. Univ., P.O.Box 4, CANBERRA, A.C.T. 2600, Australia
a Regenerating motor nerves and reinnervating muscle (descriptive, histochemical, experimental, and electrophysiological). Astronotus ocellatus (Cichlidae), Carassius carassius (Cyprinidae, Teleostei), Ambystoma spec. (Urodela)
b Regenerating sensory nerves. Ambystoma mexicanum (Urodela)
c Development and regeneration of retinotectal connections. (Teleostei)
d Early development of the nervous system, part. cerebral cortex. Macropus eugenii (Marsupialia)
e Development of motoneurons and their central and peripheral connections. Xenopus laevis (Anura)
MARKERT, C. L.; Ph.D., Prof. – Dept. of Biol., Osborn Mem. Lab., Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA
a Gamete maturation, fertilisation, and early development. Mouse, Rat
b Ontogeny of isozymic patterns. various spp. (Pisces), Mouse
c Developmental genetics. Various spp. (Pisces)
d Nuclear transplantation. Mouse, Rat
e Developmental genetics studied in chimeric combinations. Mouse, Rat

MARKS, P. A.; Prof. – Dept. of Human Genet. and Develop., Coll. of Phys. and Surg., Columbia Univ., 630 W. 168th St., NEW YORK, NY 10032, USA
MARKWALD, R. R.; Ph.D. – Dept. of Anat., Texas Tech Univ., P.O.Box 4569, LUBBOCK, TX 79409, USA
MAROTTE, Ms. L. R.; M.Sc. – Dept. of Behav. Biol., Res. Sch. of Biol. Sci., Austr. Natl. Univ., CANBERRA, A.C.T. 2600, Australia
a Ultrastructure and electrophysiology of the effects of thyroxine on reorganisation of retinotectal connections after removal of the caudal half of the tectum. Carassius auratus (Teleostei)
MARSH, J. L.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA
MARTIN, A. H.; Ph.D. – Dept. of Anat., Health Sci. Ctr., Univ. of W. Ontario, LONDON, Ont. N6A 5C1, Canada
a Comparative cytoarchitectonics of spinal cord. (Vertebrata)
b Teratogenic effect of heavy metals
c Developmental anatomy: factors affecting morphogenesis
MARTIN, Ch. B., Jr.; M.D., Prof. – Dept. of Obstet. and Gynecol., Univ. of S. Calif., Women's Hosp. 5K–22, 1240 N. Mission Rd., LOS ANGELES, CA 90033, USA
MARTIN, Ms. G. R.; Ph.D. – Dept. of Anat., Univ. of California, SAN FRANCISCO, CA 94143, USA
a Teratocarcinoma stem cells, especially: 1. as a source for isolating molecules important in early development; 2. to study X-chromosome inactivation in vitro. (Mammalia)
MASCARENHAS, J. P.; Ph.D., Prof. – Dept. of Biol. Sci., State Univ. of New York, 1400 Washington Ave., ALBANY, NY 12222, USA
a Developmental biochemistry of pollen. Tradescantia paludosa (Commelinaceae)
b Contributions of RNA's contained in the male and female gametes to embryo development. Allomyces macrogynus (Chytridiales, Fungi)
MASLOW, D. E.; Ph.D. – Dept. of Exp. Pathol., Roswell Park Mem. Inst., 666 Elm St., BUFFALO, NY 14263, USA
a The adhesion of cells to different cellular and non-cellular substrates. Mouse, Man
b Specificity of interactions during aggregation of developing and tumor tissues and cells. (Aves), Mouse, Man
c Role of cell movement in aggregation: experimental and model systems. (Aves)
MASSOVER, W. H.; M.D., Ph.D. – Dept. of Anat., Coll. of Med. & Dent., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Form and function of normal and neoplastic ferritins. Mouse
MASTERS, E. M.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Maturation of alveolar cells, production of surfactant, morphology and secretion in organ and cell culture, in normal and teratogen-induced abnormal lung. Rat
b Development of eye. Rat
MASUI, Y.; Ph.D., Prof. – Ramsay Wright Zool. Labs., Dept. of Zool., Univ. of Toronto, 25 Harbord St., TORONTO, Ont. M5S 1A1, Canada
a Cytoplasmic control of nuclear activity in oocyte meiosis and early development. Rana pipiens, Xenopus laevis (Anura), Triturus viridescens (Urodela)
b Repair DNA synthesis in ovarian oocytes. Mouse
c Chromosome condensation and decondensation during egg maturation and activation. Rana pipiens, Xenopus laevis (Anura), Mouse
MATSUMOTO, H.; Ph.D. – Inst. for Agric. and Biol. Sci., Okayama Univ., 2–20–1, KURASHIKI, Okayama, 710 Japan
a Role of chromosomal proteins, part. non-histone proteins, in cotyledon development. Pisum sativum (Papilionaceae)
b Role of divalent cations for the function of chromatin during seed germination. Species as a
MATSUYAMA, H.; M.D. – Tokyo Metropolitan Inst. for Neurosci., 2–6, Musashidai, Fuchuchi, TOKYO, 183 Japan
a Pathology of congenital anomalies in central nervous system, especially pachygyria and micropolygyria
b Origin of microglia (culture in vitro, enzyme histochemistry, immunology)
MATSUZAWA, T.; D.Sc. – Dept. of Biol., Osaka Kyôiku Univ., Tennoji-ku, OSAKA 543, Japan
a Development, growth, and differentiation of embryos, embryonic cells, and teratocarcinoma cell lines. Mouse
MATTAN, Ms. D.; B.Sc. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Effect of inhibitors on formation of bilateral symmetry and area pellucida in the uterine embryo. Chicken
MATTHAEI, K. I.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Control of differentiation and maintenance of neoplastic state of teratocarcinoma cells in vitro and in vivo. Mouse
b Control of differentiation during early embryogenesis in vitro and in vivo. Mouse
MATTINGLY, Ms. E.; Ph.D. – Dept. of Zool., Univ. of Georgia, ATHENS, GA 30602, USA
MAUE-DICKSON, Ms. W.; Ph.D. – Dept. of Pediat., Mailman Ctr. for Child Devl. (D–820), Univ. of Miami, P.O.Box 016820, MIAMI, FL 33101, USA
a Normal embryology and developmental morphology of the head and neck; specific interest in anatomical bases of craniofacial anomalies such as cleft palate. Homo sapiens (Primates) (with D. R. DICKSON)
b Radiologic assessment of craniofacial anomalies. Same species as a

MAURER, R. R.; Ph.D. – Meat Anim. Res. Ctr., Sci. and Educ. Administr., US Dept. of Agric., P.O. Box 166, CLAY CENTER, NE 68933, USA
a Significance of uterine proteins to embryonic development. Cow
b Low temperature (-196° C) preservation of embryos. Cow
c Factors influencing embryonic survival during preimplantation stages and early implantation. Pig, Cow
MAXWELL, G. D.; Ph.D. – Dept. of Anat., Univ. of Connecticut Health Ctr., FARMINGTON, CT 06032, USA
a Neuronal differentiation of neural crest cells in vitro. Quail
b Mechanisms of neural crest cell migration and location. Quail
MAYER, T. C.; Ph.D., Prof. – Dept. of Biol., Rider Coll., P.O.Box 6400, LAWRENCEVILLE, NJ 08648, USA
a Developmental genetics of white-spotting patterns. Mouse
MAYHEW, E. G.; Ph.D. – Dept. of Exp. Pathol., Roswell Park Mem. Inst., 666 Elm St., BUFFALO, NY 14263, USA
a Mechanism of histiotypic sorting of heterospecific embryo cells; the effects of tumour cells on sorting patterns. Chicken, Mouse
MAZURKIEWICZ, M.; Ph.D. – Dept. of Biol. Sci., Univ. of Maine at Portland-Gorham, 96 Falmouth St., PORTLAND, ME 04103, USA
MEER, J. M. van der; Dr. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA
a Transcellular developmental currents and ion fluxes through developing cells (vibrating probe detecting nanovolt differences). Drosophila melanogaster, Smittia spec. (Diptera), Callosobruchus maculatus (Coleoptera)
b Free calcium changes during early development (aequorin) and relation with segment pattern formation. Same species as a
c Molecular biology (RNA), ultrastructure, cellular and supracellular research on segment pattern formation. (Insecta)
d Relation between mitotic patterns and egg polarity. Callosobruchus maculatus (Coleoptera)
MEIER, S.; Ph.D. – Dept. of Zool., Univ. of Texas, AUSTIN, TX 78712, USA
a Metameric pattern formation in mesoderm; morphogenesis of head mesoderm and its relationship to neural crest cell distribution (EM). Chicken
b Role of extracellular matrix in interaction between surface epithelium and neural crest cells resulting in otic placode formation. Chicken
MENCZER, J. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel-Aviv Univ., TEL HASHOMER, Israel
MERCHANT-LARIOS, H.; D.Sc. – Inst. de Invest. Bioméd., Univ. Nac. Autónoma de México, A.P. 70228, MEXICO 20, D.F., Mexico
a Culture, cytochemistry and ultrastructure of primordial germ cells; mechanisms of action of some drugs. Mouse, Rat
b Ovarian morphogenesis and cytodifferentiation; interaction between germ and somatic cells; ultrastructure and steroidogenic differentiation
c Cellular mechanisms of gonadal sex differentiation; experimental sex inversion by steroids. Rana spec. (Amphibia)
d Experimental sex inversion induced by steroids (EM). Xenopus laevis (Anura)
METZ, C. B.; Ph.D. – Inst. of Molec. and Cell. Evolut., Univ. of Miami, 521 Anastasia Ave., CORAL GABLES, FL 33134, USA
MEYER, D. B.; Ph.D. – Dept. of Anat., Wayne State Univ., 540 E. Canfield, DETROIT, MI 48201, USA
a Morphogenesis and developmental histochemistry of embryonic eye. Gallus domesticus (Aves), Macaca mulatta (Primates), (Insectivora, Mammalia)
b Prenatal ossification of the skeleton. Homo sapiens. (Primates)
c Electron microscopy of retinal development. Gallus domesticus, Coturnix c. japonica (Aves)
MEYER, R. L.; Ph.D. – Dept. of Devl. and Cell Biol., Univ. of California, IRVINE, CA 92717, USA
a Patterning of nerve connections during development and nerve regeneration in the retinotectal system (autoradiography, electrophysiology). Carassius auratus (Teleostei)
MEYERHOF, P. G.; Ph.D. – Dept. of Zool., Univ. of California, BERKELEY, CA 94720, USA
a Mechanism of action and characterisation of cytostatic factors from eggs and mitotic cells which induce chromosome condensation and cleavage arrest. Rana pipiens, Xenopus laevis (Anura), Lytechinus pictus and other marine spp. (Invertebrata)
b Surface morphology following fertilisation and cleavage arrest. Rana pipiens, Xenopus laevis (Anura)
c Reactivation of isolated mitotic apparatus in vivo. Species as a
MEZEI (TEICHMANN), Ms. C.; Ph.D. – Biochem. Dept., Med. Sch., Dalhousie Univ., Sir Charles Tupper Bldg., HALIFAX, N.S. B3H 4H7, Canada
MICELI, Ms. D. C.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina
a Fatty acid biosynthesis during early development: enzyme regulation. Bufo arenarum (Anura)
b Influence of oviductal secretions on vitelline membrane properties and its involvement in fertilization. Same species as a
MICHAEL, M. I.; Ph.D., Prof. – Dept. of Zool., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Experiments on determination of the proximo-distal axis of the developing hind limb. Bufo regularis (Anura) (with S. N. SEDRA, S. H. KHALIL and A. A. S. HASSONA)

b Effect of some vitamins on limb regeneration. Same species as a (with S. H. KHALIL and M. H. EL TAWIL)
c Effect of potassium perchlorate on development of thyroid and pituitary glands. Same species as a (with K. Z. WARSHANA)
d Effect of thiourea on development of thyroid glands and hind limbs. Same species as a (with A. M. N. EL DIN)
e Effect of soya beans on development of thyroid glands and small intestine. Same species as a (with M. A. E. RAGEH)
f Regeneration of limbs implanted in the orbit and changes in the optic nerve after eye cup removal. Same species as a (with S. H. KHALIL and E. A. MOUSSAD)
g Development of optic tectum. Same species as a (with S. H. KHALIL and A. A. KEREEM)
h Fore limb ontogenesis and regeneration. Species as a (with M. H. EL TAWIL)

MICHAEL, Ms. P.; B.Sc., M. (phil.) – Dept. of Zool., Sch. of Life Sci., North Eastern Hill Univ., SHILLONG 793003, India

MICHAELI, Y.; D.M.D. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. School, P.O.Box 1172, JERUSALEM 91000, Israel
a Effect of selective thermal damage to the periodontal ligament on the eruption of the incisor. Rat
b Effect of direct current on growth and development of the incisor. Rat

MICHIBATA, H.; D.Sc. – Biol. Inst., Toyama Univ., Gofuku 3190, TOYAMA, 930 Japan
a Activation analysis of trace elements (Mn, Zn and V) in the egg and their absorption from the surrounding medium. Ciona intestinalis (Ascidiacea), Oryzias latipes (Teleostei)

MILLER, J. H.; Ph.D., Prof. – Dept. of Biol., Syracuse Univ., 130 College Place, SYRACUSE, NY 13210, USA

MILLER, L.; Ph.D. – Biol. Dept., Inst. for the Study of Devl. Disabilities, Univ. of Illinois, Box 4348, CHICAGO, IL 60608, USA
a Metabolism of mRNA in resting and growing embryonic epithelial cells. Xenopus laevis (Anura)
b Growth factors and their effect on embryonic development. Species as a

MILLER, O. L., Jr.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

MILLER, R. K.; Ph.D. – Dept. of Obstet.-Gynecol., Sch. of Med. and Dent., Univ. of Rochester, P.O.Box 668, ROCHESTER, NY 14642, USA
a In vitro analysis of nutrient and xenobiotic transfer (amino acids, creatine, diazepam, vitamin B12, cadmium, diethylstilbestrol) in placentae, correlated with in vivo observations and fetal distributions. Rat, Man
b Transplacental carcinogenicity of diethylstilbestrol. Rat

MILLER, R. L.; Ph.D. – Dept. of Biol., Temple Univ., Broad & Berks St., PHILADELPHIA, PA 19122, USA
a Control of species-specificity of sperm chemotaxis; observations of sperm behavior in the presence of eggs of heterotypic species; isolation and chemical identification of sperm attractants. 35 genera (Hydrozoa)
b Sperm behavior and penetration during fertilization; role of special membrane patches on egg surface in controlling sperm behavior and attachment. Orthopyxis caliculata (Hydrozoa)

MILLER, Ms. S. A.; Ph.D. – Dept. of Biol., Hamilton Coll., CLINTON, NY 13323, USA
a Morphogenesis during early stages of organogenesis, specifically changes in rates of proliferation within emerging populations of specific cell type; axial rotation (embryo culture, radioautography, SEM, TEM). Chicken, Mouse

MILLER, W. A.; D.D.S., Prof. – Dept. of Oral Biol., Sch. of Dent., State Univ. of New York at Buffalo, 4510 Main St., BUFFALO, NY 14226, USA
a Dental pulp cell differentiation in vitro. Cow
b Transplantation of developing dental apparatus. Necturus spec., Ambystoma spec. (Urodela), Caiman spec. (Crocodilia)
c Effect of anticonvulsant drugs on larvae. Ambystoma tigrinum (Urodela)

MILLETTE, C. F.; Ph.D. – Lab. of Human Reprod. and Reprod. Biol., Harvard Med. School, 45 Shattuck St., BOSTON, MA 02115, USA

MILLINGTON, W. F.; Ph.D., Prof. – Dept. of Biol., Marquette Univ., 530 North 15th St., MILWAUKEE, WI 53233, USA
a Development at the shoot apex, and regulation of form in the leaf and shoot. (Angiospermae)
b Regulation of zoospore release and colony formation; factors regulating cell shape. Pediastrum spec. (Chlorococcales, Chlorophyceae)
c Emergence of pattern in cell differentiation in leaves. Same species as a

MINATO, K.; M.Sc. – Dept. of Morphol. Genet., Natl. Inst. of Genet., Yata 1,111, MISIMA, Sizuoka-ken, 411 Japan
a The relationship between cell growth cycle and molting cycle in the epidermis. Philosamia cynthia ricini (Lepidoptera)
b Studies on growth-stimulating factors in the cultivation of cells. Man

MINEYUKI, Y.; M.Sc. – Dept. of Biol., Fac. of Sci., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Mechanism of premitotic positioning of nuclei in protonemata. Adiantum capillus-veneris (Filices)

MINTZ, Ms. B.; Ph.D. – Inst. for Canc. Res., 7701 Burholme Ave., PHILADELPHIA, PA 19111, USA
a Differentiation of mutagenized totipotent teratocarcinoma cells after injection into blastocysts. Mouse

b Gene control of differentiation in allophenic animals with two genotypic populations of cells. Mouse
c Hematopoiesis in animals with prenatally substituted hematopoietic stem cells. Mouse

MIRKES, P. E.; Ph.D. – Centr. Lab. for Human Embryol., Dept. of Pediat., Univ. of Washington, SEATTLE, WA 98195, USA
a Mechanisms of action of several teratogens, part. phosphoramide mustard and other cyclophosphamide metabolites. Rat

MITRA, S. C.; Ph.D. (Med.) – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY 605006, India
a Congenital anomalies. Man
b Prolactin in relation to reproductive biology. Rat

MITRANI, E. N.; Ph.D. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Cell interactions in the pre-primitive streak stage: 1. cell behaviour in vitro; 2. effect of disaggregated-reconstituted hypoblasts on polarity and differentiation; 3. developmental capacities of disaggregated-reconstituted epiblasts; 4. role of procollagen and fibronectin in the previous interactions. Chicken
b Epidermal-mesenchymal interactions. Chicken

MITTENTHAL, J. E.; Ph.D. – Dept. of Biol., Univ. of Oregon, EUGENE, OR 97403, USA
a Effects of regeneration and transplantation of thoracic appendages on synaptic connectivity and morphology of motoneurons innervating their muscles. Procambarus clarkii (Decapoda, Crustacea)
b Mechanisms controlling regeneration of external morphology of thoracic appendages after transplantation; including epigenesis of mosaic limbs. Same species as a

MIWA, J.; Ph.D. – Lab. of Embryol., Dept. of Biol., Osaka City Univ., 459 Sugimoto-cho, Sumiyoshi-ku, OSAKA, 558 Japan
a Genetic programming in early development. Caenorhabditis elegans (Nematoda)

MIYA, K.; D.Sc., Prof. – Inst. of Appl. Entomol., Fac. of Agric., Iwate Univ., Ueda 3–18–8, MORIOKA, 020 Japan
a EM of oogenesis and embryogenesis. Bombyx mori (Lepidoptera)
b Analysis of early embryonic development. Species as a

MIYAKE, Y.-I.; M.Sc. – Dept. of Vet. Obstet., Fac. of Vet. Med., Hokkaido Univ., N 18, W 9, SAPPORO, 060 Japan
a Cytogenetic investigations on chromosomal abnormalities (quinacrine mustard staining). Pig, Cow

MIZELL, M.; Ph.D., Prof. – Dept. of Biol., Tulane Univ., NEW ORLEANS, LA 70118, USA

MIZUNO, Takeo; Ph.D., Prof. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Tissue interactions in organogenesis of digestive tract. Chicken, Quail
b Tissue interactions in differentiation of prostatic buds in vitro. Mouse, Rat (with I. LASNITZKI)

MOAV, B.; Ph.D. – Dept. of Zool., Fac. of Life Sci., Tel-Aviv Univ., Ramat-Aviv, TEL-AVIV, Israel

MOBBS, I. G.; Ph.D. – Dept. of Anat., Fac. of Med., Dalhousie Univ., HALIFAX, N.S. B3H 4H7, Canada
a Ultrastructure of extraembryonic membranes, particularly of transport across the yolk sac throughout development and across the serosa during early development. Chicken
b Establishment of the endodermal epithelium. (Aves)

MOCHIDA, O.; Dr. Agr. – Internat. Rice Res. Inst., c/o CRIA, Sukamandi Branch, SUBANG, W. Java, Indonesia

MOHLER, J. D.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA
a Induction, identification, and characterization of female-sterile mutants as material for the study of oogenesis. Drosophila melanogaster (Diptera)

MOLINARI, E.; M.V. – Inst. of Embriol., Univ. Austral de Chile, Casilla no. 567, VALDIVIA, Chile
a Heterospecific recombinations of ocular structures. Chicken and Rat
b Cytodifferentiation of embryonic kidney cells. Chicken

MOMENT, G. B.; Ph.D., Prof. (Emer.) – Dept. of Biol. Sci., Goucher Coll., BALTIMORE, MD 21204, USA
a Culture of cells taken from regions of differing growth (regenerative) capabilities, and characterization of proteins extracted from these regions. Eisenia foetida (Oligochaeta)
b Temperature acclimation, temperature and regeneration. Species as a
c Structure and distribution of external sense organs in newly hatched and adult animals. (Oligochaeta)

MONAHAN, J. M.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Cloning of mRNA embryonic sequences. Mouse
b Comparison of proteins of embryonic stages. Mouse

MONDER, C.; Ph.D. – Res. Inst., Hosp. for Joint Dis., 1919 Madison Ave., NEW YORK, NY 10035, USA
a Induction of enzyme formation by hormones in fetal liver in organ culture. Rat
b Control of development of tyrosine metabolism (catabolism) in perinatal liver in culture. Rat
c Comparison of energy sources requirements, and mechanisms of generation of energy in fetal and neoplastic tissues. Rat

MONIE, I. W.; M.D., Prof. – Dept. of Anat., Med. Sch., Univ. of California, Parnassus and Third Ave., SAN FRANCISCO, CA 94143, USA
a Development of arteries in fetus and infant, especially location and nature of intimal cushions. Man
b Effects of cadmium on development of nervous system when injected intra-amniotically on day 15. Rat

MONTIEGEL, Ms. E. C.; M.S. – Dept. of Biol., West Virginia Univ., Brooks Hall, MORGANTOWN, WV 26506, USA
a Teratological effect of chemicals on development. Chicken
MOOG, Ms. F.; Ph.D., Prof. – Dept. of Biol., Washington Univ., Skinner and Lindell Ave., ST. LOUIS, MO 63130, USA
a Embryonic intestine in organ culture: differentiation of plasma membrane, influence of hormones. Chicken
MOORE, G. P.; Ph.D. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Isolation and comparative analysis of developmentally regulated structural genes. (Drosophilidae, Diptera)
MOORE, G. P. M.; Ph.D. – Div. of Anim. Prod., CSIRO, P.O.Box 239, BLACKTOWN, NSW 2148, Australia
MORAN, D. J.; Ph.D. – Dept. of Biol., State Univ. of New York, NEW PALTZ, NY 12561, USA
MORGAN, I. G.; Ph.D. – Dept. of Behav. Biol., Res. Sch. of Biol. Sci., Austr. Natl. Univ., P.O.Box 475, CANBERRA, A.C.T. 2601, Australia
a Biochemical development of visual system after hatching, especially effects of enucleation and controlled visual stimulation. Chicken
b Contribution of axonal flow in optic nerve to maintenance and functioning of visual system. Chicken
c Biochemical development of the retina. Chicken
d Role of glycoconjugates in development and regeneration of retino-tectal projection. Carassius spec. (Teleostei)
MÔRI, T.; M. Agr. – Zool. Lab., Fac. of Agric., Kyûshû Univ., 46–06, FUKUOKA, 812 Japan
a EM of the mechanism of fertilisation. Pipistrellus abramus, Miniopterus schreibersi, Rhinolophus ferrumequinum (Chiroptera)
MORRILL, G. A.; Ph.D. – Dept. of Physiol., A. Einstein Coll. of Med., Yeshiva Univ., 1300 Morris Park Ave., NEW YORK, Bronx, NY 10461, USA
MORRILL, J. B.; Ph.D., Prof. – Div. of Nat. Sci., New Coll. of the Univ. of S. Florida, 5700 N. Tamiami Trail, SARASOTA, FL 33580, USA
a Chemical differentiation of eggs. Lymnaea spec. (Gastropoda)
b Analyses of ooplasmic segregation. (Gastropoda)
c X-ray microprobe analysis of elemental patterns in eggs. Lymnaea palustris (Gastropoda)
d Cytoembryology and skeletal patterns in development (cytochemistry, X-ray microprobe, scanning electron microscopy). Lytechinus variegatus (Echinoidea)
e Patternation of cilia – their sequential development and regeneration in embryos and larvae (SEM). Species as c
f Endocytosis during early embryonic development – morphology, cell surface specificities, regulatory controls (SEM, TEM, LM)
MORRIS, J. E.; Ph.D., Prof. – Dept. of Zool., Oregon State Univ., CORVALLIS, OR 97331, USA
a Mechanisms of cell association in histogenesis of the neural retina (role of extracellular matrix). Chicken
b Cell interactions during implantation of the blastocyst in vitro. Mouse
c Proteoglycans in cellular migration and adhesion. Chicken, Mouse
MORRIS, Ms. V. B.; Ph.D. – Sch. of Biol. Sci., Univ. of Sydney, Zool. Bldg., SYDNEY, N.S.W. 2006, Australia
a Cell proliferation in the developing retina. Chicken
MORROW, J. F.; Ph.D. – Dept. of Microbiol., Sch. of Med., Johns Hopkins Univ., 725 N. Wolfe St., BALTIMORE, MD 21205, USA
a Silk genes and their expression, using various tissues of larvae, pupae and adults. Bombyx mori, Samia cynthia (Lepidoptera)
b Genes expressed in fetal and adult liver. Mouse, Rat
MOSCONA, A. A.; Ph.D., Prof. – Depts. of Biol. and Pathol., Univ. of Chicago, 1101 E. 57th St., CHICAGO, IL 60637, USA
MOSSMAN, H. W.; Ph.D., Prof. (Emer.) – 2902 Columbia Rd., MADISON, WI 53705, USA
a Comparative morphology of the fetal membranes and reproductive tracts. (Mammalia)
MOTTET, N. K.; M.D., Prof. – Dept. of Pathol., SM–30, School of Med., Univ. of Washington, SEATTLE, WA 98195, USA
a Ultrastructural features of necrosis as an ontogenetic process. Chicken, Man
b Methylmercury teratogenesis. Mouse; Macaca mulatta (Primates)
MOUSSAD, E. A.; B.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Regeneration of limbs implanted in the orbit and changes in the optic nerve after eye cup removal. Bufo regularis (Anura) (with M. I. MICHAEL and S. H. KHALIL)
MOUSTAFA, Ms. L. A.; Ph.D. – Natl. Inst. for Environm. Health Sci., Environm. Toxicol. Branch, N.I.H., P.O.Box 12233, RESEARCH TRIANGLE PARK, NC 27709, USA
MUFTI, S. A.; Ph.D. – Zool. Dept., Panjab Univ., LAHORE, Pakistan
MUKAI, H.; D.Sc., Prof. – Dept. of Biol., Fac. of Educ., Gunma Univ., MAEBASHI, 371 Japan
a Sexual and asexual reproduction. Perophora spp. (Ascidiacea)
b Viviparity and brood organs. Botryllus spp., Botrylloides spp. (Ascidiacea)
c Formation and germination of statoblasts. Several spp. (Phylactolaemata, Bryozoa)
MÜLLER, F.; Dr. rer. nat. – Carnegie Labs. of Embryol., Univ. of California, DAVIS, CA 95616, USA
a Development of brain, spinal cord, and vertebrae. Man

MULLER, K. J.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA
a Steps by which particular neurons regenerate to establish chemical and electrical synapses with their normal targets; role of glia and neurons. Hirudo medicinalis (Hirudinea)

MUN, A. M.; Ph.D., Prof. – Dept. of Zool., Univ. of Maine, Murray Hall, ORONO, ME 04469, USA
a Induction of immunological tolerance by intracoelomic grafts in the 4-day embryo. Chicken
b Growth stimulation of embryonic spleen graft by adult spleen across a filter membrane. Chicken
c Embryo morphogenesis in unfertilized eggs. Meleagris gallopavo (Aves)
d Effects of glycoalkaloids from blighted potatoes on development of early embryo. Chicken

MURAMATSU, S.; D.Sc. – Lab. of Genet. Disorders, Dept. of Breeding and Genet., Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O.Box 5, Ibaraki, 305 Japan
a Effects of radiation and chemicals on reproductive organs (cytogenetics, histology). Chicken, Mouse; Macaca fascicularis (Primates)
b Teratogenesis by radiation and chemicals (incl. developmental genetics). Chicken, Mouse

MURATA, F.; M.D., Ph.D. – Dept. of Anat., Kagoshima Univ., KAGOSHIMA, 890 Japan
a EM of hematopoiesis in embryonic and newborn animals. Rabbit; Cavia porcellus, Mouse, Rat (Rodentia)

MURISON, G. L.; Ph.D. – Dept. of Biol. Sci., Florida Internat. Univ., MIAMI, FL 33199, USA
a Synthesis and accumulation of specific proteins at different stages of liver cell differentiation in primary cell cultures (biochemistry, immunochemistry). Chicken, Rat
b Use of primary cell cultures and cell lines to develop bioassays for the detection of compounds that are cytotoxic, mutagenic, and possibly carcinogenic

NACE, G. W.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Development and maintenance of defined strains. Rana spec. (Anura)

NAGAHAMA, Y.; Ph.D. – Dept. of Devl. Biol., Natl. Inst. for Basic Biol., 38 Nishigonaka, Myodaiji-cho, OKAZAKI 444, Japan
a Mechanism of oocyte maturation. Carassius auratus, Oryzias latipes, Salmo gairdneri (Teleostei)
b Physiology and morphology of ovarian follicle cells. Asterina pectinifera (Asteroidea)

NAGATA, T.; M.D., Ph.D., Prof. – Dept. of Anat., Shinshu Univ., Asahi 3–1–1, MATSUMOTO, 390 Japan
a DNA, RNA and protein synthesis of pancreas and liver cells from embryos and newborns in vivo and in vitro (EM autoradiography). Mouse, Rat

NAIR, K. K.; Ph.D., Prof. – Dept. of Biol. Sci., Simon Fraser Univ., BURNABY, B.C. V5A 1S6, Canada

NAKAMURA, H.; Dr. Med. Sci. – Dept. of Anat., Hiroshima Univ., Kasumi 1–2–3, Minami-ku, HIROSHIMA, 734 Japan
a Development of limb bud. Mouse
b Pathogenesis of limb mutant mem/mem. Mouse
c Migration and differentiation of neural crest cells (interspecific grafts). Chicken, Quail

NAKAMURA, I.; M.D., Prof. – Dept. of Anat., Nippon Med. School, Sendagi 1–1–5, Bunkyo-ku, TOKYO, 113 Japan
a The forming process of the secondary retroperitoneal organs. Man

NAKAMURA, O.; D.Sc., Prof. (Emer.) – Nishimakami, Takatsuki, OSAKA, Japan
a Causality in epigenetic formation of organizer. (Amphibia)
b Fate map and formative movements. (Amphibia)

NAKANE, K.; Dr. Med. Sci. – Dept. of Developm. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan
a Morphogenesis of genetic microphthalmia. Mouse
b Developmental genetics of genetic ataxia. Mouse

NAKANO, E.; D.Sc., Prof. – Dept. of Biol. and Radioisotope Ctr., Nagoya Univ., Chikusa, NAGOYA, 464 Japan
a Metabolic background of initiation of development. Hemicentrotus pulcherrimus, Anthocidaris crassispina (Echinoidea)
b Gene action in early development. Same species as a

NAKATSUJII, N.; D.Sc. – Dept. of Anat., Med. Ctr., George Washington Univ., WASHINGTON, DC 20037, USA
a Mechanism of gastrulation. Xenopus laevis and other spp. (Amphibia)

NAKAUCHI, M.; Dr., Prof. – Dept. of Biol., Fac. of Sci., Kochi Univ., Akebono-cho, KOCHI, 780 Japan
a Comparative study of asexual reproduction. (Polyclinidae, Ascidiacea)
b Regeneration in zooids. Symplegma reptans (Ascidiacea)
c Determination of bilaterial asymmetry in the buds of colonial forms. Species as b
d Pattern formation in buds. (Ascidiacea)

NAKAZAWA, T.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa-4-chome, CHIBA, 260 Japan
a Effect of ionising radiation on the biochemical mechanism of embryonic development. Artemia salina (Anostraca, Crustacea)
b Changes in nucleic acids and some other phosphorus fractions of tissues during late embryonic and early postnatal development. Rat
c Calcium ion uptake, hydrogen ion ejection and respiration in eggs on fertilisation. Anthocidaris crassispina, Pseudocentrotus depressus (Echinoidea)
d Development of the energy transfer system in liver mitochondria from the fetal stage. Rat
e X-irradiation-induced damage in the microsomal drug-metabolising enzyme system of developing liver. Rat

NANCARROW, C.; Ph.D. – Div. of Anim. Prod., SCIRO, P.O.Box 239, BLACKTOWN, N.S.W. 2148, Australia
a Pregnancy detection and assessment of early embryonic mortality by assay of foetal proteins. Sheep, Cow
b Developmental foetal endocrinology. Sheep
c Immunology of pregnancy. Sheep

NANJUNDIAH, V.; Ph.D. – Molec. Biol. Div., Tata Inst. of Fundamental Res., Homi Bhabha Rd., BOMBAY 400005, India
a Theoretical biology of development, part. pattern formation. Dictyostelium discoideum (Acrasiales), Drosophila spec. (Diptera)

NARAYANAN, A.; Ph.D., Prof. – Dept. of Plant Physiol., A.P. Agric. Univ., Rajendranagar, HYDERABAD 500030, A.P., India

NARAYANAN, C. H.; Ph.D., Prof. – Dept. of Anat., Louisiana State Univ., 1542 Tulane Ave., NEW ORLEANS, LA 70112, USA
a Comparative studies on ontogenetic patterns of (choline) acetyltransferase in embryonic ciliary ganglia. Anas platyrhynchos, Chicken (Aves)
b Ultrastructural investigation of synaptogenesis in the ciliary ganglion. Species as a
c Cell loss in the normal development of ciliary ganglion correlated with changes in the innervation of iris muscles (ultrastructure). Chicken
d Effects of hypothyroidism on development of the mesencephalic nucleus of the trigeminal nerve. Anas plathyrhynchos (Aves)
e Effects of hypothyroidism on spontaneous and evoked activity in fetuses, part. mouth opening and related reflexes. Rat
f Origin of integrated behavior in fetuses. Rat
g Structuro-functional analysis of spontaneous and evoked activity in pouch young. Didelphis virginiana (Marsupialia)

NARAYANASWAMY, S.; Ph.D. – Bio-Org. Div., Plant Morphogen. Sect., Bhabha Atom. Res. Ctr., Trombay, BOMBAY 400085, India

NARUSE, I.; B.Sc. – Dept. of Devl. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan
a Organ culture of the extremities in the embryo. Mouse
b Behavioral development and behavioral teratology. Mouse, Rat

NATESH, S.; M.Sc. – Dept. of Bot., S.G.T.B. Khalsa Coll., Univ. of Delhi, DELHI 110007, India

NAWAR, N. N. Y.; D.M.Sc., M.D. – Faculty of Med., Ain Shams Univ., CAIRO, Egypt

NEBEL, L. A.; M.D., Prof. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel-Aviv Univ., TEL HASHOMER, Israel

NELSON, L.; Ph.D. – Dept. of Physiol., Med. Coll. of Ohio, C.S. 10008, TOLEDO, OH 43699, USA
a Calcium uptake by spermatozoa, regulation by neurohumoral factors, effects of various inhibitory agents. Arbacia punctulata (Echinoidea), Bos taurus (Artiodactyla)
b Effects of sperm treatments (as under a) on fertilisation and early development. Arbacia punctulata (Echinoidea)

NEMER, M. – Inst. for Canc. Res., 7701 Burholme Ave., PHILADELPHIA, PA 19111, USA
a DNA transcription and translation of RNA in early stage embryos. Strongylocentrotus purpuratus, Lytechinus pictus (Echinoidea)

NEMOTO, S.-I.; M.Sc. – Tateyama Marine Lab., Ochanomizu Univ., Ko-yatsu, Tateyama-shi, CHIBA 294-03, Japan
a Energy metabolism during fertilization and parthenogenetic activation: relations between levels of energy-rich phosphate compounds and related enzymes. Hemicentrotus pulcherrimus, Antocidaris crassispina, Pseudocentrotus depressus and other spp. (Echinoidea)
b Physico-chemistry of germinal vesicle breakdown and meiosis; cell to cell relations in morphogenesis. Asterina pectinifera, Asterias amurensis, Astropecten scoparius and other spp. (Asteroidea)

NERURKAR, A. R. – Dept. of Zool., Univ. of Poona, PUNE 411007, India
a Characterisation and ontogeny of lens crystallins. Calotes versicolor (Lacertilia) (with S. C. GOEL)

NESBITT, Ms. M. N.; Ph.D. – Ctr. for Devl. Biol. B–022, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA

NEWBURGH, R. W.; Ph.D., Prof. – Dept. of Biochem. and Biophys., Fac. of Sci., Oregon State Univ., CORVALLIS, OR 97331, USA

NEWCOMB, W.; Ph.D. – Dept. of Biol., Queen's Univ., KINGSTON, Ont. K7L 3N6, Canada

NEWMAN, Ms. L. M.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Sensitivity of the fetal period to teratogenic insult with postnatal development and function examined as modes of expression, especially the respiratory system. Rat
b Premature pup as a model for human perinatal problems associated with prematurity. Rat

NEWMAN, S. A.; Ph.D. – Dept. of Anat., New York Med. Coll., VALHALLA, NY 10595, USA
a Role of changes in chromatin proteins in the reprogramming for differentiation of the precartilage mesenchyme in the limb bud (polyacrylamide gel electrophoresis, chromatin fractionation by enzymes, DNA-RNA hybridization). Chicken
b Role of cell-to-cell interactions in the spatial patterning of skeletal elements in the limb bud (tissue culture, transmission electron microscopy, gel electrophoresis). Chicken
c Relation of conformation of chromatin subunits (nucleosomes) to mechanism of cell differentiation. Chicken

NEWTON, A.; Ph.D., Prof. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
a Biochemical and genetic analysis of mechanisms that generate cellular diversity; role of the cell cycle in controlling developmental pathways in asymmetrically dividing cells. Caulobacter crescentus (Bacteria)

NIAZI, I. A.; Ph.D. – Dept. of Zool., Univ. of Rajasthan, JAIPUR 302004, India

NIAZI, Ms. S.; M.Sc. – Dept. of Zool., Univ. of Rajasthan, JAIPUR 302004, India

NICHOLS, J. W.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a Phospholipid metabolism and regulation in cell membranes in cultured fibroblasts. Cricetulus griseus (Rodentia), Homo sapiens (Primates)

NICKLA, H.; Ph.D. – Dept. of Biol., Creighton Univ., 2410 California St., OMAHA, NE 68178, USA
a Developmental aspects of gene interaction, especially genes interacting to produce lethality. Drosophila melanogaster (Diptera)

NIJHOUT, H. F.; Ph.D. – Dept. of Zool., Duke Univ., DURHAM, NC 27706, USA
a Development of wing pigment patterns. Precis coenia, Malacosoma americana (Lepidoptera)

NIKI, Y.; M.A. – Dept. of Biol., Fac. of Sci., Ibaraki Univ., Bunkyo-2-chome, MITO, 310 Japan
a Developmental biology and genetics of pole cell formation and germ cell determination. Drosophila melanogaster, Chironomus samoensis (Diptera)

NISHIOKA, D.; Ph.D. – Dept. of Biol., Georgetown Univ., WASHINGTON, DC 20057, USA
a Role of ions in fertilisation. (Echinoidea)
b Uptake, phosphorylation, and incorporation of thymidine following fertilisation. (Echinoidea)

NISHIOKA, Ms. M.; D. Sc., Prof. – Lab. for Amph. Biol., Fac. of Sci., Hiroshima Univ., Higashisenda-cho, HIROSHIMA, Japan
a Hybridization among European and Far Eastern forms. (Ranidae & Discoglossidae & Bufonidae: Anura)
b Morphological and sexual abnormalities in the offspring of animals derived from irradiated eggs or sperm. Rana nigromaculata, R. japonica, Bombina orientalis (Anura)
c Color mutants detected by diploid gynogenesis from wild animals or those derived from irradiated gametes. Rana nigromaculata, R. brevipoda, Rhacophorus schlegelii, Hyla arborea japonica (Anura)

NIU, M. C.; Ph.D., Prof. – Dept. of Biol., Temple Univ., Broad & Berks St., PHILADELPHIA, PA 19122, USA

NIWA, K.; Ph.D. – Dept. of Anim. Sci., Coll. of Agric., Kyoto Univ., KYOTO 606, Japan
a Fertilisation and development of eggs in vitro. Mouse, Rat, Mesocricetus auratus, Meriones unguiculatus (Rodentia), Rabbit, Cow, Pig
b Freezing of eggs. Rat, Mouse, Cow

NODA, Y. D.; Ph.D. – Dept. of Biol., Fac. of Sci., Ehime Univ., Bunkyo-cho, MATSUYAMA, 790 Japan
a Ultrastructural changes during fertilisation in vitro. Mouse, Rat, Mesocricetus auratus (Rodentia)
b Fertilization. Nereis spec. (Polychaeta), Urechis spec. (Echiura; Echinoidea)

NODEN, D. M.; Ph.D. – Dept. of Anat., N.Y. State Coll. of Vet. Med., Cornell Univ., ITHACA, NY 14853, USA
a Mechanisms controlling the migrations and cytodifferentiation of neural crest and placode cells, part. development of the trigeminal ganglion and acoustico-vestibular tissues. Chicken, Quail
b Normal development in histological sections and in toto alcian blue-alizarin red preparations: effects of known and suspected teratogens on the morphological and behavioral development. Mustela putorius furo (Carnivora)

NOGAMI, H.; M.D. – Dept. of Orthop. Surg., Centr. Hosp., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan
a Induction, origin, and development of bone and cartilage cells (implantation, explantation). Mouse, Rat
b Teratogenesis of skeletal system. Mouse, Rat

NONAMI, Y.; Dr. Agr., Prof. – Dept. of Biochem. and Technol. of Anim. Products, Univ. of Niigata, Igarashi, NIIGATA 950–21, Japan
a Ultrastructure of yolk spheres of incubated eggs. Chicken

NOODÉN, L. D.; Ph.D., Prof. – Dept. of Bot., Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Monocarpic (whole plant) senescence. Glycine max (Papilionaceae)
b Pod and seed development. Species as a

NOTO, T.; D.Sc. – Embryol. Lab., Dept. of Anat., Dent. School, Kagoshima Univ., 1208–1 Usuki-cho, KAGOSHIMA, 890 Japan
a Fine morphology of interphase chromosomes in embryonic nucleus. (Aves; Mammalia)
b Biological functions of embryonic RNAs in differentiation processes. Same species as a
c Theoretical consideration on gene differentiation

NOUMURA, T.; D.Sc. – Dept. of Regul. Biol., Fac. of Sci., Saitama Univ., URAWA, Saitama, 338 Japan
a Mechanism of Müllerian inhibition. Gallus spec., Anas Spec., Coturnix spec. (Aves)
b Development and involution of the bursa of Fabricius: mechanism of androgen action. Same species as a
c Sexual differentiation of syrinx: function of cultured cells and hormonal regulation. Anas spec. (Aves)

NOZUE, T.; M. D. – Dept. of Anat., Tokyo Med. and Dent. Univ., 1-chome, Yushima, Bunkyo-ku, TOKYO, 113 Japan

NUCCITELLI, R.; Ph.D. – Dept. of Zool., Univ. of California, DAVIS, CA 95616, USA
a Extracellular ion currents triggered by fertilization along with the membrane potential changes which occur. Oryzias latipes (Teleostei), Xenopus laevis (Anura)
b Importance of transcellular ion movements for ooplasmic segregation. Oryzias latipes (Teleostei)
c Intracellular pH and Na-ion concentration measurements during fertilisation. Species as a

NUMAKUNAI, T.; Dr. – Marine Biol. Stat., Tohoku Univ., Asamushi, AOMORI, 039-34 Japan
a Tail resorption in metamorphosis. Halocynthia roretzi (Ascidiacea)
b Gamete release, especially spawning time. Same species as a
c Experiments on role of follicle cell in fertilisation. Same species as a

NUTE, P. E.; Ph.D. – Depts. of Anthropol. and Med., and Region. Primate Res. Ctr., Univ. of Washington, SEATTLE, WA 98195, USA
a Structural and functional analysis of fetal and adult hemoglobins; analysis of the mechanism of the gamma-beta "switch". (Primates)

NUTTALL, R. P.; Ph.D. – Dept. of Biol., Emory Univ., ATLANTA, GA 30322, USA
a Structure and behavior of single, cultured neurons: 1. growth cone structure (transmission and scanning electron microscopy, time-lapse cinematography); 2. growth cone behavior on cellular and noncellular substrata; 3. neuronal growth and branching behavior as function of age and cell type. Chicken

OBERLANDER, H.; Ph.D. – Insect Attract. Behav. and Basic Biol. Res. Lab., Agric. Res. Serv., U.S.D.A., P.O.Box 14565, GAINESVILLE, FL 32604, USA
a Cellular aspects of the hormonal control of metamorphosis. Galleria mellonella, Plodia interpunctella (Lepidoptera)
b Developmental behavior of imaginal discs in vivo and in vitro. Species as a
c Hormonal action on cell lines. Manduca sexta, Trichoplusia ni (Lepidoptera)

ODA, S.; D.Sc., Prof. – Biol. Lab., Rikkyo Univ., 3 Nishi-Ikebukuro, Toshima-ku, TOKYO, 171 Japan
a Statoblast ultrastructure and germination. Lophopodella carteri, Pectinatella magnifica, P. gelatinosa, Cristatella mucedo (Phylactolaemata, Bryozoa)

ODA, S.; M. Agric. – Dept. of Devl. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan
a Morphogenesis of genetic microphthalmia. Mouse (with Y. KAMEYAMA and K. HOSHINO)
b Developmental genetics of genetic ataxia. Mouse
c Influences of intrauterine environment on the manifestation of genetic malformations. Mouse (with Y. KAMEYAMA and K. HOSHINO)
d Organogenesis. Suncus murinus (Insectivora)

O'DAY, D. H.; Ph.D. – Erindale Coll., Univ. of Toronto, MISSISSAUGA, Ont. L5L 1C6, Canada
a Characterization of specific extracellular enzyme accumulation, and number and amounts of newly synthesized proteins excreted during cyst germination. Polysphondylium pallidum (Acrasiales)
b Purification and characterization of sexual hormones. Dictyostelium discoideum (Acrasiales)
c Role of sexual hormones and environmental factors in regulation of macrocyst development. (Acrasiales)

O'FARRELL, A. F.; A.R.C.S., Prof. – Dept. of Zool., Univ. of New England, ARMIDALE, N.S.W. 2351, Australia
a Regeneration and development. Blattella germanica (Blattodea) (with S. WHITELAW)

OHNISHI, E.; D.Sc., Prof. – Dept. of Biol., Nagoya Univ., Chikusa, NAGOYA 464, Japan
a Action of hormones, especially ecdysones, on development. Bombyx mori (Lepidoptera)

OHNO, S.; M.D. – Dept. of Anat., Sch. of Med., Shinshu Univ., Asahi 3–1–1, MATSUMOTO 390, Japan
a Development of kidney in embryo and newborn (EM histochemisty and autoradiography). Mouse, Rat, Man

OHTA, T.; Ph.D. – Dept. of Biol., Aichi Univ. of Educ., 1-Hirosawa, Igaya-cho, KARIYA, Aichi Pref., 448 Japan
a Centriole isolation from sperm. (Echinoidea)
b Cleavage and cell division. (Echinoidea), Oryzias latipes (Teleostei)
c Fertilisation. (Teleostei)

OKADA, M.; Ph.D. – Inst. of Biol. Sci., Univ. of Tsukuba, SAKURA-mura, Nihari-gun, Ibaraki Pref., 305 Japan
a Pole cell formation and germ cell determination (developmental biology, genetics, biochemistry). Drosophila melanogaster (Diptera)
b Change in oxygen permeability of the chorion during diapause. Bombyx mori (Lepidoptera)

OKADA, T. S.; D.Sc., Prof. – Lab. of Cell Sci., Inst. of Biophys. and Molec. Biol., Univ. of Kyoto, Kitashirakawa, Sakyo-ku, KYOTO, 606 Japan
a Instability in differentiation of eye tissues in cell culture. Quail, Chicken

OKAMOTO, M.; Ph.D. – Inst. of Molec. Biol., Fac. of Sci., Nagoya Univ., Chikusa-ku, NAGOYA, 464 Japan
a Factors controlling lens regeneration from iris in vivo. Cynops pyrrhogaster (Urodela)

OKANO, A.; Ph.D. – Livestock Div., Chugoku Nat. Agric. Exp. Stat., Kawai-cho, OODA-shi, 694–01 Japan
a Relationship between fetal development and alpha-fetoprotein level in amniotic and allantoic fluid. Cow (with Y. IZAIKE)
b Antigenicity of alpha-fetoprotein in isoimmunisation. Cow
c Immunoenzymeassay of alpha-fetoprotein in maternal serum. Cow

OKAZAKI, Ms. K.; D.Sc., Prof. – Embryol. Sect., Biol. Dept., Tokyo Metropolitan Univ., 2–1–1, Fukazawa, Setagaya-ku, TOKYO, 158 Japan
a Mechanism of spicule formation. (Echinoidea)
OKAZAKI, T.; D.Med.Sci. – Dept. of Biochem., Nippon Med. School, 1–1–5 Sendagi, Bunkyo-ku, TOKYO 113, Japan
a Erythrocyte transition, hemoglobin metabolism and hemoglobin switch during metamorphosis. Rana catesbeiana (Anura)
b Phosphoenolpyruvate carboxykinase and the regulation of gluconeogenesis. Same species as a
OLIPHANT, E. E.; Ph.D. – Dept. of Obstet. and Gynecol., Div. of Reprod. Biol., Med. School, Univ. of Virginia, Box 387, CHARLOTTESVILLE, VA 22903, USA
a Role of seminal plasma components in sperm capacitation. Rabbit, Mouse
b Molecular mechanism of induction of the acrosome reaction. Rabbit, Mouse
c Effect of the oviduct on embryo development. Mouse
ONITAKE, K.; D.Sc. – Lab. of Biol., Coll. of Med. Technol., Nagoya Univ., Daiko-cho, Higashi-ku, NAGOYA, 461 Japan
ONOZATO, H.; Ph.D. – Lab. of Embryol. and Genet., Dept. of Biol., Fac. of Fish., Hokkaido Univ., HAKODATE, 041 Japan
a Application of artificial gynogenesis and androgenesis to breeding. (Salmonidae & Cyprinidae: Teleostei)
b Developmental morphology of haploids. Species as a
ONTELL, Ms. M.; Ph.D. – Dept. of Anat. and Cell Biol., Univ. of Pittsburg, 3550 Terrace St., PITTSBURGH, PA 15261, USA
a Fetal myogenesis: cytoarchitecture (LM, EM); computer analysis of growth patterns; EM of motor end plates. Mouse, Rat
OOË, T.; M.D., Ph.D., Prof. – Dept. of Anat., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Crowding formation in dentition. Dog
b Observations on teeth labelled with tetracycline. Man
OOHATA, A.; D.Sc. – Biol. Lab., Kansai Med. School, HIRAKATA, 573 Japan
a Enzymatic analysis of dedifferentiation. Dictyostelium discoideum (Acrasiales)
OOHIRA, A.; Ph.D. – Dept. of Embryol., Inst. of Developm. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan
a Biochemistry of bone and cartilage. Rat
b Teratogenesis of skeletal system. Rat
OOISHI, Ms. S.; D.Sc. – Fac. of Fish., Mie Univ., 2–80 Edobashi, TSU, Mie Pref. 514, Japan
a Postembryonic development: nauplius and copepodid stages. Haplostoma spec., Haplostomides spec., Haplostomella spec., Haplosaccus spec. (Ascidicolidae, Copepoda, Crustacea)
OPPENHEIM, R. W.; Ph.D. – Neuroembryol. Lab., North Carolina Dept. of Mental Health, Dorothea Dix Hosp., Box 7532, RALEIGH, NC 27611, USA
OPPENHEIMER, Ms. J. M.; Ph.D., Prof. – Bryn Mawr Coll., Biol. Bldg., BRYN MAWR, PA 19010, USA
a Regulation of behaviour with accessory brain parts. Fundulus heteroclitus (Teleostei)
OPPENHEIMER, S. B.; Ph.D., Prof. – Dept. of Biol., California State Univ., 18111 Nordhoff St., NORTHRIDGE, CA 91330, USA
a Molecular basis of intercellular adhesion in normal and malignant cells (adhesive factors, cell surface sugars, plant lectins). (Echinoidea), Gallus domesticus (Aves), Mus musculus (Rodentia)
b Role of cell surface carbohydrates in differentiation, ageing, malignancy and cell interactions. Same species as a
O'RAHILLY, R.; M.D., Prof. – Carnegie Labs. of Embryol., Univ. of Calif., DAVIS, CA 95616, USA
a Early development (stages 10 to 23). Man
b Prenatal development of central nervous system. Man
O'RAND, M. G.; Ph.D. – Dept. of Anat., Sch. of Med., Univ. of Florida, GAINESVILLE, FL 32611, USA
ORNOY, A.; M.D., Prof. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. Sch., P.O.Box 1172, JERUSALEM 91000, Israel
a Spontaneous and induced abortions: congenital anomalies, chromosomal aberrations and placental pathology (incl. ultrastructure). Man
b SEM and TEM of the initial stages of calcification and ossification in normal fetuses and in congenital bone dysplasias. Man
c Significance of ultrastructural (TEM and SEM) studies in prenatal and postnatal detection of inherited metabolic disorders. Man
d Effects of vitamin D, corticosteroids and thyroxin on formation and function of matrix vesicles in cartilage and bone (SEM and TEM). Mouse, Rat
e Transplacental effects of E. coli endotoxin on fetal brain and skeleton. Mouse
ORSINI, Ms. M. W. G.; Ph.D., Prof. – Dept. of Anat., Bardeen Med. Labs., Univ. of Wisconsin, MADISON, WI 53706, USA
a Factors controlling implantation and loss of zona pellucida. Mesocricetus auratus, Mouse, Rat, Cavia porcellus (Rodentia), Mustela putorius, M. vison (Carnivora)
b Endocrine profile and morphological correlates of development during the first 5 days. Mesocricetus auratus (Rodentia)
c Decidualisation during pregnancy and pseudopregnancy. Same species as a
d Factors controlling life of corpora lutea. Same species as a
e Immunological aspects of decidualisation. Same species as a

OSHIMA, K.; Prof. – Dept. of Physiol., Primate Res. Inst., Kyoto Univ., INUYAMA, Aichi, 484 Japan
a Endocrine organs, part. gonadal system during fetal development. Macaca fuscata (Primates)
b Effect of uterine and oviductal contraction on fertilization and implantation. Same species as a
c Maternal and fetal hormones during development. Same species as a
d Ultrastructure of ovum development. Same species as a
e Fundamental studies on early development (biochemistry, EM). Species as a

OSTRAND-ROSENBERG, Ms. S.; Ph.D. – Biol. Dept., Univ. of Maryland, CATONSVILLE, MD 21228, USA
a Maternal acceptance of the embryo as an allograft. Mouse

OVERMAN, D. O.; Ph.D. – Dept. of Anat., Med. Ctr., West Virginia Univ., MORGANTOWN, WV 26506, USA
a Chondrogenesis and brain-face relationships during genesis of cleft palate; protection against cleft palate. Mouse, Rat
b Palate closure and cleft palate development in vitro. Mesocricetus auratus (Rodentia)
c Teratogenesis of topically-applied compounds. Species as b

OVERTON, Ms. J. H.; Ph.D., Prof. – Dept. of Biol., Div. of Biol. Sci., Univ. of Chicago, 1101 E. 57th St., CHICAGO, IL 60637, USA

OZAKI, H.; Ph.D., Prof. – Dept. of Zool., Michigan State Univ., EAST LANSING, MI 48824, USA
a Appearance of the acetylcholinesterase activity in post-gastrulation embryos; is it due to de novo synthesis or precursor activation? Strongylocentrotus purpuratus (Echinoidea)
b Are the micromeres of the 16-cell stage embryos already determined to differentiate acetylcholinesterase? Dendraster excentricus (Echinoidea)
c Ontogeny of acetylcholine receptors. Same species as a
d Chromatin protein structure and biochemistry of sperm and eggs, and their transformation at fertilization. Strongylocentrotus purpuratus, Lytechinus pictus, Dendraster excentricus (Echinoidea)
e Biosynthesis of egg yolk proteins. Species as a and b

ÖZORAN, A.; Dr.med. – Dept. of Histol. and Embryol., Med. Fac., Hacettepe Univ., ANKARA, Turkey
a Development and differentiation of the nucleus caudatus in fetus and neonate. Rat

PACKARD, D. S., Jr.; Ph.D. – Dept. of Anat., Upstate Med. Ctr., State Univ. of New York, 766 Irving Ave., SYRACUSE, NY 13210, USA

PAGANO, R. E.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA
a Membrane lipid and cholesterol organization and their dynamics in the plasma membranes of lymphocytes and fibroblasts. Mouse, Cricetulus griseus (Rodentia)

PAI, A. C.; Ph.D. – Dept. of Biol., Montclair State Coll., UPPER MONTCLAIR, NJ 07043, USA
a Effects of a lethal mutation, t6, on homozygotes studied in media delaying development of day 2, 3 and 4; specific enzyme production and overall protein profiles of chimeras of normal and mutant embryos held in delay (gel electrophoresis). Mouse

PAL, J. K.; M.Sc. – Dept. of Zool., Univ. of Poona, PUNE 411007, India
a Biochemistry and ultrastructure of lens crystallins during development. Calotes versicolor (Lacertilia)
b In vitro culture of lens. Species as a
c Effect of some commonly used fertilisers and pesticides on lens proteins. (Vertebrata)

PALLIE, W.; Ph.D., Prof. – Dept. of Anat., Fac. of Health Sci., McMaster Univ., HAMILTON, Ont. L8S 4J9, Canada

PANCHAMUKHI, B. G.; Ph.D. – Dept. of Anat., Gujarat Coll. of Vet. Sci. and Anim. Husbandry, ANAND 388001, Gujarat, India
a Histogenesis (from primordium till birth) of the stomach, part. reticular groove, omasum, gastric glands. Bubalus bubalis (Artiodactyla)

PANDEY, K. N.; M.Sc. – Dept. of Biochem., Fac. of Sci., Univ. of Allahabad, ALLAHABAD 211002, India

PANDIT, R. V.; Ph.D. – Nagpur Vet. Coll., Seminary Hills, NAGPUR 440 010, India
a Early development of esophageal groove. Bubalus bubalis (Artiodactyla)
b Role of tissue interaction at different times in lens formation. Capra hircus (Artiodactyla) and other spp.

PANG Yan-bin; Prof. – Lab. of Protozool., Dept. of Biol., Shanghai Pedag. Univ., 3663 Chung San Bai Lu, SHANGHAI 200062, People's Rep. of China
a Ultrastructure and cytochemistry of the macronuclear reorganization phenomenon during asexual reproduction, and its relation to the physiological state. Stylonychia mytilus, Euplotes eurystomus (Ciliata)
b Structural and functional relationship between macro-micronuclei, and their changes during asexual reproduction. Stentor coeruleus, S. polymorphus (Ciliata)
c Relationship of cytoplasmic differentiation and regulation of physiological functions in dorsi-conjugants. Stylonychia mytilus (Ciliata)
d Experiments on nucleo-cytoplasmic relationship after cytoplasmic exchange between distantly related species. Stentor coeruleus, Spirostomum ambiguum, Paramecium bursaria (Ciliata)
e Ultrastructure and cytochemistry of macronuclear regulation in dorsi-conjugants. Same species as c
f Differentiation and dedifferentiation of nuclear apparatus during encystment and excystment, their relation with cytoplasmic changes (cytochemistry, ultrastructure). Same species as c
g Why and how the surplus macronuclei of daughter cells, produced by translocation of macronuclei during asexual reproduction, lose their functions. Same species as c

PANT (AIYAR), Ms. R.; Ph.D. – Dept. of Biochem., Fac. of Sci., Allahabad Univ., ALLAHABAD 211002, India

PAPACONSTANTINOU, J.; Ph.D. – Univ. of Texas, GALVESTON, TX 77550, USA

PAPPANO, A. J.; Ph.D. – Dept. of Pharmacol., Health Ctr., Univ. of Connecticut, FARMINGTON, CT 06032, USA

a Morphological development of autonomic heart innervation (fluorescent histochemical method of Falck for identification of adrenergic nerves); ultrastructure of cholinergic and adrenergic innervation of the sinoatrial pacemaker (transmission electron microscopy); functional development of autonomic neuroeffector transmission (electrophysiologic and pharmacologic methods). Chicken

b Change in ion current responsible for excitation in the embryonic heart electrophysiology (inhibitors of ion current flow). Chicken

PARIVAR, K.; Ph.D. – Biol. Dept., Sch. of Sci., Ferdowsi Univ., MASHHAD, Iran

PARK, K. E.; D.Agr. – Dept. of Sericult., Coll. of Agric., Seoul Natl. Univ., SUWEON, South Korea

PARSHAD (CHALANA), Ms. R. K.; Ph.D. – Dept. of Zool., Punjab Agric. Univ., LUDHIANA, Punjab, India

a Histophysiology and biochemistry of gonads. (Aves) (with H. R. DANG and S. S. GURAYA)

PARSHAD, V. R.; Dr. – Dept. of Zool., Punjab Agric. Univ., LUDHIANA, Punjab, India

a Morphology, histochemistry and biochemistry of oocyte growth and embryology. (Acanthocephala) (with S. S. GURAYA)

b Morphology, histochemistry, biochemistry and physiology of gametogenesis and early embryology. (Platyhelminthes) (with S. S. GURAYA)

c Morphology, histochemistry, biochemistry and physiology of gametogenesis, fertilisation, egg-shell formation and embryology. Ascaridia galli (Nematoda) (with S. S. GURAYA)

d Morphology, histochemistry, and physiology of gametogenesis, fertilisation and egg-shell formation; gonad development in proglottids. Raillietina cesticillus (Cestoda) (with S. S. GURAYA)

PAYNTON, Ms. B. V.; B.Sc. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA

PEARCE, Th. L.; Ph.D. – Dept. of Biol., John Carroll Univ., University Heights,CLEVELAND, OH 44118, USA

PELHAM, H. R. B.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA

a Control of 5sRNA synthesis during oogenesis, using cloned 5s genes and cell-free transcription systems. Xenopus laevis, X. borealis (Anura)

PENER, M. P., Ph.D., Prof. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel

a Hormonal effects on oocyte development and egg-laying. Various spp. (Acrididae, Orthoptera)

b Effects and mode of action of "anti-allatins" on metamorphosis and reproduction. Locusta migratoria, Schistocerca gregaria (Orthoptera)

c Effect of photoperiod and temperature on reproduction. Oedipoda miniata (Orthoptera)

PERKINS, D. L.; Ph.D. – Dept. of Zool., Univ. of Oklahoma, 730 Van Vliet Oval, NORMAN, OK 73019, USA

a Effects of ionic ratios and osmotic concentrations on ameba-to-flagellate transformation. Naegleria gruberi (Rhizopoda)

PERSAUD, T. V. N.; M.D., Ph.D., Prof. – Teratol. Res. Lab., Dept. of Anat., Univ. of Manitoba, Basic Med. Sci. Bldg., 730 William Ave., WINNIPEG, Man. R3E 0W3, Canada

a Teratological studies with prostaglandins; involvement of prostaglandins in developmental processes. Chicken, Mouse, Rat, Rabbit

b Use of the embryo in vitro for embryological and teratological studies. Mouse, Rat

c Drug interactions during pregnancy: maternal and fetal toxicity. Mouse, Rat

d Placental transfer and disposition of teratogenic drugs. Mouse, Rat

e Reproductive aspects of interaction of prostaglandins and vitamin E. Rat, Rabbit

PETERS, A.; Ph.D., Prof. – Dept. of Anat., Boston Univ., 80 E. Concord St., BOSTON, MA 02118, USA

a Electron microscopy of the formation of myelin sheaths and development of neuroglial cells in the central nervous system. Rat

b Electron microscopy of the cerebral cortex. Rat

c Postnatal development of neurons in cerebral cortex. Rat

PETERSON, R. C.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA

a Proteins and other factors which allow specific expression of either the oocyte or somatic genes for 5S RNA. Xenopus laevis (Anura)

PETERSON, R. L.; Ph.D., Assoc. Prof. – Dept. of Bot. and Genet., Univ. of Guelph, GUELPH, Ont. N1G 2W1, Canada

PEUSNER, Ms. K. D.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA

a Ultrastructural changes preceding and during synaptic development of the axosomatic "spoon endings" in the tangential nucleus, a part of the lateral vestibular complex. Chicken

PFOHL, R. J.; Ph.D. – Dept. of Zool., Miami Univ., OXFORD, OH 45056, USA

a Mechanisms controlling appearance and activity in the embryo of alkaline phosphatase. Arbacia spp., Lytechinus spp., Strongylocentrotus spp. (Echinoidea)

PHILLIPS, D. M.; Ph.D. – Biomed. Div., The Popul. Council, Rockefeller Univ., York Ave. and 66th St., NEW YORK, NY 10021, USA

PHILLIPS, H. M.; Ph.D. – Dept. of Anat., Wayne State Univ., 540 E. Canfield, DETROIT, MI 48201, USA

a Morphogenetic forces controlling germ-layer migrations during gastrulation. Rana pipiens (Anura)
b Biophysics of early limb bud formation. Chicken

PIATIGORSKY, J.; Ph.D. – Lab. of Molec. Genet., Natl. Inst. of Child Health and Human Developm., Natl. Inst. of Health, Bldg. 6, Rm333, BETHESDA, MD 20014, USA

PIDDINGTON, R. L.; Ph.D. – Dept. of Histol. and Embryol., Sch. of Dent. Med., Univ. of Pennsylvania, PHILADELPHIA, PA 19174, USA
a Correlation of glutamyl transferase development with specific structural, biochemical, and physiological events during functional maturation of embryonic brain. Chicken
b Mechanisms of action of corticosteroids and other teratogens in inducing cleft palate in vitro. Mouse

PIENKOWSKI, M. M.; M.D., Ph.D. - Dept. of Anat., Michigan State Univ., A519 East Fee Hall, EAST LANSING, MI 48824, USA

PIERRO, L. J.; Ph.D., Prof. – Dept. of Anim. Genet., Storrs Agric. Exper. Station, Univ. of Connecticut, STORRS, CT 06268, USA
a Teratogenic effects of cadmium and glycoalkaloids. Chicken, Mouse
b Abnormal eye development: corneal opacity, microphthalmia, cataracts. Mouse
c Developmental genetics of skeletomuscular system. Chicken

PIKÓ, L.; Ing.Agr., D.V.M. – Devl. Biol. Lab., Vets. Administr. Hosp., SEPULVEDA, CA 91343, USA also: Div. of Biol., Calif. Inst. of Technol., PASADENA, CA 91125, USA

PILAR, G. R.; M.D., Prof. – Physiol. Sect., Biol. Sci. Group, Univ. of Connecticut, STORRS, CT 06268, USA

PILKINGTON, J. B.; Ph.D. – Dept. of Zool., Univ. of Otago, Box 56, DUNEDIN, New Zealand
a Larval life, development and metamorphosis part. polyploid (giant) nerve cells. Amphibola coenata (Pulmonata, Gastropoda)

PIPA, R. L.; Ph.D., Prof. – Div. of Entomol., Univ. of California, BERKELEY, CA 94720, USA

PIPERBERG, J. B.; Ph.D. – Dept. of Retina Res., Eye Res. Inst. of Retina Found., 20 Staniford St., BOSTON, MA 02114, USA

PITOT, H. C.; M.D., Ph.D. – McArdle Lab. for Canc. Res., Univ. of Wisconsin, 450 N. Randall Ave., MADISON, WI 53706, USA
a RNA template stabilisation in differentiation and neoplasia. (Eukaryotes)

PIZZARELLO, D. J.; Ph.D., Prof. – Dept. of Radiol., Med. Ctr., New York Univ., 550 First Ave., NEW YORK, NY 10016, USA

POCCIA, D. L.; Ph.D. – Dept. of Biol., Amherst Coll., AMHERST, MA 01002, USA
a Interrelationships of female pronuclear chromosome cycle (turned on with NH3-buffers) and male pronuclear chromosome cycle (turned on by fertilization), and receptivitity of these nuclei to mitotic signals. Strongylocentrotus purpuratus, Lytechinus pictus (Echinoidea)
b Factors present in centriole containing fractions from sea urchin inducing mitotic spindles and parthenogenesis in Xenopus. Lytechinus pictus (Echinoidea), Xenopus laevis (Anura)

POIRIER, G. R.; Ph.D. – Dept. of Biol., Univ. of Alabama, Univ. Stat., BIRMINGHAM, AL 35294, USA
a Role of proteinase inhibitors from the male reproductive tract in fertilisation. Mouse

POLLACK, E. D.; Ph.D. – Inst. for the Study of Devl. Disabilities, Univ. of Illinois and Illinois Inst. for Devl. Disabilities, 1640 W. Roosevelt Rd., CHICAGO, IL 60608, USA
a Morphogenetic interactions between tissues of the spinal reflex arc as they relate to the elongation, branching and direction of growing nerve fibers studied in tissue culture of spinal cord, sensory ganglia and limb tissue. Rana pipiens (Anura)
b Effect of thyroid hormones studied on cell size and number of lateral motor column and on mitotic activity in the spinal cord ventricular zone of hypophysectomised larvae. Same species as a
c Effect of limbs transplanted between diploid and triploid larvae on the formation of the lateral motor columns is being studied to determine types of alterations in neuronal parameters as a compensatory response to changes in genetic complement as they affect center-periphery interactions. Same species as a
d Target tissue control of neuronal cell death in the developing lateral motor column of larval spinal cord. Species as a

POLLARD, D. R.; Ph.D. – Health Prot. Branch, Health and Welfare Canada, Rm 12A L.C.D.C., Tunney's Pasture, OTTAWA, Ont. K1A 0L2, Canada
a Expression of embryonic-lethal genotypes in the allophenic animal. Mouse
b Effect of nucleic acid and protein inhibitors on cleavage stage embryos in vitro. Mouse

POLLOCK, Ms. C.; M.Sc. – Dept. of Zool., Univ. of Brit. Columbia, VANCOUVER, B.C. V6T 1W5, Canada
a Food vacuole formation; membrane subunit cycling; fatty acid composition of membranes; effect of temperature on membrane composition; developmental genetics. Paramecium aurelia (Ciliata)

POOL, T. B.; Ph.D. – Dept. of Anat., Health Sci. Ctr., Univ. of Texas, 7703 Floyd Curl Drive, SAN ANTONIO, TX 78284, USA
a Role of intracellular water and elements (Na, K, Cl, Mg, etc.) in the regulation of cell proliferation in early development (X-ray microanalysis of frozen tissues). (Amphibia), Chicken

POOLE, T. J.; Ph.D. – Dept. of Surg., Harvard Med. School, Children's Hosp. Med. Ctr., 300 Longwood Ave., BOSTON, MA 02115, USA
a Segregation and directed migration of the pronephric duct. Xenopus laevis (Anura), Ambystoma mexicanum, A. maculatum (Urodela), Chicken
b Role of adhesion in mesoderm pattern formation incl. somitogenesis. Ambystoma mexicanum (Urodela)

c Germ cell segregation and migration. Species as b
d Capillary endothelial cell chemotaxis and morphogenesis in vitro. Rat, Cow, Man

POPE, W. F.; M.Sc. – Meat Anim. Res. Ctr., Sci. and Educ. Administr., US Dept. of Agric., P.O.Box 166, CLAY CENTER, NE 68933, USA
a Factors influencing the intrauterine distribution and survival of preattached embryos. Pig

PORZIG, Ms. E. F.; Ph.D. – Div. of Oncol. (S–025), Med. Ctr., Stanford Univ., STANFORD, CA 94305, USA
a Growth control, mitogens, cell surface receptors; effects of mammary stimulating factor on growth of cell variants which lack epidermal growth factor receptors. (Mammalia)
b Development of the conjuctival papillae and scleral ossicles. Chicken

POSTLETHWAIT, J. H.; Ph.D. – Dept. of Biol., Univ. of Oregon, EUGENE, OR 97403, USA
a Mechanism of action of homoeotic mutants. Drosophila melanogaster (Diptera)
b Heritability of sex determination. Same species as a
c Hormonal and genetic control of oogenesis. Same species as a
d Hormonal regulation of acid phosphatase activity. Sames species as a

POTTER, I. C.; Ph.D., Prof. – Sch. of Environm. and Life Sci., Murdoch Univ., MURDOCH, WA 6153, Australia
a Physiology, ecology and biochemistry of larvae; metamorphosis. Geotria australis, Lampetra fluviatilis, L. planeri (Cyclostomata)

POTTER, Ms. S. W.; Ph.D. – Dept. of Zool., Oregon State Univ., CORVALLIS, OR 97331, USA
a Cell interactions during blastocyst implantation in vitro. Mouse

POULSON, D. F.; Ph.D., Prof. – Dept. of Biol., Kline Biol. Tower, Yale Univ., P.O.Box 6666, NEW HAVEN, CT 06511, USA
a Mid-gut: genesis and differentiation. Drosophila melanogaster (Diptera)
b Chromosomal control of differentiation. Species as a
c Neurogenesis in normal and genetically deficient embryos. Species as a
d Maternally inherited sex-ratio disturbances of development. Species as a, and Drosophila bifasciata, D. willistoni, D. equinoxialis, D. robusta, D. paulistorum (Diptera)
e Developmental genetics. Species as a

POURANY, Ms. A.; Ph.D. – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY 605006, India
a Endocrine pancreas: 1. abnormal during gestation (histogenesis and morphometry); 2. histology and histometry in different pathological conditions. Man

PRAHLAD, K. V.; Ph.D., Prof. – Dept. of Biol. Sci., Northern Illinois Univ., DeKALB, IL 60115, USA
a Biochemical and morphological effects of thyroid hormones on embryonic tissues. Xenopus laevis (Anura)
b Effect of pesticides on embryogenesis and initiation of endocrine function, part. in the thyroid. Species as a, and Chicken

PRASAD, M. R. N.; Ph.D., Prof. – Dept. of Zool., Univ. of Delhi, DELHI 110007, India

PRASAD, T. K. – Dept. of Biosci., Sardar Patel Univ., VALLABH VIDYANAGAR 388120, Gujarat, India

PRATT, R. M.; Ph.D. – Craniofac. Devl. Sect., Lab. of Developm. Biol. and Anomalies, Natl. Inst. of Dent. Res., N.I.H., Bldg. 30, Rm 405, BETHESDA, MD 20014, USA

PRAY, T. R.; Ph.D., Prof. – Dept. of Biol. Sci., Univ. of S. California, University Park, LOS ANGELES, CA 90007, USA

PRITCHARD, E. T.; Ph.D., Prof. – Dept. of Oral Biol., Fac. of Dent., Univ. of Manitoba, WINNIPEG, Man. R3E 0W3, Canada
a Arylesterases and their relation to secretion in growing salivary gland. Rat
b Relation of sulfolipid metabolism to age and secretory stimuli in salivary gland. Rat

PRZYBYLSKI, R. J.; Ph.D. – Dept. of Anat., Develop. Biol. Ctr., Case Western Reserve Univ., 2119 Abintong Rd., CLEVELAND, OH 44106, USA
a Cell surface proteins-glycoproteins during skeletal myogenesis in culture. Chicken
b Ontogeny of insulin binding and biological effects during skeletal myogenesis. Chicken
c Mechanism of myoblast fusion and effects of heterokaryon formation. Chicken
d Cardiac hypertrophy in embryos produced by hypothermia. Chicken

PUCCIARELLI, H. M.; D.Sc.Nat. – Lab. de Invest. Morfol., Cát. IIIa de Anat., Univ. Nac. de La Plata, 60 y 120, 1900 LA PLATA, Buenos Aires, Argentina
a Magnitude of cranial shape and size differences between sexes and between strains (Wistar and Holtzman); time at which the differences become significant (craniometry, 21–49 days postnatal). Rat
b Delay in development of the major functional cranial components due to malnutrition (21–49 days postnatal). Rat

PUGIN, E.; Dr.Sc.Nat. – Inst. de Embriol., Univ. Austral de Chile, Casilla no. 567, VALDIVIA, Chile
a Process of morphophysiological adaptation in development. Chilean species (Anura)
b Structural, comparative and functional aspects of spermatoza (TEM, SEM). (Anura)
c Changes of spermatozoa associated with passage through the jelly envelopes: fusion and evolution of their different parts in the egg (TEM, SEM). (Anura)

QUATRANO, R. S.; Ph.D., Prof. – Dept. of Bot. and Plant Pathol., Oregon State Univ., CORVALLIS, OR 97331, USA
a Control of protein and RNA synthesis during early embryogenesis. (Gramineae)
b Biochemistry and ultrastructure of polarity induction, cell wall formation and cellular differentiation in embryos. Fucus distichus, F. vesiculosus (Phaeophyceae)

QUEVEDO, W. C., Jr.; Ph.D., Prof. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA
a Genetic regulation and developmental variations of tyrosinase in melanocytes. Mouse
b Genetic regulation of melanosome synthesis in melanocytes. Mouse

QUINN, P.; Ph.D. – Dept. of Biol. Sci., Univ. of Newcastle, NEWCASTLE, N.S.W. 2308, Australia

QUIRÓS, Ms. M. C.; Ph.D. – Inst. de Biol., Univ. Nac de Tucumán, Chacabuco 461, 4000 TUCUMÁN, Argentina
a Sperm maturation: epididymal activity. Cavia porcellus, Rat (Rodentia)
b Thyroid gland and epididymal function. Rat

RADHA, Ms. R.; M.Sc. – Dept. of Anat., Jawaharlal Inst. of Postgrad. Med. Educ. and Res., PONDICHERRY 605006, India
a Effect of pyridoxine (vitamin B6) and bromocriptine on the hypothalamo-hypophysio-gonadal axis. Rat
b Effect of reserpine on reproductive biology. Rat

RADHAKRISHNAN, N.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Tail regeneration in the adult. Mabuya carinata (Lacertilia)

RAE, P. M. M.; Ph.D. – Dept. of Biol., Kline Biol. Tower, Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA
a Intervening sequences in ribosomal RNA genes and other genome components; DNA and protein components of constitutive heterochromatin; nucleic acid-protein interaction. Drosophila melanogaster, D. virilis (Diptera)

RAFF, R. A.; Ph.D., Prof. – Dept. of Biol., Indiana Univ., Jordan Hall 138, BLOOMINGTON, IN 47401, USA
a Molecular biology of early development. Drosophila spec. (Diptera), (Echinoidea)
b Stored informational systems in eggs. Species as a

RAFFERTY, K. A., Jr.; Ph.D., Prof. – Dept. of Anat., Univ. of Illinois, P.O.Box 6998, CHICAGO, IL 60680, USA
a Longevity and preservation of differentiated function in cultured cells. (Primates and other Mammalia)

RAGEH, Ms. M. A. E.; B.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
a Effect of soya beans on development of thyroid glands and small intestine. Bufo regularis (Anura) (with M. I. MICHAEL)

RAMACHANDRAN, A. V.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Tail regeneration in the adult. Mabuya carinata (Lacertilia)

RAMÍREZ, O. C.; M.D., Ph.D. – Dept. of Bioquím., Centro de Invest. y de Estud. Avanzados del Inst. Politécnico Nac., Apdo. Postal 14–740, MEXICO 14, D.F., Mexico
a Ontogeny of cytosolic patterns of creatine kinase isoenzymes in sex differentiation. Rat
b Isolation of serum factors determining proliferation and differentiation of the myoblast in a chemically defined medium. Chicken

RAMOS, Ms. I. C.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMÁN, Argentina
a Biochemistry of differentiation. Bufo arenarum (Anura)

RANGA RAO, K.; Ph.D., Prof. – Dept. of Biol., Univ. of W. Florida, PENSACOLA, FL 32504, USA
a The responses of chromatophores of zoea, megalopa and adult to purified chromatophorotropins. Uca pugilator (Decapoda, Crustacea)
b Control of pigmentation in regenerating appendages. Uca pugilator, Cambarellus shufeldti (Decapoda, Crustacea)
c Comparative study of the effects of various ecdysones on regeneration of appendages. Uca pugilator, U. minax, Clibanarius vittatus (Decapoda, Crustacea)
d Pathological changes induced by chlorophenols and other environmental contaminants in the developing limb bud. Palaemonetes pugio, Uca pugilator (Decapoda, Crustacea)

RANGINI, Ms. Z.; B.A. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel
a Role of primary hypoblast in formation of primordial germ cells, part. effect of disaggregated-reconstituted hypoblast. Chicken

RAO, K. S.; M.Sc. – Dept. of Biosci., Sardar Patel Univ., VALLABH VIDYANAGAR 388120, Gujarat, India

RAO, K. V.; Ph.D. – Dept. of Zool., Univ. of Delhi, DELHI 110007, India

RAPPAPORT, R., Jr.; Ph.D., Prof. – Dept. of Biol. Sci., Union Coll., SCHENECTADY, NY 12308, USA
a Experiments on the mechanisms of cell division. Amoeba proteus (Rhizopoda), Echinarachnius parma, Strongylocentrotus purpuratus, S. droebachiensis (Echinoidea)

RAPPORT, Ms. E. W.; Ph.D. – Ramsay Wright Zool. Labs., Dept. of Zool., Univ. of Toronto, 25 Harbord St., TORONTO, M5S 1A1, Ont., Canada
a Morphological abnormalities in the eversion of imaginal structures caused by feeding glucosamine or hydroxyproline: genetic, cellular, and biochemical differences in the responses of susceptible and non-susceptible strains. Drosophila melanogaster (Diptera)

RAPRAEGER, A. C.; Ph.D. – Dept. of Biol. Sci., Hopkins Mar. Stat., Stanford Univ., PACIFIC GROVE, CA 93950, USA
a Appearance, identity of the natural substrate, and extracellular nature of a sulfatase during morphogenesis of the embryo. Strongylocentrotus purpuratus (Echinoidea)

RASCH, Ms. E. M.; Ph.D., Prof. – Lab. of Cell. Biophys., Coll. of Med., East Tennessee State Univ., Box 23320A, JOHNSON CITY, TN 37601, USA

RASWEILER, J. J., IV; Ph.D. – Dept. of Anat., Cornell Univ. Med. Coll., 1300 York Ave., NEW YORK, NY 10021, USA

a Comparative morphology of the early embryo and associated changes in the female reproductive tract, through the time of ovum implantation (light, transmission and scanning electron microscopy). Glossophaga soricina, Noctilio albiventris, Carollia perspicillata, Desmodus rotundus, Peropteryx kappleri (Chiroptera)

b Maintenance and breeding in the laboratory. (Chiroptera)

RAWDON, B. B.; Ph.D. – Dept. of Anat., Med. School, Univ. of the Witwatersrand, Hospital St., JOHANNESBURG 2001, S. Africa

a Origin of the endocrine cells of the gastro-intestinal tract; morphology of the types of these cells present at the time of hatching; their distribution (immunochemistry). Chicken (with A. ANDREW and B. KRAMER)

RAY, A. K.; Dr. – Zool. Dept., State Coll., DARJEELING 734101, India

RAZON-PINE, Ms. P.; B.Sc. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA

a Effects of antimetabolites on early embryogenesis. Mouse

b Analysis of t-mutant embryos. Mouse

READY, D. F. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA

a Specificity of initiation of synaptic connections in vitro. Hirudo medicinalis (Hirudinea)

REAMS, W. M., Jr.; Ph.D., Prof. – Dept. of Biol., Univ. of Richmond, RICHMOND, VA 23173, USA

a Effects of tissue environment on pigment cell morphogenesis. Chicken, Mouse

b Factors affecting pigment behaviour in the skin. Chicken, Mouse

c The Langerhans cell: origin and differentiation. Mouse

REDMAN, R. S.; D.D.S., Ph.D. – Dent. Serv. (160), Vets. Adm. Med. Ctr., 50 Irving St., N.W., WASHINGTON, DC 20422, USA
also: Dept. of Oral Pathol., Coll. of Dent., Howard Univ., WASHINGTON, DC, USA

a Parotid gland: ductal and myoepithelial differentiation (LM, EM); cell types involved in proliferation (EM, radioautography); effects of dietary and hormonal changes on developmental pace (biochemical assay of exocrine enzymes, protein and hormones, LM, EM) and on dental caries. Rat

b Minor salivary glands: initiation, ductal development, and acinar or alveolar differentiation (LM, EM, histochemistry). Rat

c Sublingual gland: prenatal development of ducts, acini and myoepithelium; perinatal maturation of these elements (LM, EM, histochemistry of specimens from both in vitro and in vivo situations). Rat

REEDER, R. H.; Ph.D. – Hutchinson Canc. Res. Ctr., 1124 Columbia St., SEATTLE, WA 98104, USA

a Isolation of amplified nucleoli from oocytes and characterization of the chromatin structure of transcriptionally active ribosomal genes. Xenopus laevis (Anura)

b Molecular cloning of ribosomal genes; their structure and in vitro transcription. Xenopus laevis, X. borealis (Anura)

REES, Ms. S.; Ph.D. – Dept. of Physiol., Monash Univ., Wellington Rd., CLAYTON, Viet. 3168, Australia

a Experimental neuropathology of degeneration and regeneration in cortex and peripheral nerve. Rat

REEVES, O. R.; Ph.D. – Dept. of Zool., Washington State Univ., PULLMAN, WA 99164, USA

a Structure and function of globin genes during in vitro differentiation of Friend erythroleukemia cells. Mouse

b Nucleosome histone modifications during changes in gene activity

c Histone acetylation as related to gene transcriptional activity

d Histone acetyltransferase and deacetylase

RENFREE, Ms. M. B.; Ph.D. – Environm. and Life Sciences, Murdoch Univ., MURDOCH, WA 6155, Australia

a Developmental morphology. Macropus eugenii (Marsupialia)

b Developmental biochemistry of embryo and fetal fluids. (Marsupialia)

c Control of delayed implantation including embryo metabolism and steroidogenesis in the blastocyst and placenta. Macropus eugenii, M. irma, Setonix brachyurus (Marsupialia)

RENNERT, O. M.; M.D., Prof. – Dept. of Pediat., Mol. Biol., and Biochem. and Med., Health Sci. Ctr., Univ. of Oklahoma, P.O.Box 26901, OKLAHOMA-City, OK 73190, USA

a Modification of isoaccepting species of transfer RNA isolated from embryos and adult liver and spleen (amino acyl-tRNA reaction, reverse phase chromatography). Mouse, Rat

b Isoleucyl-tRNA formation as a controlling factor in the "turning-off of fetal hemoglobin" production. (Rodentia)

c Identification of species of isopentenyl-tRNA's during embryonic development. Mouse, Rat

d Polyamines and their relationship to cellular proliferation. (Mammalia)

e Significance of copper, zinc and manganese in embryo, fetus and neonate; characterization of peptide-metal transport carriers. (Mammalia)

RENWICK, A. G. C.; M.D., Ph.D., Prof. – Dept. of Biochem., Univ. of Auckland, Private Bag, AUCKLAND, New Zealand

a Biosynthesis of estrogens by the placenta. Man

b Biosynthesis and degradation of hormonal peptides, factors that modify synthesis and release. (Rodentia)

REPORTER, M.; Ph.D. – Charles F. Kettering Res. Lab., 150 E. South College St., YELLOW SPRINGS, OH 45387, USA
RESZELBACH, Ms. R.; Ph.D. – Lab. of Molec. Genet., Natl. Inst. of Child Health and Hum. Devl., Natl. Inst. of Health, Bldg 6, Rm 329, BETHESDA, MD 20014, USA
REYER, R. W.; Ph.D., Prof. – Dept. of Anat., Med. Ctr., West Virginia Univ., MORGANTOWN, WV 26506, USA
a Causal mechanisms involved in lens regeneration from the dorsal iris and their relation to the processes of lens induction in the embryo. Notophthalmus viridescens (Urodela)
b DNA synthesis, cell division and cell migration during neural retina regeneration using thymidine-H3. Species as a, and Ambystoma maculatum (Urodela)
c Ultrastructural changes during lens regeneration from dorsal iris, part. relation of basal lamina to lens capsule and dedifferentiation of iris epithelium. Species as a
d Incorporation of fucose-3H and proline-3H in formation of the capsule during lens regeneration. Species as a
REYNHOUT, J. K.; Ph.D. – Dept. of Biol. Sci., Oakland Univ., ROCHESTER, MI 48063, USA
a Role of Na, K and Ca ion changes in control of meiosis and cell division. Rana pipiens, Xenopus laevis (Anura)
b Nature and fate of newly synthesised proteins in oocyte and in early embryo (low temperature microdissection, autoradiography). Species as a
REYNOLDS (KING), Ms. W. A.; Ph.D., Prof. – Office of Acad. Affairs, Ohio State Univ., 204 Administr. Bldg., 190 N. Oval Mall, COLUMBUS, OH 43210, USA
a Fetal and maternal calcium metabolism. Macaca mulatta, M. arctoides, M. irus, Homo sapiens (Primates)
b Toxicity of methylmercury for the fetus and neonate. Same species as a
c Fetal metabolism and composition in diabetic pregnancy. Same species as a
d Effect of aspartate and monosodium glutamate on fetus and neonate. Same species as a
e Isolation and culture of pancreatic beta cells. Same species as a
f Transplantation of pancreatic islets. Same species as a
RICE, J. M.; Ph.D. – Exp. Pathol. Branch, Natl. Canc. Inst., N.I.H., Bldg 37, Rm 3A09, BETHESDA, MD 20014, USA
a Susceptibility of different organ systems to transplacental chemical carcinogens during late embryonal/early fetal development: modifying roles of metabolism, immune responses, and nucleic acid repair. Mus musculus, Rattus norvegicus (Rodentia), Erythrocebus patas (Primates)
RICHARDS, Ms. C. M.; Ph.D. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Production of inbred strains using gynogenetic techniques. Rana pipiens (Anura)
b Mapping enzyme loci. Species as a
c Control of the sex of metamorphosed animals by administration of estrogen or testosterone at appropriate larval stages. Species as a
d Embryonic development, genetics, and regeneration. Hyperolius spec. (Anura)
RIFKIND, R. A.; M.D. – Dept. of Human Genet. and Developm., Coll. of Phys. and Surg., Columbia Univ., 630 West 168th St., NEW YORK, NY 10032, USA
RIKMENSPOEL, R.; Ph.D., Prof. – Dept. of Biol. Sci., State Univ. of New York, 1400 Washington Ave., ALBANY, NY 12222, USA
a Control mechanisms of sperm motility. Arbacia spec. (Echinoidea), Cow
b Contractile mechanisms in cilia. Opalina spec. (Zoomastigina), Paramecium spec. (Ciliata), Sabellaria spec., Phragmatopoma spec. (Polychaeta), Mytilus spec. (Bivalvia)
c Control of flagellar reversal. Euglena gracilis (Euglenophyceae)
RISLEY, M. S.; Ph.D. – Dept. of Anat., Med. Coll., Cornell Univ., 1300 York Ave., NEW YORK, NY 10021, USA
a Characterization of chromatin protein synthesis, modification and replacement, changes in chromatin structure during spermatogenesis. Xenopus laevis (Anura)
b Examination of proteins: 1) of the nuclear matrix during spermatogenesis and early development (blastula-neurula); 2) of the synaptonemal complex in primary spermatocytes. Same species as a
c Histone gene expression during spermatogenesis. Species as a
RIVERA, Ms. E. M.; Ph.D., Prof. – Dept. of Zool., Michigan State Univ., EAST LANSING, MI 48824, USA
a Factors regulating normal and neoplastic development of mammary gland in vivo and in vitro; influences of cell dissociation and heterotypic reassociation, immune cells, hormones, and the environment of the aging host. Rat
RIZKI, T. M.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA
a Genetic and developmental aspects of melanotic tumors and cell-mediated defense responses (EM). Drosophila melanogaster (Diptera)
b Genetic and developmental studies of cells in the phenol oxidase system. Species as a
ROBERTS, J. F.; Ph.D., Prof. – Dept. of Zool., North Carolina State Univ., Box 5577, RALEIGH, NC 27607, USA
ROBERTS, L. W.; Ph.D., Prof. – Dept. of Biol. Sci., Univ. of Idaho, MOSCOW, ID 83843, USA
ROBERTS, T. M.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a Flow and rearrangement of membrane components on amoeboid sperm. Caenorhabditis elegans (Nematoda)
b Role of specific gene products in sperm-oocyte recognition and in mechanism of amoeboid motility in sperm. Species as a
ROBERTSON, H. A.; Ph.D. – Dept. of Reprod. Physiol., Anim. Res. Inst., OTTAWA, Ont. K1A 0C6, Canada

ROBINSON, J. C.; M.D., Ph.D. – Lab. of Biomed. Sci., Natl. Inst. of Child Health and Human Develop., Natl. Inst. of Health, Bldg. 6, Rm 408, BETHESDA, MD 20014, USA

ROBKIN, M.; Ph.D., Prof. – Dept. of Nucl. Engin., Univ. of Washington, 357 Benson BF–10, SEATTLE, WA 98195, USA

no research on developmental biology in progress

ROCKSTEIN, M.; Ph.D., Prof. – Dept. of Physiol. and Biophys., Univ. of Miami, P.O.Box 520875, Biscayne Annex, MIAMI, FL 33152, USA

RODIER, Ms. P. M.; Ph.D. – Dept. of Anat., Med. Ctr., Univ. of Virginia, Box 439, CHARLOTTESVILLE, VA 22908, USA

a Morphology and behavior of animals with injuries of CNS; relation of structure and function in brain damage syndromes; quantitative methods of assesing damage. Mouse

b Immediate and long-term changes in cell populations due to injury of CNS. Mouse

RÖLLER, H. R.; Dr.rer.nat., Prof. – Inst. of Devl. Biol., Texas A & M Univ., COLLEGE STATION, TX 77843, USA

a Juvenile hormone system: evolution and identity; control of biosynthesis in vivo and in vitro; morphogenetic action. Lepisma saccharina, Thermobia domestica (Thysanura), Periplaneta americana, Nauphoeta cinerea, Blaberus discoidalis (Blattodea), Zootermopsis spec., Reticulitermes flavipes, Kalotermes snyderi (Isoptera), Leptinotarsa decemlineata, Tenebrio molitor (Coleoptera), Manduca sexta, Hyalophora cecropia, Achroia grisella, Aphomia gularis, Galleria mellonella (Lepidoptera), Sarcophaga bullata, Musca domestica (Diptera)

b Causal mechanism of pattern formation in the integument: cellular and biochemical aspects. Manduca sexta, Galleria mellonella (Lepidoptera), Sarcophaga bullata, Musca domestica (Diptera)

RON, A.; Ph.D. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. Sch., P.O.B. 1172, JERUSALEM 91000, Israel

a RNA and protein synthesis during sexual reproduction. Tetrahymena pyriformis (Ciliata)

b Protein synthesis in heat shock synchronised animals; heat shock proteins. Species as a

ROOS, T. B.; Ph.D., Prof. – Dept. of Biol. Sci., Dartmouth Coll., HANOVER, NH 03755, USA

ROSS, L. M.; M.D., Ph.D. – Dept. of Anat., Michigan State Univ., A519 East Fee Hall, EAST LANSING, MI 48824, USA

a Normal and abnormal craniofacial development

b Upper respiratory tract development, part. the diffuse endocrine cell population

ROSTAS, J. A. P.; Ph.D. – Dept. of Biochem., Monash Univ., CLAYTON, Vict. 3168, Australia

a Biochemical aspects of mature synapses; formation and maturation of synapses; cell interactions in nervous system; cell surface organisation. Chicken

b Molecular organisation of skeletal muscle cell surface during development and following denervation and disease. Chicken, Rat

ROTH, Th. F.; Ph.D. – Dept. of Biol. Sci., Univ. of Maryland, Baltimore County, 5401 Wilkens Ave., BALTIMORE, MD 21228, USA

a Electron microscopy, physiology, cellular and molecular aspects of the protein transport sites on the plasma membrane in oocyte and yolk sac. Culex pipiens, C. fatigans (Diptera), Chicken

b Virus transmission from mother to oocyte: cell types, sequence and time in development (ferritin-antivirus conjugates, electron microscopy). Chicken

c Coated vesicle isolation from brain, selective dissociation and reassembly, nearest neighbour analysis of coat assembly. Pig, Cow

d Phosvitin-lipovitellin receptor isolation from oocyte plasma membranes. Chicken

e Characterization of immunoglobulin and receptor in the yolk sac. Chicken

f LDL and VLDL (low density and very low density lipoprotein) receptors and IgG receptor on oocyte plasma membrane. Chicken

ROTHMAN, F. G.; Ph.D., Prof. – Div. of Biol. and Med., Brown Univ., PROVIDENCE, RI 02912, USA

a Genetic and biochemical analysis of aggregation, differentiation, and morphogenesis. Dictyostelium discoideum (Acrasiales)

ROTSHENKER, S.; M.D. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. Sch., P.O. Box 1172, JERUSALEM 91000, Israel

a Formation, maintenance and replacement of synapses, specifically mechanisms underlying induction of sprouting of intact motor neurons and synapse formation. Rana pipiens (Anura)

ROTUNDO, R. L.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA

a Synthesis, secretion, and appearance of membrane bound forms of acetylcholinesterase in cultured muscle cells; role of innervation in appearance and distribution of molecular forms of this enzyme. Chicken

ROY, Ms. D. – Dept. of Zool., Sch. of Life Sci., North Eastern Hill Univ., SHILLONG 793003, India

RUBEN, L. N.; Ph.D., Prof. – Biol. Dept., Reed College, PORTLAND, OR 97202, USA

a Development and evolution of immune responses with special emphasis on cell cooperation (immunocytoadherence, hapten-carrier immunization, haemagglutination). Triturus viridescens (Urodela), Xenopus laevis, Rana pipiens (Anura)

RUDDLE, F. H.; Ph.D., Prof. – Dept. of Biol., Kline Biol. Tower, Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA

a Injection of genes into oocytes, and transmission in the germ line. Mouse

b Transfer of genes into cell lines; test of their expression. Mouse, Mesocricetus auratus (Rodentia), Man

c Somatic cell genetics: analysis of the genetics and of epigenetic systems using a cell genetic approach. Mouse, Man and others (Mammalia)

d Manipulation of the genetic constitution. (Mammalia)

RUDERMAN, Ms. J. V.; Ph.D. – Dept. of Anat., Harvard Med. School, 25 Shattuck St., BOSTON, MA 02115, USA
a Synthesis and utilisation of messenger RNA during oogenesis. Arbacia punctulata, Strongylocentrotus purpuratus, Lytechinus pictus (Echinoidea)
b Segregation of maternal messenger RNA and proteins during cleavage, and the onset of differential gene expression in early blastomeres. Spisula solidissima (Bivalvia)
RUDOLPH, A. M.; M.D., Prof. – Cardiovasc. Res. Inst., Univ. of Calif., 1403 HSE, SAN FRANCISCO, CA 94143, USA
RUGH, R.; Ph.D., Prof. (Emer.) – Bur. of Radiol. Health, Div. of Biol. Effects, F.D.A., 5600 Fisher's Lane HFX-120, ROCKVILLE, MD 20857, USA
RUNNER, M. N.; Ph.D., Prof. – Inst. of Devl. Biol., Univ. of Colorado, BOULDER, CO 80302, USA
RUSCH, H. P.; M.D., Prof. (Emer.) – McArdle Lab. for Canc. Res., Univ. of Wisconsin, 450 N. Randall Ave., MADISON, WI 53706, USA
RUSKAN, G. A., Jr. – Dept. of Biol. and Allied Health Sci., Fairleigh Dickinson Univ., 285 Madison Ave., MADISON, NJ 07940, USA
a Embryo culture in vitro. Blattella germanica (Blattodea)
RUTH, R. F.; Ph.D. – Dept. of Zool., Fac. of Sci., Univ. of Alberta, EDMONTON, Alta. T6G 2E9, Canada
RYERSE, J. S.; Ph.D. – Dept. of Pathol., St. Louis Univ. Med. Ctr., 1402 S. Grand Blvd., ST. LOUIS, MO 63104, USA
a Quantitative/qualitative EM of imaginal disc cells incl. stereology, morphometrics, enzyme histochemistry, in vitro culture, etc., part. role of gap junctions in pattern formation and growth control during normal and abnormal development. Drosophila melanogaster (Diptera)
b Malpighian tubules: mechanisms by which ecdysterone and juvenile hormone interact to modulate fluid transport and cell structure, localisation and developmental changes in Na-K-ATPase activity and the control of mitochondrial movement. Calpodes ethlius (Lepidoptera)
SACHS, H. G.; Ph.D. – Dept. of Anat., Univ. of Illinois, P.O.Box 6998, CHICAGO, IL 60680, USA
a Development of the normal heart and a genetic cardiomyopathy (biochemistry, calcium dynamics of intact cell and subcellular fractions, quantitative electron microscopy, electrophysiology). Gallus domesticus (Aves), Mesocricetus auratus (Rodentia)
SACHS, L.; Prof. – Dept. of Genet., Weizmann Inst. of Sci., P.O.Box 26, REHOVOT, Israel
a In vitro and in vivo induction of normal cell differentiation in myeloid leukemia
b Genetic and molecular dissection of differentiation in normal and leukemic myeloblasts
c Induced and constitutive gene expression and control of cell differentiation
SACHS, T.; Dr. – Dept. of Bot., Hebrew Univ., JERUSALEM, Israel
a Experiments on the exact course of differentiation of vessel and phloem patterns. Raphanus sativus, Brassica naporapa (Cruciferae)
b Control of flowering (apex differentiation): plant size, leaf number, distance from root and other factors. Pisum sativum and other spp. (Angiospermae)
c Determination and regeneration in the development of form in shoot apices and leaves. Pisum sativum (Papilionaceae)
SACK, W. O.; D.V.M., Ph.D., Dr.med.vet., Prof. – Dept. of Anat., NY State Coll. of Vet. Med., Cornell Univ., ITHACA, NY 14853, USA
a Nerve distribution in the limb. Horse
b Nerve distribution in lumbar region and cecum. Cow
SADANA, G. L.; Ph.D. – Dept. of Zool., Punjab Agric. Univ., LUDHIANA, India
a Postembryonic development. Olios obesulus (Araneae, Arachnida)
SADLER, T. W.; Ph.D. – Dept. of Anat., Coll. of Med., Univ. of Cincinnati, CINCINNATI, OH 45267, USA
a Mechanisms involved in neural tube closure and abnormalities of closure such as spina bifida and exencephaly. Mouse
b Effects of hyperinsulinism and hyperglycemia on organogenesis. Mouse
SAGAWA, Y.; Ph.D., Prof. – Harold L. Lyon Arboretum and Horticult. Dept., Univ. of Hawaii, HONOLULU, HI 96822, USA
a Developmental studies of ovule formation. (Orchidaceae)
b Developmental studies of apical meristem explants. Species as a, and other tropical plants
c Studies of in vivo growth of pollen tubes. Species as a
SAHU, A. K. – Dept. of Zool., Sch. of Life Sci., North Eastern Hill Univ., SHILLONG 793003, India
SAIGA, H.; Dr. – Lab. of Devl. Biol., Mitsubishi-Kasei Inst. of Life Sci., 11 Minami-ooya, Machida, TOKYO 194, Japan
a Analysis of RNA synthesis by isolated nucleoli of oocytes to define the element(s) involved in the regulation of ribosomal gene transcription. Xenopus laevis (Anura) (with T. HIGASHINAKAGAWA)
SAITO, S.; D.Sc. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Toyonaka, OSAKA, 560 Japan
a Comparative morphology, biochemistry and physiology from the viewpoints of development, sexuality and morphogenesis. Haematococcus lacustris, Gonium multicoccum, G. quadratum, G. octonarium, G. pectorale (Volvocales, Chlorophyceae)
SAITOH, M.; Ph.D. – Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O.Box 5, Ibaraki, 305 Japan
a Determination of protein and energy requirements for maintenance in pregnant animals. Rat, Pig
b Estimation of utilisation rate of dietary protein and energy by the fetus
SAKAI, H.; Ph.D., Prof. – Dept. of Biophys. and Biochem., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan

a Chromosome motion in the isolated mitotic apparatus of the egg. Hemicentrotus pulcherrimus (Echinoidea)

SALLES, J. M. de; B.Sc. – Dept. of Gen. Biol., Inst. of Biol. Sci., Fed. Univ. of Minas Gerais, Rua Carangola 288 – 4°andar, C.P. 253, BELO HORIZONTE, M. G., Brazil

SALOMON, D. S.; Ph.D. – Lab. of Developm. Biol. and Anomalies, Natl. Inst. of Dent. Res., Natl. Inst. of Health, Bldg. 30, Rm 414, BETHESDA, MD 20014, USA

SALOMÓN de LEGNAME, Ms. H.; Dr. Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina

a Glycolysis and tricarboxylic acid cycle during early development: regulatory mechanisms. Bufo arenarum (Anura)

b Endocrine control of metabolism during oocyte maturation. Same species as a

SANCHEZ, Ms. S. S.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina

a Effect of hormones on proteins and nucleic acid synthesis in ovarian tissue and early development. Bufo arenarum (Anura)

b Primary induction: characterisation of the inducing agent. Species as a

SANCHEZ RIERA, Ms. A. N.; Biochem. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S. M. de TUCUMÁN, Argentina

a Effect of hormones on proteins and nucleic acid synthesis in ovarian tissue and early development. Bufo arenarum (Anura)

SANDERS, E. J.; Ph.D. – Dept. of Physiol., Univ. of Alberta, EDMONTON, Alta. T6G 2E1, Canada

a Cell surface material and intercellular contacts during cleavage; morphology and physiology of intercellular coupling. Xenopus laevis (Anura)

b Intercellular relationships during pre-streak morphogenesis; correlation of cell surface and cell contact characteristics with behaviour of cells in culture. Chicken (with M. R. BELLAIRS, London)

SANDERS, T. G.; Ph.D. – Dept. of Biol., Lake Forest Coll., LAKE FOREST, IL 60045, USA

a Genetic and molecular structure and function of the Y chromosome during spermatogenesis. Drosophila melanogaster, D. hydei (Diptera)

b Genetic, behavioral and developmental analysis of chemosensory mutants. Drosophila melanogaster (Diptera)

SANDLER, Ms. N.; Ph.D. – Inst. of Life Sci., Hebrew Univ., JERUSALEM, Israel

a Sporulation. Bacillus subtilis (Bacteria)

b Chromosome replication in the cell cycle. Species as a

SASAKI, Ms. F.; Dr. – Dept. of Biol., Sch. of Dent. Med., Tsurumi Univ., 2–1–3 Tsurumi, YOKOHAMA, 230 Japan

SASAKI, M.; D.Sc., Prof. – Chromos. Res. Unit, Hokkaido Univ., N. 10, W. 8, SAPPORO, 060 Japan

a Chromosome studies in early embryogenesis, with special reference to induced and spontaneous abortions, maldevelopment, and sex ratio. Man

SASAKI, N.; D.Sc. – Internat. Area Stud. Div., Seinan Gakuin Univ., Nishijin, FUKUOKA, 814 Japan

a Transformation of primarily activated ectoderm by RNA. Cynops pyrrhogaster (Urodela)

b Reactivity of ectoderm cells in primary induction. Same species as a

c Homoiogenetic induction. Same species as a

SASTROHADINOTO, S. – Fak. Kedoteran Hewan, Inst. Pertanian Bogor, JL. Taman Kencana 1, BOGOR, Indonesia

a Teratogenetic effects of food constituents and additives. Duck, Mouse (with Y. SUKRA and co-workers)

SATHANANTHAN, A. H.; Ph.D. – Dept. of Biol. Sci., Lincoln Inst. of Health Sci., MELBOURNE, Vict., Australia

a Morphology, cytochemistry, and ultrastructure of development from second maturation division (oviposition) to post-gastrula stage. Arion ater rufus, Limax maximus (Gastropoda)

b Cell movements in morphogenesis. Same species as a

c Golgi and yolk formation. Same species as a

d Normal and abnormal development of aspirated ova and embryos cutured in vitro (EM). Man

SATO, A. G.; Dr.phil. – Dept. of Anat., Hiroshima Univ., Kasumi 1–2–3, Minami-ku, HIROSHIMA, 734 Japan

a Development of kidney-specific antigens of microsomal fraction. Chicken, Pig

SATO, G. H.; Ph.D., Prof. – Ctr. for Devl. Biol. Q–58, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA

SATO, H.; D.Sc., Prof. – Sugashima Marine Biol. Lab., Nagoya Univ., Sugashima-cho, TOBA-shi, Mieken 517, Japan

a Origin of mitotic spindle birefringence studied in eggs; effect of heavy water on spindle birefringence and structure; dynamic equilibrium theory; molecular association and dissociation to create enough energy for anaphase chromosome movement. Pisaster ochraceus (Asteroidea), Mespilia globulus, Temnopleurus toreumaticus (Echinoidea)

b Distribution pattern of polymerized and non-polymerized tubulin during the cell cycle of lung epithelium in vitro (immunofluorescence)

c Isolation and characterisation of contractile proteins from gametes and zygotes. (Echinoidea)

d Demonstration of uni-directional growth of spindle microtubules assembled in vitro using polymerisable echinoderm tubulin and dynein. Hemicentrotus pulcherrimus, Anthocidaris crassispina, Pseudocentrotus depressus (Echinoidea)

e Isotope effect of tritium on spindle assembly and disassembly in vivo. Mespilia globulus, Temnopleurus toreumaticus, Hemicentrotus pulcherrimus (Echinoidea)

SATO, H. – Dept. of Perinatol., Inst. for Developm. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan
a Toxic effects of bilirubin on developing brain. Rat
SATOH, N.; D.Sc. – Lab. of Devl. Biol., Dept. of Zool., Kyoto Univ., Sakyo-ku, KYOTO, 606 Japan
a Mechanisms of time flow in early development. (Echinodermata; Ascidiacea; Amphibia)
b Comparative embryology. (Porifera; Coelenterata)
SATYANARAYANA SWAMY, M.; M.Sc. – Dept. of Zool., Fac. of Sci., M. S. Univ. of Baroda, BARODA 390002, India
a Metabolic changes in systemic organs in response to tail regeneration. Mabuya carinata (Lacertilia)
SAUNDERS, J. W., Jr.; Ph.D., Prof. – Dept. of Biol. Sci., State Univ. of New York, 1400 Washington Ave., ALBANY, NY 12222, USA
a Control of outgrowth and regional differentiation of the limb. Coturnix c. japonica, Chicken (Aves), Mouse
SAWADA, N.; D.Sc., Prof. – Biol. Inst., Ehime Univ., Bunkyo-cho, MATSUYAMA, 790 Japan
a Mitotic apparatus. (Echinodermata; Echiuroidea)
b Ultrastructural changes in oogenesis and spermatogenesis. (Polychaeta; Sipunculoidea; Echiura; Gastropoda)
SAWHNEY, V. K.; Ph.D. – Dept. of Biol., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada
a Developmental studies on single gene floral mutants. Lycopersicon esculentum (Solanaceae)
b Role of temperature and hormones in flower abnormalities. Species as a, and Capsicum annuum (Solanaceae)
SAWYER, L. M.; Ph.D. – Dept. of Anim. Genet., Storrs Agric. Exper. Station, Univ. of Connecticut, STORRS, CT 06268, USA
a Tissue interactions during skin and limb development. Chicken
b Proteoglycan synthesis during chondrogenesis. Chicken
SAYEGH, F. S.; Ph.D. – Dept. of Histol., Sch. of Dent., Univ. of Missouri, 650 E. 25th St., KANSAS-City, MO 64108, USA
a Tooth development from bud stage to eruption. Rat
SCADDING, S. R.; Ph.D. – Dept. of Zool., Univ. of Guelph, GUELPH, Ont. N1G 2W1, Canada
a Factors affecting and controlling limb regeneration: role of nerves, hormones, chalones, effects of 5-bromodeoxyuridine. (Urodela)
b Phylogenic distribution of capacity for and identification of factors correlated with limb regeneration. (Amphibia)
c Structure and function of oral tentacles. Xenopus laevis (Anura)
SCANDALIOS, J. G.; Ph.D., Prof. – Dept. of Genet., North Carolina State Univ., Box 5487, RALEIGH, NC 27607, USA
a Differential gene expression at the molecular level. Zea mays (Gramineae), Drosophila melanogaster (Diptera), Man
b Regulatory mechanisms controlling the expression of enzyme loci during development of higher organisms; enzyme polymorphism. Same species as a
c Role of proteinaceous inhibitors in regulation of gene expression. Same species as a
SCHEDL, P.; Ph.D. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08540, USA
SCHEFFLER, I. E.; Ph.D. – Ctr. for Devl. Biol. B–022, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA
SCHELTEMA, R. S.; Ph.D. – Woods Hole Oceanogr. Inst., WOODS HOLE, MA 02543, USA
a Development of bathyal and abyssal species. Nucula spec. (Bivalvia)
b Long-distance dispersal of pelagic larvae in the warm temperate and tropical Atlantic Ocean, part. trans-Atlantic transport. (Decapoda, Crustacea and other Invertebrata)
c Relationship of physical and biological characteristics of the environment to growth and development of larvae. Fouling organisms (Invertebrata)
SCHINDLER, J. M.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Early embryogenesis: 1. control of gene expression; 2. role and nature of RNA populations. Mouse
b Molecular aspects of differentiation of teratocarcinoma cells in vitro; similarities between embryonal carcinoma cells and cells of early embryos. Mouse
SCHJEIDE, O. A.; Ph.D., Prof. – Dept. of Biol. Sci., Northern Illinois Univ., De KALB, IL 60115, USA
a Biochemical, metabolic and ultrastructural parameters of cell growth and differentiation. (Plantae), Chicken
b Roles of acid mucopolysaccharides in cell differentiation. (Animalia), Man
SCHLESINGER, A. B.; Ph.D., Prof. – Dept. of Biol., Creighton Univ., 2410 California St., OMAHA, NE 68178, USA
a Development of species comprising the ichthyoplankton of the Missouri River. Dorósoma cepedianum, Aplodinatus grunniens, Carpiodes spec. (Teleostei)
SCHMIDT, A. J.; Ph.D., Prof. – Dept. of Anat., Coll. Health Sci., Rush Univ., CHICAGO, IL 60612, USA
a Hormonal influences on regenerating systems. Triturus viridescens (Urodela)
b The chemistry of regenerating systems. Species as a
c Fine structure of cells and tissues of regenerating systems. Species as a
SCHMIDT, R. R.; Ph.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA

a Biochemical alterations during chondrogenesis in fetuses obtained from mothers administered 9-methylpteroyl glutamic acid (folic acid antagonist): hydroxyproline studies, AMPS studies, electron microscopy. (Mammalia)
b In vitro culture of chondroblasts and intact, viable, cartilage models obtained from fetuses of teratogen treated mothers: collagen synthesis and release into matrix; AMPS production and release into matrix. Rat
c Biochemical developments during normal and abnormal cardiogenesis: sarcoplasmic and contractile protein fractions; collagen and AMPS (in vitro and in ovo radioisotopic studies). (Aves)
d Histochemistry of temporal appearance and spatial distribution of glycosaminoglycans (GAG) in the limb during mesenchymal condensation, establishment of cartilage models and onset of ossification, in normal embryos and in embryos from folic acid-deficient mothers. Rat

SCHMIDT, T.; Ph.D. – Dept. of Biol. Sci., Hopkins Mar. Stat., Stanford Univ., PACIFIC GROVE, CA 93950, USA
a Nature of signal contributed by sperm to activate egg (biochemistry). Strongylocentrotus purpuratus (Echinoidea)
b Isolation of morphogenetic substances from the polar lobe (biochemistry, microiontophoresis). Ilyanassa obsoleta (Gastropoda)

SCHOENWOLF, G. C.; Ph.D. – Dept. of Anat., Coll. of Med., Univ. of Utah, SALT LAKE CITY, UT 84132, USA
a Formation of neural tube, part. fusion of neural folds and cavitation of tail bud. Chicken, Mouse
b Changes in cellular morphology, arrangement and contact during gastrulation, as related to specific morphogenetic movements. Xenopus laevis (Anura), Chicken
c Formation and bending of the neural plate. Chicken
d Formation of the medullary cord. Chicken

SCHROEDER, P. C.; Ph.D. – Dept. of Zool., Coll. of Sci. and Arts, Washington State Univ., PULLMAN, WA 99164, USA
a Oocyte-follicle cell relationships, their relation to the endocrine control of spawning and to vertebrate ovulation. Patiria miniata (Asteroidea)
b Cellular function in the follicles during ovulation. Oryzias latipes (Teleostei), Xenopus laevis (Anura); Thamnophis elegans (Ophidia), Anolis carolinensis (Lacertilia)
c Gametogenesis. Typosyllis spp. (Syllidae, Polychaeta)

SCHROIT, A. J.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA

SCHUBIGER, G.; Ph.D. – Dept. of Zool., Univ. of Washington, SEATTLE, WA 98195, USA

SCHUETZ, A. W.; Ph.D., Prof. – Dept. of Popul. Dynamics, Sch. of Hyg. and Publ. Health, Johns Hopkins Univ., 615 N. Wolfe St., BALTIMORE, MD 21205, USA
a Ion transport and cell membrane function in oocyte atomic absorption spectrophotometry. (Amphibia; Mammalia)
b Testis differentiation and spermatogenesis. (Mammalia)
c Oocyte growth and maturation, nuclear-cytoplasmic interactions, cytoplasmic factors. (Asteroidea; Amphibia; Mammalia)
d Membrane structure and function, fertilisation, activation and pronuclear formation. (Asteroidea; Amphibia)
e Purine synthesis and secretion. (Asteroidea)
f Control of meiosis during spermatogenesis (cell culture, hormone effects). Rat and other Mammalia
g Regulation of oocyte yolk protein (vitellogenin) incorporation (cell culture, hormone effects). Rana pipiens (Anura)
h Ionic mechanisms in activation and fertilisation (Asteroidea; Amphibia)

SCHULTZ, G. A.; Ph.D. – Div. of Med. Biochem., Health Sci. Ctr., Univ. of Calgary, CALGARY, Alta, T2N 1N4, Canada
a Control of gene expression in early development (emphasis on transcription and translation). Rabbit

SCHWALM, F. E.; Dr.phil.nat. – Dept. of Biol. Sci., Illinois State Univ., NORMAL, IL 61761, USA
a Synthesis, storage and utilization of morphogenetic agents in oogenesis and early embryogenesis (electron microscopy, autoradiography) Coelopa frigida (Diptera)
b Isolation and characterization of nucleic acids during oogenesis and embryogenesis. Same species as a
c Fate and function of polar granules in male gonads and during spermiogenesis. Same species as a

SCOTT, Ms. J. N.; Ph.D. – Dept. of Anat., Wright State Univ., DAYTON, OH 45431, USA

SCOTT, M. Y.; Ph.D. – Div. of Biol., Calif. Inst. of Technol., PASADENA, CA 91125, USA

SCOTT, S. A.; Ph.D. – Dept. of Neurobiol. and Behavior, State Univ. of New York, STONY BROOK, NY 11794, USA
a Development of cutaneous sensory innervation patterns in the hindlimb (electrophysiology, LM, EM). Chicken

SCOTT, T. K.; Ph.D., Prof. – Dept. of Bot., Univ. of North Carolina, CHAPEL HILL, NC 27514, USA
a Relation between auxin transport and growth in seedlings as influenced by age and light. Pisum sativum (Papilionaceae), Zea mays (Gramineae)
b Apical dominance; characterization of the hormonal control exhibited by shoot apices in lateral bud suppression. Pisum sativum (Papilionaceae), Coleus blumei (Labiatae)

SEAGO, J. L.; Ph.D. – Dept. of Biol., State Univ. of New York, OSWEGO, NY 13126, USA
a Seed germination and early development of seedlings, incl. experimental morphology of rooting and effects of rooting on shoot growth. Glycine max (Papilionaceae)

b Seasonal changes in starch distribution incl. relation between growth and starch localisation; experiments on germination. Typha latifolia (Typhaceae)

SEARLS, R. L.; Ph.D., Prof. – Dept. of Biol., Temple Univ., Broad & Berks St., PHILADELPHIA, PA 19122, USA

a Differentiation of the limb bud. Chicken

SEDRA, S. N.; Ph.D., Prof. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt

a Behaviour of egg laying. Rana fusca, Bufo regularis (Anura)

b Experiments on determination of the proximo-distal axis of the developing hind limb. Same species as a (with M. I. MICHAEL, S. H. KHALIL and A. A. S. HASSONA)

SEECOF, R. L.; Ph.D. – Dept. of Biol., City of Hope Med. Center, 1500 E. Duarte Rd., DUARTE, 91010, USA

ŞEFTALIOĞLU, A. – Inst. of Histol. and Embryol., Med. Fac., Hacettepe Univ., ANKARA, Turkey

a Genesis of Clara cell in developing lung. Mus musculus (Rodentia)

b Electron microscopy of developing liver. Same species as a

SEGAL, D.; B.Sc. – Dept. of Genet., Hebrew Univ., JERUSALEM, Israel

a Pattern formation (part. compartments, homoeotic mutants) studied by clonal analysis and histochemistry of aldehyde-oxidase in larva and imago. Drosophila melanogaster (Diptera)

SEGAL, S. J.; Ph.D. – Biomed. Div., The Popul. Counc., Rockefeller Univ., York Ave. and 66th St., NEW YORK, NY 10021, USA

SEIGER, M. B.; Ph.D. – Dept. of Biol. Sci., Coll. of Sci. and Engin., Wright State Univ., Col. Glenn Highway, DAYTON, OH 45431, USA

a Genetics and development of color and color pattern in white and blue morphs. Chen caerulescens (Aves)

b Ontogeny of behavior. Species as a, and Drosophila pseudoobscura, D. persimilis, D. miranda, D. loewi, D frolovae (Diptera)

SEKELES, E.; M.V.M. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. School, P.O.B. 1172, JERUSALEM 19000, Israel

SEMBA, R.; M.D., Ph.D. – Dept. of Perinatol., Inst. for Developm. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan

a Effect of cell damage on subsequent growth of other nerve cells in the developing cerebellum. Rat

b Development of tongue and larynx. Man (with A. DOLLANDER and C. CHOFFEL, France)

SEMBA, Ms. R. K.; Ph.D. – Dept. of Perinatol., Inst. for Devl. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi, 480–03, Japan

a Impairment of cerebellar development by bilirubin. Rat

SERR, D. M.; Prof. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel Aviv Univ., TEL HASHOMER, Israel

SETO, F.; Ph.D. – Dept. of Zool., Univ. of Oklahoma, 730 Van Vleet Oval, Rm.222, NORMAN, OK 73019, USA

a Ontogenetic appearance and maturation of the homograft rejecting and humoral antibody producing potential in embryos and growing juveniles. Chicken

b Cellular basis of antibody-mediated immunoregulation and T cell-dependent humoral immune responses. Chicken

SETOGUTI, T.; Dr.Med., Prof. – 3rd Dept. of Anat., Nagasaki Univ., Sakamoto-machi, NAGASAKI, 852 Japan

a Inner zone cells of the adrenal cortex in fetus and neonate (LM, EM). Rat

SHAAYA, E.; Ph.D. – Inst. of Technol., The Volcani Ctr., P.O.B. 6, BET DAGAN 50–200, Israel

a Control of nucleic acids and protein synthesis by ecdysone and juvenile hormone during postembryonic development. Periplaneta americana (Blattodea), Calliphora erythrocephala (Diptera)

b Growth regulation of regeneration. Periplaneta americana (Blattodea)

c Molecular aspects of differentiation, using epidermal cells. Calliphora erythrocephala, Drosophila melanogaster (Diptera)

SHAH, R. M.; Ph.D. – Dept. of Oral Biol., Fac. of Dent., Univ. of Brit. Columbia, 2075 Westbrook Place, VANCOUVER, B.C. V6T 1W5, Canada

a Comparison of mechanisms in cleft palate and cleft lip formation following administration of different chemical teratogens (ultrastructure, autoradiography, biochemistry; in vivo and in vitro). Mesocricetus auratus (Rodentia)

b Teratological evaluation of cancer chemotherapeutic agents, sedatives and tranquillizers. Mesocricetus auratus, Mus musculus, Rattus norvegicus (Rodentia)

c Normal and abnormal development of craniofacial structures. Homo sapiens (Primates)

SHAH, R. V.; Ph.D., Prof. – Dept. of Zool., Fac. of Sci., M.S.Univ. of Baroda, BARODA 390002, India

a Tail regeneration in embryos and adults. Gekko spec., Mabuya spec. (Lacertilia)

b Liver regeneration and physiology. (Lacertilia), Columbia livia (Aves), Rat

c Spleen, pancreas, and lymph gland regeneration. (Lacertilia), Columbia livia (Aves)

d Physiology of developing muscles (respiration). (Chelonia)

SHAPIRO, B. L.; D.D.S., Ph.D., Prof. – Div. of Oral Biol., Sch. of Dent., Univ. of Minnesota, MINNEAPOLIS, MN 55455, USA

SHAPPIRIO, D. G.; Ph.D., Prof. – Div. of Biol. Sci., Univ. of Michigan, ANN ARBOR, MI 48109, USA

a Developmental physiology and biochemistry, especially growth and metamorphosis. (Saturniidae etc., Lepidoptera; Chironomidae etc., Diptera; Lygaeidea & Pyrrhocoridae. Heteroptera)

SHARMA, S. C.; Ph.D. – Dept. of Ophthalmol., New York Med. Coll., VALHALLA, NY 10595, USA
a Development and regeneration of the visual pathways. Zenopus laevis, Rana pipiens (Anura), Carassius auratus (Teleostei)
SHAVER, J. R.; Ph.D., Prof. – Dept. of Zool., Michigan State Univ., EAST LANSING, MI 48824, USA
a Antigenic localization on spermatozoa (electron microscopy, immunofluorescence). Xenopus laevis (Anura)
b Receptors of neurotransmitters in eggs. Arbacia punctulata (Echinoidea)
SHEFFIELD, J. B.; Ph.D. – Dept. of Biol., Temple Univ., Broad & Berks St., PHILADELPHIA, PA 19122, USA
a Factors controlling cell association during formation of the layers of the retina (electron microscopy, cell surface labeling, immunology to define cell type differences). Chicken
b Membrane formation (electron microscopy, surface labeling, immunology). Mouse mammary tumor virus
SHEPARD, T. H.; M.D., Prof. – Centr. Lab. for Human Embryol., Dept. of Pediat., Univ. of Washington, SEATTLE, WA 98195, USA
a Effect of rubella virus on the fetus. Man
b Effect of galactoflavin on the fetus. Rat
c Histology and biochemistry of achondroplasia (ac/ac strain; organ culture, radioisotopes). Rabbit, Man
d Effect of teratogens on embryos in vitro. Rat
e Effect of cytochalasin B and D on closure of the anterior neuropore in vitro. Chicken, Rat
f Effect of iron deficiency anemia on the fetus. Rat
g Effect of the P450 monooxygenase system on teratogenic action in vitro
SHERER, G. K.; Ph.D. – Biol. Dept., Bowdoin Coll., BRUNSWICK, ME 04011, USA
a Embryonic development of the liver: acquisition of specialized functions; interdependence of differentiation and morphogenesis; epithelial-mesenchymal interaction; the role of vascularity in mesenchymal specificity. Chicken
SHERMAN, M. I.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Differentiation of early embryos in vivo and in vitro; the role of cell communication during differentiation of early embryonic cell types (embryo proper, yolk sac, trophoblast). Mouse
b Differentiation of teratocarcinoma cells in vivo and in vitro; relations with cells of the early embryo. Mouse
SHERMAN, R. G.; Ph.D., Prof. – Dept. of Zool., Miami Univ., OXFORD, OH 45056, USA
a Embryonic development. Homarus americanus (Decapoda, Crustacea)
b Electrophysiology and ultrastructure of developing nerve and muscle systems. Same species as a
SHIHIRA-ISHIKAWA, Ms. I.; D.Sc. – Dept. of Biol., Coll. of Gen. Educ., Osaka Univ., Machikaneyama-cho, 1–1, Toyonaka-shi, OSAKA, 560 Japan
a Regulation of development by environmental factors. Acetabularia calyculus (Chlorophyceae)
b Experimental regulation of degeneration and development of organelles. Chlorella protothecoides (Chlorophyceae), Euglena gracilis (Euglenophyceae)
SHIMADA, T.; D.Sc. – Dept. of Hyg. and Prevent. Med., Sch. of Med., Yamagata Univ., Zao-Iida, YAMAGATA, 990–23 Japan
a Role of trace metals in oocyte maturation. Mesocricetus auratus, Mouse (Rodentia)
b Experimental induction of aneuploid embryos. Mesocricetus auratus, Apodemus speciosus (Rodentia)
SHIMIZU, T.; D.Sc. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N. 10, W. 8, SAPPORO 060, Japan
a Regional difference of cortical properties and its relation to egg surface contractile activity. Tubifex hattai (Oligochaeta)
SHINDE, S. L. – Dept. of Zool., Univ. of Poona, PUNE 411007, India
a Culture of embryos and embryonic organs. Calotes versicolor (Lacertilia) (with S. C. GOEL)
SHININGER, T. L.; Ph.D. – Dept. of Biol., Univ. of Utah, SALT LAKE CITY, UT 84112, USA
a Physiology and biochemistry of the change in developmental state of mature cells after excision and tissue culture. Pisum sativum (Papilionaceae)
b Biochemistry of plant hormone action
SHINOHARA, T.; Ph.D. – Lab. of Molec. Genet., Natl. Inst. of Child Health and Hum. Devl., Natl. Inst. of Health, Bldg. 6 Rm 331, BETHESDA, MD 20014, USA
SHIOKAWA, K.; D.Sc. – Embryol. Lab., Dept. of Biol., Kyûshû Univ. 33, Hakozaki, FUKUOKA 812, Japan
a Regulation of ribosomal and messenger RNA synthesis during embryonic development. Xenopus laevis (Anura)
b Regulation of RNA synthesis in cultured kidney cells. Same species as a
SHIOMI, T.; Dr., Prof. – Dept. of Genet., Nagasaki Univ., 12–4, Sakamoto-machi, NAGASAKI, 852 Japan
a Radiation genetics (embryo, germ cells). Drosophila melanogaster (Diptera)
b Chemical mutagenesis (germ cells). Species as a
SHIOYA, Y. – Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O.Box 5, Ibaraki, 305 Japan
SHIRAI, Ms. H.; D.Sc. – Dept. of Devl. Biol., Natl. Inst. for Basic Biol., 38 Nishigonaka, Myodaiji-cho, OKAZAKI 444, Japan
a Mechanism of spawning. Asterias amurensis, Asterina pectinifera (Asteroidea)
b Electron microscopy of spawning and oocyte maturation. (Asteroidea)
c Biochemical pathway of l-methyladenine formation in ovary. (Asteroidea)

d Polar body formation. Asterina pectinifera (Asteroidea)
e Sperm capacitation. Same species as d

SHOGER, R. L.; Ph.D., Prof. – Biol. Dept., Carleton Univ., Olin Hall of Sci., NORTHFIELD, MN 55057, USA

SHOJI, R.; Ph.D. – Dept. of Embryol., Inst. of Devl. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan
a Effects of x-rays and ultrasound on developing embryos, part. CNS. Mesocricetus auratus, Mouse, Rat (Rodentia)
b Developmental genetics of abnormal characters. Species as a
c In vitro fetal brain cell-aggregation patterns. Rat

SHOKITA, S.; Aquat.Biol. – Dept. of Marine Sci., Univ. of the Ryukyus, NAKAGUSUKU, Okinawa, 901–24 Japan
a Laboratory rearing and description of postembryonic stages of inland-water and coral reef species. Macrobrachium grandimanus, Dromidia unidentata, Cryptodromia canaliculata, Chlorodiella nigra, Pilumnus vespertillio, Penaeus latisulcatus, Caridina spec. (Decapoda, Crustacea)

SHOOBRIDGE, Ms. E. R.; B.Sc. – Dept. of Surg. (Diagnost. Radiol.), Univ. of Sydney, SYDNEY, N.S.W. 2006, Australia
a Effect of neural crest injury on developing sensory nervous system and limb (quantitative neurology). Chicken

SHOSTAK, S.; Ph.D. – Dept. of Life Sci., Univ. of Pittsburgh, 552 Crawford Hall, PITTSBURGH, PA 15260, USA

SHUKUYA, R.; M.D., Prof. – Dept. of Biochem., Nippon Med. School, 1–1–5 Sendagi, Bunkyo-ku, TOKYO 113, Japan
a Erythrocyte transition, hemoglobin metabolism and hemoglobin switch during metamorphosis. Rana catesbeiana (Anura)
b Phosphoenolpyruvate carboxykinase and the regulation of gluconeogenesis. Same species as a
c Mitochondriogenesis during metamorphosis. Species as a

SHUPE, J. L.; D.V.M., Prof. – Dept. of Vet. Sci., UMC 56, Utah State Univ., LOGAN, UT 84322, USA
a Fluoride effects on bone tumors. Horse, Man
b Teratogenic effects of Nicotiana glauca and Conium maculatum in Mammalia

SHUR, B. D.; Ph.D. – Dept. of Anat., Univ. of Connecticut Health Ctr., FARMINGTON, CT 06032, USA
a Molecular basis of cell-cell interactions during normal and mutant morphogenesis, part. cell surface glycosyltransferases and their extracellular glycosyl acceptors. Chicken, Mouse
b Cell surface components involved in sperm-egg recognition using sperm from normal and T/t-locus mice

SHURE, Ms. M.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a Purification of the proteins encoded by several loci whose expression has been documented to be regulated by at least one of three systems of controlling elements; construction and isolation of cDNA clones corresponding to each of the loci; use of these cDNA clones as molecular probes in the characterisation and isolation of the corresponding genomic DNA sequences from wild-type tissue and from tissue of strains having controlling elements at each of these loci. Zea mays (Gramineae)

SIDDIQUI, M. A. Q.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Control of early embryonic development. Chicken
b Quantitation and analysis of muscle gene transcription in blastoderm using cloned DNA probes. Chicken

SILHACEK, D. L.; Ph.D. – Insect Attract. Behav. and Basic Biol. Res. Lab., Agric. Res. Serv., U.S.D.A., P.O.Box 14565, GAINESVILLE, FL 32604, USA
a Mechanisms of hormonal control of energy metabolism during development. Plodia interpunctella (Lepidoptera)
b Structural and conformational requirements of molecules with a juvenilising effect. Species as a
c Biochemical mechanisms of lipid transport and absorption during development. Galleria mellonella (Lepidoptera)

SIMMONS, V. P.; M.D. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA

SIMÕES, L. C. G.; Ph.D. – Dept. de Biol., Inst. de Biociênc., Univ. de São Paulo, C. P. 11461, 1000 SÃO PAULO, Brazil

SIMON, M. I.; Ph.D., Prof. – Ctr. for Devl. Biol. B–022, Univ. of California, San Diego, LA JOLLA, CA 92093, USA

SINGER, M.; Ph.D., Prof. – Dept. of Anat., Developm. Biol. Ctr., Case Western Reserve Univ., 2119 Abington Rd., CLEVELAND, OH 44106, USA
a Regeneration. (Amphibia)
b Neurotrophic control of limb regeneration. Triturus viridescens (Urodela)

SINGER (ALTBEKER), Ms. R.; Ph.D. – Endocrinol. Unit of the Rogoff-Wellcome Med. Research Inst., Beilinson Hosp., PETAH-TIKVA, Israel

SINGH, Ms. M.; M.Sc. – Dept. of Zool., Univ. of Allahabad, ALLAHABAD 211002, India

SINGH, M. M.; Ph.D. – Div. of Endocrinol., Centr. Drug Res. Inst., P.O.Box 173, LUCKNOW 226001, India
a Absence of enzymes for steroid synthesis in preimplantation stages (days 5,6) and their presence after implantation (day 7) (culture in vitro). Rabbit

b Effect of the antifertility agent Centchroman on the viability of preimplantation embryos (egg transfer). Mouse

SINGH, S.; M.S., Prof. – Dept. of Anat., Inst. of Med. Sci., Banaras Hindu Univ., VARANASI 221005, India

a Teratological effect of cyclophosphamide on embryonic brain. Gallus domesticus (Aves)
b Teratological effect of chlorpromazine and papain on fetus. Rattus spec. (Rodentia)
c Teratological effect of cyclophosphamide on limb cartilage. Same species as b
d Fetal hemorrhages following amniocentesis. Same species as b
e Effect of catecholamines on developing aortic arches and heart. Same species as a
f Effect of hypervitaminosis A on developing auditory and visual appratus. Same species as b
g Survey on incidence of congenital malformations in newborns in the Varanasi zone. Homo sapiens (Primates)

SINGH, S. D.; M.Sc. – Dept. of Biochem., Fac. of Sci., Allahabad Univ., ALLAHABAD 211002, India

SINGH, Y. N.; Ph.D. – Zool. Dept., Allahabad Univ., ALLAHABAD 211002, India

SINGHAS, C. A.; Ph.D. – Dept. of Obstet. and Gynecol., Div. of Reprod. Biol., Med. School, Univ. of Virginia, Box 387, CHARLOTTESVILLE, VA 22903, USA

a Role of prolactin and steroid hormones in uterine function. Mouse

SIRLIN, J. L.; Dr.nat.sci., Prof. – Dept. of Anat., Med. Coll., Cornell Univ., 1300 York Ave., NEW YORK, NY 10021, USA

SKALKO, R. G.; Ph.D., Prof. – Dept. of Anat., Coll. of Med., East Tennessee State Univ., Box 19960A, JOHNSON CITY, TN 37601, USA

SKINNER, Ms. D. M.; Ph.D., Prof. – Biol. Div., Oak Ridge Natl. Lab., P.O.Box Y, OAK RIDGE, TN 37830, USA

SKINNER, J. D.; Ph.D., Prof. – Mammal Res. Inst., Univ. of Pretoria, PRETORIA 0001, S. Africa

SKOOG, F.; Ph.D., Prof. – Inst. of Plant Developm. and Dept. of Bot., Univ. of Wisconsin, Birge Hall, MADISON, WI 53706, USA

SLAVKIN, H. C.; D.D.S., Prof. – Lab. Devl. Biol., Dept. of Basic Sci., Div. of Biochem., Sch. of Dent., Univ. of S. California, Gerontol. Ctr., LOS ANGELES, CA 90007, USA

a Epithelial-mesenchymal interactions during odontogenesis (immunological, biochemical and structural parameters). Mouse, Rabbit
b Glucocorticosteroid-induced congenital craniofacial malformations in A/jax and C57BL/6 strains, especially major histocompatibility haplotype, maternal liver function and steroid-receptor interactions. Mouse

SMALLS, Ms. C. M.; M.Sc. – Dept. of Anat., Milton S. Hershey Med. Ctr., Pennsylvania State Univ., HERSHEY, PA 17033, USA

SMIT, A. L.; D.Sc., Prof. – Dept. of Zool., Univ. of Durban-Westville, Private Bag X54001, DURBAN 4000, S. Africa

a Developmental morphology and evolution of the columella auris. Caretta caretta, Dermochelys coriacea (Chelonia)
b Early ontogeny of the visceral skeleton, part. composition of, and secondary contributions to, the hyoid arch. Several spp. (Reptilia; Aves)

SMITH, L. D.; Ph.D., Prof. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA

a Quantitative and qualitative studies on RNA synthesis at several stages of oogenesis. Xenopus laevis (Anura)
b Steroid receptors in relation to induction of oocyte maturation. Xenopus laevis, Rana pipiens (Anura)

SMITH, M. J.; Ph.D. – Dept. of Biol. Sci., Simon Fraser Univ., BURNABY, B.C. V5A 1S6, Canada

SMITH, P. D.; Ph.D. – Dept. of Biol., Emory Univ., ATLANTA, GA 30322, USA

a Genetic control and enzymatic basis of DNA repair, mutation and recombination. Drosophila melanogaster (Diptera)

SOH, W. Y.; Ph.D. – Dept. of Biol., Chonnam Natl. Univ., KWANGJU, Chonnam 500, South Korea

SOHAL, G. S.; Ph.D. – Dept. of Anat., Med. Coll. of Georgia, AUGUSTA, GA 30902, USA

a Cell death and differentiation in the nervous system. Anas platyrhynchos, Chicken. (Aves)
b Effects of periphery on morphogenesis of nuclear centres in the brain. Same species as a
c Development of neuro-muscular relationships, formation of motor endplates and acetylcholine receptors in extra-ocular muscles. Same species as a

SOLL, D. R.; Ph.D. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, U.S.A.

SOLLNER-WEBB, Ms. B.; Ph.D. – Physiol. Chem. Dept., School of Med., Johns Hopkins Univ., 125 N.Wolfe St., BALTIMORE, MD 21205, USA

a Transcription and in vitro mutation of ribosomal RNA genes. Xenopus spec. (Anura)
b Chromatin structure of ribosomal DNA. Same species as a

SOLURSH, M.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA

a Differentiation of cultured limb bud chondrocytes: 1. origins of cartilage and muscle precursor cells; 2. role of cyclic nucleotides. Chicken
b Mechanisms of primary mesenchyme cell formation and migration. Lytechinus pictus (Echinoidea)

SOMA, T.; B. Agr. Sc. – Lab. of Fertil., Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O. Box 5, Ibaraki, 305 Japan

a Transfer of fertilised eggs by non-surgical techniques. Cow

SOMES, R. G.; Ph.D., Prof. – Nutr. Sci. Dept., Storrs Agric. Exp. Station, Univ. of Connecticut, STORRS, CT 06268, USA

a Ear-tuft and associated ear abnormality in tufted Araucana. Chicken
b Uropygial gland diester and hormone production in a delayed feathering mutant. Chicken
c Amino acid transport across erythrocyte membranes. Chicken

SORENSEN, R. A.; Ph.D. – Dept. of Biol., Gettysburg Coll., GETTYSBURG, PA 17325, USA
a Oocyte growth, differentiation, and maturation; in vitro pre- and postimpantation development. Mouse

SORENSON, J. C.; Ph.D. – Dept. of Genet., North Carolina State Univ., Box 5487, RALEIGH, NC 27607, USA
a Molecular analysis of gene action during differentiation; nucleic acid isolation and characterisation; recombinant DNA. Zea mays (Gramineae)

SOUPART, P.; M. D., Ph.D., Prof. – Dept. of Obstet. and Gynecol., Sch. of Med., Vanderbilt Univ., NASHVILLE, TN 37232, USA

SPAZIANI, E.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA

SPENCER, A. N.; Ph.D. – Dept. of Zool., Univ. of Alberta, EDMONTON, Alta. T6G 2E9, Canada

SPERELAKIS, N.; Ph.D., Prof. – Dept. of Physiol., Sch. of Med., Univ. of Virginia, CHARLOTTESVILLE, VA 22908, USA
a Membrane properties of myocardial cells and skeletal muscle during embryonic development. Chicken, Rat
b Electrophysiology of heart cells and whole hearts cultured in vitro. Chicken, Rat
c Control of membrane properties, e.g., effect of mRNA. Chicken, Rat
d Ultrastructure of cardiac and skeletal muscle at different stages of embryonic and postnatal development. Chicken, Cavia porcellus, Mouse, Rat (Rodentia)

SPERRY, R. W.; Ph.D. – Div. of Biol., Calif. Inst. of Technol., PASADENA, CA 91125, USA

SPIEGEL, Ms. E. S.; Ph.D., Prof. – Dept. of Biol. Sci., Dartmouth Coll., HANOVER, NH 03755, USA
a Cell adhesion; cell surfaces; cell reaggregation. Arbacia punctulata, Lytechinus pictus (Echinoidea)

SPIEGEL, M.; Ph.D., Prof. – Dept. of Biol. Sci., Dartmouth Coll., HANOVER, NH 03755, USA
a Cell adhesion; cell reaggregation. Arbacia punctulata, Lytechinus pictus (Echinoidea)

SPIEGELMAN, M.; Ph.D. – Devl. Genet. Lab., Mem. Sloan-Kettering Canc. Ctr., 1275 York Ave., NEW YORK, NY 10021, USA
a Fine structure of normal and mutant embryos. Mouse
b Cell surface structures in early embryos. Mouse
c Detection of specific antigens on cell surfaces of embryos. Mouse
d Role of extracellular matrix in cell movements and tissue organisation in embryos. Mouse

SIROFF, B. E. N.; Ph.D. – Dept. of Biol., Loyola Univ., 6525 N. Sheridan Rd., CHICAGO, IL 60626, USA

SPITZER, N. C.; Ph.D. – Ctr. for Devl. Biol. B-022, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA

SPRADLING, A. C.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a Molecular mechanisms controlling expression of chorion protein structural genes during follicle cell development; genetic studies of follicle cell function. Drosophila melanogaster (Diptera)

SPYKER, J. M.; Ph.D. – Dept. of Pharmacol., Univ. of Arkansas for Med. Sci., 4301 West Markham, LITTLE ROCK, AR 72201, USA

SRIVASTAVA, G. K.; M.Sc. – Dept. of Biochem., Fac. of Sci., Allahabad Univ., ALLAHABAD 211002, India

SRIVASTAVA, H. C.; M.S., Prof. – Dept. of Anat., Med. Coll., BARODA, 390001, India

STAAL, G. B.; Dr., Ir. – Zoecon Corp., California Ave., PALO ALTO, CA 94304, USA

STANLEY, J. G.; Ph.D., – Dept. of Zool., Univ. of Maine, ORONO, ME 04469, USA
a Induction of artificial gynogenesis and polyploidy. Salmo salar, Salvelinus fontinalis Teleostei)

STAPLES, R. E.; Ph.D. – Haskell Lab. (Du Pont), WILMINGTON, DE 19898, USA
a Methods for determining teratogenicity and embryotoxicity of environmental agents and chemicals. Rat, Mesocricetus auratus (Rodentia), Rabbit

STARK, R. A.; Ph.D. – Dept. of Anat., Univ. of Illinois, P.O. 6998, CHICAGO, IL. 60680, USA
a Testing of antifertility compounds in an in vitro fertilization system. Mouse
b Developmental capabilities of polyploid zygotes. Mouse

STAY, Ms. B.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA
a Control of brood sac secretion in a viviparous form. Diploptera punctata (Blattodea)
b Control of juvenile hormone synthesis during the reproductive cycle. Same species as a

STEEVES, T. A.; Ph.D. – Dept. of Biol., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada
a Structure and function of shoot apical meristems. Helianthus annuus (Compositae)

STEINBERG, M. S.; Ph.D., Prof. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
a Mechanisms of formation of pronephric duct. Various spp. (Urodela; Anura)
b Measurement of intercellular adhesive intensities (tissue sigma) in embryonic tissues. Species as a
c Identification of adhesion systems mediating morphogenetic movements and tissue assembly in embryos. Various spp. (Urodela; Anura), Chicken

STEINHARDT, R. A.; Ph.D., Prof. – Dept. of Zool., Univ. of California, BERKELEY, CA 94720, USA
a Ionic regulation of metabolism at fertilization; cleavage; pH sensitivity of protein synthesis rate. Lytechinus pictus (Echinoidea), Xenopus laevis (Anura)

STEPHENS, T. D.; Ph.D. – Centr. Lab. for Human Embryol., Dept. of Pediat., Univ. of Washington, SEATTLE, WA 98195, USA
a Mechanical manipulations of the limb field and surrounding tissue in order to identify tissues and agents that define this field. Chicken

b Identification of axial influences responsible for the establishment of the limb skeletal pattern. Chicken
c Comparative anatomy of limb and kidney morphogenesis. Oncorhynchus kisutch (Teleostei), Ambystoma punctatum (Urodela), Anolis carolinensis (Lacertilia), Chicken, Rat, Man

STERN, H.; Ph.D., Prof. – Ctr. for Devl. Biol. B-022, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA

STERN, R.; M.D. – Lab. of Biochem., Natl. Inst. of Dent. Res., Natl. Inst. of Health, BETHESDA, MD 20014, U.S.A.

STEVENS, L. C.; Ph.D. – The Jackson Lab., BAR HARBOR, ME 04609, USA
a Histogenesis of testicular teratoma (strain 129). Mouse
b Developmental genetics. Mouse
c Development of teratomas from parthenogenetically activated ovarian eggs. Mouse
d Parthenogenesis. Mouse
e Teratocarcinogenesis in vitro

STEVENSON, J. ROSS; Ph.D., Prof. – Dept. of Biol. Sci., Kent State Univ., KENT, OH 44242, USA
a Study of control of epidermal chitin biosynthesis for the developing cuticle by chemical assays and radiotracers. Orconectes sanborni, O. obscurus (Decapoda, Crustacea)

STEWART, Ms. F.; Ph.D. – Div. of Wildlife Res., C.S.I.R.O., P.O.Box 84, LYNEHAM, A.C.T. 2602, Australia
a Maintenance of embryonic diapause and factors affecting reactivation of development. Marcropus eugenii (Marsupialia)
b Factors affecting fetal gonadal endocrine activity and the influence of chorionic and pituitary hormones on development of gonadotropin receptors. Horse

STILES, Ms. S. S.; M.Sc. – Biol. Lab., Natl. Marine Fish. Serv., Northeast Fish. Ctr., 212 Rogers Ave., MILFORD, CT 06440, USA
a Cytogenetics of eggs and embryos in hybridisation and inbreeding research, incl. potential parthenogenones induced by irradiated sperm. Crassostrea virginica (Bivalvia)
b Use of mitotic- and fertilisation-inhibiting and doubling agents (part. colchicine, EDTA) on early stages. (Mollusca; Teleostei)
c Isoelectric focusing on larvae. Species as a

STOCKDALE, F. E.; M.D., Ph.D. – Dept. of Med. and Biol., Sch. of Med., Stanford Univ., Rm S-025, STANFORD, CA 94305, USA
a Growth factors. (Vertebrata)

STOCUM, D. L.; Ph.D., Assoc. Prof. – Dept. of Genet. and Developm., Univ. of Illinois, 515 Morrill Hall, URBANA, IL 61801, USA

STOREY, R. D.; Ph.D. – Dept. of Biol., Colorado Coll., COLORADO SPRINGS, CO 80903, USA
a Mechanisms that control reserve protein degradation during germination; enzymology of nitrogen metabolism during development. Pisum sativum, Glycine max (Papilionaceae)
b Factors which control vegetative growth and reproductive development. Simmondsia chinensis (Buxaceae)

STOSS, J.; D.Sc. Agric. – Nutr. and Appl. Endocrinol. Program, Resource Serv. Branch, Dept. of Fish. and Oceans, 4160 Marine Drive, WEST VANCOUVER, B.C. V7V 1N6, Canada
a Cryopreservation of sperm and ova. Salmo gairdneri (Teleostei)
b Sex reversal by steroid treatment. Oncorhynchus keta (Teleostei)

STOUT, V. M.; Ph. D. – Dept. of Zool., Univ. of Canterbury, Private Bag, CHRISTCHURCH 1, New Zealand
a Descriptive embryology. Daphnia magna (Cladocera, Crustacea)

STRATFORD (MILLER), Ms. B. F.; Ph.D. – School of Anat., Univ. of Melbourne, PARKVILLE, Vict. 3052, Australia
a Developmental anatomy and pathology of the placenta. Man
b Experimental developmental pathology of placenta. Sheep

STRAZNICKY, C.; Ph.D., C.Biol.Sci. – Dept. of Human Morphol., Sch. of Med., Flinders Univ., BEDFORD PARK, S.A. 5042, Australia
a Formation of neuromuscular connections im embryos with transplanted spinal cord segments (microsurgery, HRP, electrophysiology). Chicken
b Stable programming of retinal positional specification following embryonic eye recombination experiments (electrophysiology and microsurgery). Xenopus laevis (Anura)

STRUCK, D. K.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA
a Turnover and metabolism of plasma membrane phospholipids and glycolipids in cultured L cells. Mouse

SUBTELNY, S.; Ph.D., Prof. – Dept. of Biol., Rice Univ., HOUSTON, TX 77001, USA

SUBURO, Ms. A. M.; M.D. – Dept. of Neuroembryol., IMBICE, C.C. 403, 1900 LA PLATA, Argentina
a Neural differentiation in vivo and in vitro. (Aves)
b Mechanisms of axonal migration
c Morphogenesis and projections of the retina

SUCHESTON, Ms. M. E.; Ph.D. – Dept. of Anat., Ohio State Univ., 1645 Neil Ave., COLUMBUS, OH 43210, USA

SUDARWATI, Ms. S.; Dr. – Dept. of Biol., Sect. Zool., Bandung Inst. of Technol., Jalan Ganesa 10, BANDUNG, Indonesia
a Influence of adriblastina (adriamycin) on embryonic development. Chicken (with T. SURJONO)
b Influence of pesticides on development. Chicken (with L. A. SUTASURYA and T. SURJONO)

SUGA, T.; DVS, Ph.D. – Fac. of Agric., Yamaguchi Univ., YAMAGUCHI, 753 Japan
a Fructose formation in embryo, chorion, and placenta. Cow, Capra hircus (Artiodactyla)
b Uterine environment for development of fertilised ova. Species a
c Development and aging of placenta (DNA synthesis, mitosis, histochemistry). Rat, Rabbit; Cow, Pig, Capra hircus (Artiodactyla)
d Implantation and lost implantation (uterine pregnancy preparation). Species as c

SUGIE, T.; Ph.D. – Lab. of Fertil., Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O.Box 5, Ibaraki, 305 Japan
a Transfer of fertilised eggs by non-surgical techniques. Cow, Capra hircus (Artiodactyla)

SUGIMOTO, K.; Ph.D. – Dept. of Anat., Nippon Med. School, Sendagi 1-1-5, Bunkyo-ku, TOKYO, 113 Japan
a Morphology of the digestive tract during metamorphosis. Rana catesbeiana (Anura)

SUGINO, H.; D.Sc., Prof. (Emer.) – 170 Shindachi-Makino, Sen-nan OSAKA, 590-05 Japan
a Regeneration. Phagocata vivida (Turbellaria)

SUGIYAMA, M.; D.Sc., Prof. – Sugiyama-Gakuen Univ., Tashirocho-Kameiri, Chikusa-ku, NAGOYA, 464 Japan
a Physiological studies on fertilization and artificial parthenogenesis. Hemicentrotus pulcherrimus, Pseudocentrotus depressus (Echinoidea)

SUKRA, Y.; Dr.Vet.Sci. – Fakultas Kedoteran Hewan, Inst. Pertanian Bogor, Jl.Taman Kencana 1, BOGOR, Indonesia
a Teratogenetic effects of food constituents and additives. Duck, Mouse (with S. SASTROHADINOTO and co-workers)

SULLIVAN, G. E.; Ph.D. – Dept. of Histol. and Embryol., Univ. of Sydney, SYDNEY, N.S.W. 2006, Australia
a EM of development. (Mollusca and other marine Invertebrata)

SUMMERS, R. G.; Ph.D. – Dept. of Anat. Sci., State Univ. of New York, 317 Farber Hall, BUFFALO, NY 14214, USA

SURJONO, Ms. T.; M.Sc. – Dept. of Biol., Sect. Zool., Bandung Inst. of Technol., Jalan Ganesa 10, BANDUNG, Indonesia
a Influence of adriblastina (adriamycin) on embryonic development. Chicken (with S. SUDARWATI)
b Influence of pesticides on development. Chicken (with S. SUDARWATI and L. A. SUTASURYA)

SURTI, Ms. U.; Ph.D. – Dept. of Pathol., Magee-Women's Hosp., Forbes Ave. and Halket St., PITTSBURGH, PA 15213, USA

SUSSEX, I. M.; Ph.D., Prof. – Dept. of Biol., Yale Univ., NEW HAVEN, CT 06520, USA
a Genetically controlled sequence of biochemical events occuring as an embryo enters dormancy, regulation of embryo-specific proteins, synthesis of abscisic acid, its role in terminating RNA synthesis, and the mechanism by which this is accomplished. Phaseolus vulgaris (Papilionaceae)

SUSSMAN, M.; Prof. – Dept. of Biol. Sci., Univ. of Pittsburgh, PITTSBURGH, PA 15260, USA
a Genetic and developmental studies. Dictyostelium spec. (Acrasiales)

SUTASURYA, Ms. L. A.; Dr. – Dept. of Biol., Sect. Zool., Bandung Inst. of Technol., Jalan Ganesa 10, BANDUNG, Indonesia
a Early development. Chelonia mydas (Chelonia) (with P. D. NIEUWKOOP, Utrecht)
b Comparative study on the origin of primordial germ cells and mesoderm formation, and phylogenetic implications. Same species as a and other lower Vertebrata (with P. D. NIEUWKOOP)
c Influence of adriblastina (adriamycin) on embryonic development. Mouse (with T. H. SYARIEF)
d Influence of pesticides on development. Chicken (with S. SUDARWATI and T. SURJONO)

SUTHERLAND, W. M.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

SUZUKI, Y.; Ph.D. – Dept. Devl. Biol., Natl. Inst. for Basic Biol., Myodaiji, OKAZAKI, 444 Japan
a Regulation of silk fibroin and other genes of posterior silk gland through reconstitution of faithful transcription (in vitro preparation of mutated genes from cloned wild type genes, their function test in vitro and in vivo, finding of regulation factors). Bombyx mori (Lepidoptera)

SVOBODA, J. A.; Ph.D. – Insect Physiol. Lab., U.S. Dept. of Agric., AR Sci. and Educ. Administr., BARC-East Bldg. 467, BELTSVILLE, MD 20705, USA
a Normal sterol metabolism, biochemical pathways, effects of inhibitors of sterol metabolism on development, endocrine involvement of inhibitors. Manduca sexta (Lepidoptera)
b Ecdysone metabolism, in vitro systems, characterization, effects of inhibitors. Same species as a

SWARTZ, W. J.; Ph.D. – Dept. of Anat., Med. Ctr., Louisiana State Univ., 1542 Tulane Ave., NEW ORLEANS, LA 70112, USA
a Origin of primordial germ cells and factors involved in their migration. Chicken, Mouse
b Oocyte growth and maturation. Mouse
c Effects of pesticides on enzyme systems during gonadal development and ovulation. Chicken, Mouse

SWIATEK, K. R.; Ph.D. – Illinois Inst. for Devl. Disabilities, 1640 W. Roosevelt Rd., CHICAGO, IL 60608, USA
a Developmental metabolism of ketone bodies (isotope tracers). Rat

SYARIEF, T. H. – Dept. of Biol., Sect. Zool., Bandung Inst. of Technol., Jalan Ganesa 10, BANDUNG, Indonesia
a Influence of adriblastina (adriamycin) on embryonic development. Mouse (with L. A. SUTASURYA)
b Influence of herbal drugs on fertility. Mouse

SZULMAN, A. E.; Dr. – Dept. of Pathol., Magee-Women's Hosp., Forbes Ave. and Halker St., PITTSBURGH, PA 15213, USA
TABBARA FAWAZ, Ms. R. – Dépt. d'Histoenzymol., Univ. St. Joseph, B.P. 115076, BEIRUT, Lebanon
TAHARA, Y.; D.Sc., Prof. – Dept. of Biol., Osaka Kyôiku Univ., Tennoji-ku, OSAKA, 543 Japan
a Metaplastic transformation of the chorio-allantoic membrane. Chicken
b Origin and development of the embryonic thrombocytes. Chicken
TAKABAYASHI, T. – Dept. of Obstet. and Gynecol., Tohoku Univ., Sch. of Med., Seiryo-cho 1-1, Miyagi, SENDAI, 980 Japan
a Effects of ultrasound on developing embryos. Mouse, Rat
TAKAGI, N.; D.Sc. – Chromos. Res. Unit, Hokkaido Univ., N. 10, W. 8, SAPPORO, 060 Japan
a Chromosome studies in pre- and post-implantation embryos. Mouse, Mesocricetus auratus (Rodentia)
b X-chromosome differentiation. Mouse, Rat
c X-chromosome differentiation in teratocarcinoma stem cell lines. Mouse
TAKAGI, T.; Ph.D., Prof. – Dept. of Anat., Fac. of Dent., Tokushima Univ., TOKUSHIMA, 770 Japan
a Phylogeny and ontogeny of cytoskeleton in epidermal cells. Cyprinus carpio (Teleostei), (Urodela), Chicken, Mouse, Man
b Developmental immunobiology of tonsil, appendix and Peyer's patch. Rabbit, Mouse, Man
TAKAHAMA, H. – Dept. of Biol., Sch. of Dent. Med., Tsurumi Univ., 2-1-3 Tsurumi, YOKOHAMA 230, Japan
TAKAHASHI, G.; M.D. – Dept. of Pathol., Chest Dis. Res. Inst., Kyoto Univ., Sakyo-ku, KYOTO, 606 Japan
TAKAHASHI, H.; D.Sc., Prof. – Lab. of Fresh-water Fish Cult., Dept. of Biol., Fac. of Fish., Hokkaido Univ., 3-1-1 Minatocho, HAKODATE 041, Japan
a Experiments on gonadogenesis and sex differentiation. Poecilia spec., Tilapia spec., Oncorhynchus spec. (Teleostei)
b Extragonadal influences of sex steroids in juveniles in relation to subsequent gonad maturation. Oryzias spec., Carassius spec. (Teleostei)
TAKAHASHI, Hitoshi; Ph.D. – Dept. of Anat., Div. 1, Hirosaki Univ., Zaifucho 5, HIROSAKI-City, Aomori-ken, 036 Japan
a Development and differentiation of neural crest cells. Chicken, Mouse
TAKANO, K.; M.D., D.M.S. – Dept. of Drug Safety Evaluat., Takeda Chemical Ind. Ltd., 6–3–6 Himuro-cho, Takatsuki, OSAKA, 569 Japan
a Comparative study on development of transfered eggs from various strains. Mouse
TAKANO, K.; Ph.D. – Lab. of Fresh-water Fish Cult., Dept. of Biol., Fac. of Fish., Hokkaido Univ., 3–1–1 Minatocho, HAKODATE 041, Japan
a Histology of gonads and associated duct system. Oryzias latipes, Carassius auratus (Teleostei)
b Histo-physiological studies of viviparity. Poecilia reticulata (Teleostei)
TAKASAKI, Ms. H.; D.Sc. – Dept. of Biol., Osaka Kyôiku Univ., Tennoji-ku, OSAKA 543, Japan
a Cytodifferentiation during cleavage. (Amphibia)
b Cell interactions in relation to cytodifferentiation. (Amphibia)
TAKATA, K.; D.Sc. – Radioisotope Ctr., Fac. of Sci., Nagoya Univ., Chikusa, NAGOYA, 464 Japan
a Effects of lectins on embryonic cells in vitro. Cynops pyrrhogaster (Urodela)
TAKAYA, H.; D.Sc., Prof. – Dept. of Biol., Kônan Univ., Okamoto 8–9–1, Higashinaka-ku, KOBE, 658 Japan
TAKEHIRA, Y.; M.D. – Dept. of Developm. Pathol., Res. Inst. of Environm. Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, 464 Japan
a Effects of low-dose x-irradiation upon the developing brain. Mouse
b Mechanism responsible for malformations of the extremities in the embryo. Mouse, Rat
TAKEICHI, M.; Ph.D. – Lab. of Cell Sci., Inst. of Biophys. and Molec. Biol., Univ. of Kyoto, Kitashirakawa, Sakyo-ku, KYOTO, 606 Japan
a Mechanism of cell contact
TAKEUCHI, I.; Ph.D. – Dept. of Embryol., Inst. of Devl. Res., Aichi Pref. Colony, Kamiya-cho, KASUGAI, Aichi 480–03, Japan.
a Teratogenesis of nervous system. Rat
b EM of nervous system during embryogenesis. Rat
c EM of the three germ layers during early embryogenesis. Rat
TAKEUCHI, S.; D.Sc. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Mechanisms of epithelial migration during wound healing in the embryo. Chicken
TAKITA, T.; Dr.Agr. – Dept. of Mar. Zool., Fac. of Fish., Nagasaki Univ., 1–14 Bunkyo-machi, NAGASAKI, 852 Japan
a Spawning behavior, embryonic development, and young. Calliurichthys spec., Callionymus spec. (Teleostei)
b Distribution of eggs and larvae; description of embryonic development and larvae. Cynoglossus spec. (Teleostei)
TAMANOI, I.; Ph.D., Prof. – Biol. Lab., Chiba Univ., Yayoi-cho 1–33, CHIBA, 260 Japan
a Radiation effects on haematopoietic organs (immunochemistry). Mouse
b Blood cell formation mechanism. Xenopus laevis (Anura), Mouse
TAMAOKI, T.; Ph.D. – Oncol. Res. Grp., Univ. of Calgary, CALGARY, Alta, T2N 1N4, Canada
TANAKA, O.; M. D. – Dept. of Anat., Shimane Med. Univ., Enya-cho, IZUMO, Shimane, 693 Japan
a Experimental teratology. (Rodentia)

b Developmental anatomy of genital organs in embryos and fetuses. Man
c Morphogenesis of external features and some organs in fetuses. Man

TANDAN, B. K.; Ph.D., Prof. – Dept. of Zool., Univ. of Lucknow, LUCKNOW, India

TANIMURA, T.; M.D., Dr. Med. Sci., Prof. – Dept. of Anat., Sch. of Med., Kinki Univ., Sayama-cho, OSAKA, 589 Japan
a Epidemiology and pathogenesis of malformations in embryos. Man
b Teratogenic mechanism of chemicals and their pathogenesis. Mouse, Rat; Macaca fascicularis (Primates)
c Prenatal developmental pharmacology. Species as a and b
d Behavioral teratology. Mouse, Rat

TARTAR, V.; Ph.D., Prof. – Dept. of Zool., Univ. of Washington Field Lab., R.1 Box 250, NAHCOTTA, WA 98637, USA
a Heteropolar grafting to study polarity. Stentor coeruleus (Ciliata)
b Size inheritance and regulation of number of body kineties. Species as a
c Production and analysis of bipolar (2-headed) cells. Condylostoma magnum (Ciliata)

TASSAVA, R. A.; Ph.D. – Dept. of Zool., Ohio State Univ., 1735 Neil Ave., COLUMBUS, OH 43210, USA
a Developmental biology and regeneration. Notophthalmus viridescens, Ambystoma spp. (Urodela)

TAY, D. K. C.; Ph.D. – Dept. of Human Morphol., Sch. of Med., Flinders Univ., BEDFORD PARK, SA 5042, Australia
a Development of the diencephalon and the nucleus isthmi (3H-thymidine autoradiography). Xenopus spec. (Anura)
b Formation of retinodiencephalic projections (microsurgery, 3H-proline, horseradish peroxidase, electrophysiology). Species as a

TAYLOR, G. T.; Ph.D. – Dept. of Biol. Sci., Florida Intern. Univ., Tamiami Campus, MIAMI, FL 33199, USA

TCHANG Tso-run; Prof. – Lab. of Protozool., Dept. of Biol., Shanghai Pedag. Univ., 3663 Chung San Bai Lu, SHANGHAI 200062, People's Rep. of China
a Ultrastructure and cytochemistry of the macronuclear reorganization phenomenon during asexual reproduction, and its relation to the physiological state. Stylonychia mytilus, Euplotes eurystomus (Ciliata)
b Structural and functional relationship between macro- and micronuclei, and their changes during asexual reproduction. Stentor coeruleus, S. polymorphus (Ciliata)
c Relationship of cytoplasmic differentiation and regulation of physiological functions in dorsi-conjugants. Stylonychia mytilus (Ciliata)
d Experiments on nucleo-cytoplasmic relationship after cytoplasmic exchange between distantly related species. Stentor coeruleus, Spirostomum ambiguum, Paramecium bursaria (Ciliata)
e Ultrastructure and cytochemistry of macronuclear regulation in dorsi-conjugants. Same species as c
f Differentiation and dedifferentiation of nuclear apparatus during encystment and excystment, their relation with cytoplasmic changes (cytochemistry, ultrastructure). Same species as c
g Why and how the surplus macronuclei of daughter cells, produced by translocation of macronuclei during asexual reproduction, lose their functions. Same species as c

TCHEN, T. T.; Ph.D., Prof. – Chem. Dept., Wayne State Univ., 435 Chemistry Bldg., DETROIT, MI 48202, USA

TEICHER, Ms. L.; Ph.D. – Dept. of Genet., Albert Einstein Coll. of Med., Yeshiva Univ., 1300 Morris Park Ave., NEW YORK, Bronx, NY 10461, USA
a Developmental biology, developmental genetics, somatic cell genetics. Mouse

TELLONE, Ms. C. I.; B.Sc. – Dept. of Anat., Jefferson Med. Coll., 1020 Locust St., PHILADELPHIA, PA 19107, USA
a Prenatal and perinatal toxicology and teratology

TEMIN, H. M.; Ph.D., Prof. – McArdle Lab. for Canc. Res., Univ. of Wisconsin, 450 N.Randall Ave., MADISON, WI 53706, USA
a The role of RNA-directed DNA polymerase activity in embryonic development; the mechanisms of replication of avian ribodeoxy-viruses; the origin of viruses and the formation of genes for neoplastic transformation. Chicken and other spp. (Aves)

TENG, C. S.; Ph.D. – Dept. of Cell Biol., Baylor Coll. of Med., 1200 Moursund Ave., HOUSTON, TX 77030, USA
a Steroid-hormone-controlled genital organ differentiation and development, part. ontogeny of hormone receptor and acceptor sites and their correlation to development of hormone responsiveness in Müllerian ducts. Chicken
b Regulation of genomic activity during spermatogenesis, part. alteration of genomic composition, i.e. histones and non-histone proteins. Chicken

TERASHIMA, Y.; M.D. – Dept. of Orthop. Surg., Nagoya Univ., Tsuruma-cho, Showa-ku, NAGOYA, 466 Japan

TERAYAMA, H.; Ph.D., Prof. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Mechanism of homeostatic growth regulation in liver regeneration. Rat
b Biochemical changes in cell surface structure of tumor cells in comparison with corresponding normal cells. Rat
c Activation of DNA-synthetic key enzymes in unfertilized eggs upon homogenization and fertilization. Pseudocentrotus depressus and other spp. (Echinoidea)
d Cell surface glycoproteins of uterus and blastocyst. Rat
e Cell surface glycoproteins in developing embryos. Same species as c

TESORIERO, J. V.; Ph.D. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Characterisation of the materials within the major compartments of the developing oocyte (ultracytochemistry, cell fractionation, electrophoresis). Dog
b Morphologic and biochemical changes within developing oocytes as a function of chronologic ageing. (Mammalia)

THEIL, Ms. E. C.; Ph.D., Prof. – Dept. of Biochem., North Carolina State Univ., Box 5050, RALEIGH, NC 27650, USA
a Quantitative change in expression of erythrocyte ferritin genes during development; control by differentiation program and external environment. Rana catesbeiana (Anura), Chicken, Mouse

THOMAS, V.; M.Sc. – Dept. of Zool., Fac. of Sci., M.S. Univ. of Baroda, BARODA 390002, India
a Hormonal effects on tail regeneration. Hemidactylus flaviviridis (Lacertilia)

THOMMES, R. C.; Ph.D., Prof. – Dept. of Biol. Sci., De Paul Univ., 1036 W. Belden Ave., CHICAGO, IL 60614, USA
a Endocrine function of embryonic pancreas. Chicken
b Hypothalamo-pituitary-thyroid function in the embryo. Chicken

THOMPSON, R. P.; Ph.D., Prof. – Dept. of Biol. Sci., State Univ. Coll., BROCKPORT, NY 14420, USA
no research in developmental biology in progress

THOMSON, Ms. D. V.; B.Sc. – Dept. of Reprod. Physiol., Anim. Res. Inst., OTTAWA, Ont. K1A OC6, Canada

THORNLEY, A. L.; Ph.D. – Zool. Dept., Univ. of the Witwatersrand, Jan Smuts Ave., JOHANNESBURG 2001, S. Africa

THURMOND, W.; Ph.D., Prof. – Biol. Sci. Dept., Calif. Polytechn. State Univ., SAN LUIS OBISPO, CA 93407, USA
a Development of adenohypophyseal and hypothalamic melanophore-expanding activity. Hyla regilla (Anura)

TOBIN, A. J.; Ph.D. – Dept. of Biol., Univ. of California, LOS ANGELES, CA 90024, USA
a Use of recombinant DNA probes to analyze the molecular basis of hemoglobin ontogeny in the embryo. Chicken
b Evaluation of the role of post-transcriptional processing of RNA in the regulation of gene expression during erythroid development. Chicken

TOCCI, M. J.; Ph.D. – Dept. of Cell Biol., Roche Inst. of Molec. Biol., NUTLEY, NJ 07110, USA
a Cloning of total mRNA sequences from embryos. Mouse
b Cloning of the t-locus complex. Mouse

TOCHINAI, S.; D.Sc. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N. 10, W.8, SAPPORO 060, Japan
a Origin, migration, and fate of thymus lymphoid stem cells in developing larvae. Xenopus laevis (Anura)

TODER, V.; M.D. – Dept. of Embryol. and Teratol., Ch. Sheba Med. Ctr., Tel-Aviv Univ., TEL HASHOMER, Israel

TOKUYASU, K.; Ph.D. – Ctr. for Devl. Biol. B–022, Univ. of California, San Diego, LA JOLLA, CA 92093, USA

TOMITA, H.; D.Sc. – Dept. of Biol., Nagoya Univ., Chikusa, NAGOYA 464, Japan
a Developmental genetics of body colors and deformities. Oryzias latipes (Teleostei)

TOMPKINS, R.; Ph.D. – Dept. of Biol., Tulane Univ., NEW ORLEANS, LA 70118, USA

TOOLE, B. P.; Ph.D. – Devl. Biol. Lab., Harvard Med. School., Massachusetts Gen. Hosp., BOSTON, MA 02114, USA

TORBIT, C. A., Jr.; Ph.D. – Medina Valley Anim. Reprod. Lab., P.O.Box 598, CASTROVILLE, TX 78009, USA
a Embryo transfer; development of a culture system for short-term storage (4-5 days) of preimplantation embryos; their freeze preservation. Mouse, Cow
b Mechanism of control of metabolic rate and protein synthesis during delayed implantation. Mouse
c Development after fusion of two unfertilised eggs with Sendai virus. Mouse

TOTO, P. D.; D.D.S., Prof. – Dept. of Oral Pathol., Sch. of Dent., Loyola Univ., 2160 South First Ave., MAYWOOD, IL 60153, USA
a Age changes in dental tissues, oral mucosa and salivary glands. Rat, Man
b Effects of in vivo local administration of tissue culture medium on sutural bone growth (quantitative autoradiography). Rat
c Effect of mechanical tension on sutural growth (quantitative autoradiography). Macaca mulatta (Primates)
d Effect of tissue culture medium on repair of experimental jaw bone defects. Same species as c
e Effect of tissue culture medium upon cartilage growth in temporo-mandibular joint. Same species as c

TRAEGER, F. J.; Ph.D. – Div. of Nucl. Pathol. and Oncol., Mercy Hosp., 1400 Locust St., PITTSBURGH, PA 15219, USA
a Effect of gene cn on function and ultrastructure of differentiating skeletal and cardiac muscle in ovo and in vitro. Chicken
b Effects of lectins on myoblast proliferation, aggregation and fusion, and on related aspects of cellular physiology and ultrastructure in vitro. Same species as a

TRASLER, Ms. D. G.; Ph.D. – Dept. of Biol., McGill Univ., 1205 McGregor Ave., MONTREAL, Que. H3A 1B1, Canada

TRELSTAD, R. L.; M.D. – Dept. of Pathol., Shriners Burns Inst., Massachusetts Gen. Hosp., BOSTON, MA 02114, USA

a Development of the fibrous architecture of the orthogonal collagen lamellae in the corneal stroma. Chicken
b Characterization of the molecular species of collagen in developing connective tissues. Chicken
c Collagen fibrillogenesis in vivo and in vitro using collagen types I, II, III and IV. Chicken
d Basement membrane structure and function at epithelial-mesenchymal interfaces. Chicken

TRIFFITT, J. T. T.; Ph.D. – Bone Res. Lab., Univ. of California, 1000 Veteran Ave., LOS ANGELES, CA 90024, USA
a Bone morphogenesis: physiology and biochemistry of bone matrix; bone and dentin derived bone morphogenetic protein; transplantation; calcification; ossification. Mus perognathus, Rattus sigmoidon, Cavia porcellus (Rodentia), (Lagomorpha), Man

TRINKAUS, J. P.; Ph.D., Prof. – Dept. of Biol., Kline Biol. Tower, Yale Univ., NEW HAVEN, CT 06520, USA
a Mechanism of normal morphogenetic cell movements during embryogenesis, of invasive movements of cancer cells, and of contact inhibition of cell movement. Fundulus heteroclitus (Teleostei), Chicken, normal and transformed cell lines (Mammalia)
b Mechanism of tissue cell locomotion, both in vitro and in vivo. Species as a
c Role of microtubules and contractile microfilaments in cell form changes and in locomotion. Species as a
d Redistribution of cell surface during protrusive activity. Species as a

TRIONE, E. J.; Dr., Prof. – Dept. of Bot. and Plant Pathol., Oregon State Univ., CORVALLIS, OR 97331, USA
a Developmental physiology of flowering. Triticum vulgare (Gramineae)
b Developmental physiology of wheat and sugarcane parasites. Tilletia spp. Ustilago spp. (Basidiomycetes)

TRYTEK, R. E.; M.A. – Dept. of Zool., Washington State Univ., PULLMAN, WA 99164, USA
a Synthesis of essential amino acids by bacterial symbionts in fat body and ovary, incorporation of essential nutrients into vitellogenin during oogenesis. Blattella germanica (Blattodea)
b Assay for isocitrate lyase and malate synthase of the glyoxylate cycle during embryogenesis; search for glyoxysomes in non-diapausing eggs (EM). Species as a

TSAFRIRI, A.; Ph.D. – Dept. of Horm. Res., Weizmann Inst. of Sci., P.O.B. 26, REHOVOT, Israel
a Control of oocyte maturation. Mouse, Rat

TSUDA, M.; Ph.D. – Dept. Devl. Biol., Natl. Inst. for Basic Biol., Myodaiji, OKAZAKI, 444 Japan
a In vitro faithful transcription of silk fibroin gene. Bombyx mori (Lepidoptera)

TSUJIMOTO, Y.; Ph.D. – Lab. of Cell Different., Natl. Inst. for Basic Biol., Myodaiji, OKAZAKI, 444 Japan
a Promoter of fibroin gene transcription. Bombyx mori (Lepidoptera)

TSUKAHARA, J.; D.Sc. – Dept. of Biol., Coll. of Lib. Arts, Saitama Univ., URAWA, Saitama, 388 Japan
a Maturation division of the egg. Asterina pectinifera, Asterias amurensis (Asteroidea)

TSUNODA, Y.; Ph.D. – Natl. Inst. of Anim. Industry, Tsukuba Norindanchi P.O.Box 5, Ibaraki, 305 Japan
a Antigenicity of eggs and effect on reproduction. Mouse, Rat, Rabbit
b Freezing of eggs. Rabbit; Capra hircus (Artiodactyla)

TSUSUÉ, Ms. Y. M.; Ph.D. – Embryol. Sect., Biol. Dept., Tokyo Metropolitan Univ., 2–1–1, Fukazawa, Setagaya-ku, TOKYO 158, Japan
a Mechanism of fruiting body formation. Coprinus macrorhizus (Basidiomycetes)

TUCKER, G. S.; Ph.D. – Dept. of Ophthalmol., W.L.McKnight Vision Res. Ctr., Univ. of Miami, 1638 N.W. 10th Ave., MIAMI, FL 33136, USA
a Quantitative and qualitative EM of retinal differentiation in animals reared normally and with lid-sutures. Cat
b Effects of surgically-induced and naturally occurring strabismus on postnatal differentiation of retinal ganglion cells in the area centralis. Cat
c Differentiation of neurons in the retina (LM, EM, Golgi impregnation); postnatal development of neuronal circuitry. Cat
d Morphometric and comparative analyses of the effects of aging on the retina. Rat, Cat, Man

TUNG, T. C.; Dr., Prof. – Inst. of Oceanol., Acad. Sinica, PEKING, Haitien, People's Rep. of China

TURLEY, Ms. E. A.; Ph.D. – Dept. of Biol., Johns Hopkins Univ., BALTIMORE, MD 21218, USA

TURNER, R. S., Jr.; Ph.D. – Biol. Dept., Wesleyan Univ., MIDDLETOWN, CT 06457, USA
a Cell surface differentiation associated with primary mesenchyme formation (radioactive labeling; lectin agglutinations, fluorography; cell reaggregation). Strongylocentrotus purpuratus, Arbacia punctulata (Echinoidea)
b Changes in calcium associated processes during primary mesenchyme formation (ionophores; electron microscopy; cell reaggregation). Same species as a

TWEEDELL, K. S.; Ph.D., Prof. – Dept. of Biol., Univ. of Notre Dame, NOTRE DAME, IN 46556, USA
a Oocyte development and control of egg maturation. Pectinaria gouldii (Polychaeta)
b Cell source and movement during hydranth regeneration. Tubularia crocea (Hydrozoa)
c Transmission of oncogenic herpes virus in embryonic and larval stages. Rana pipiens (Anura)
d Tissue and organ culture of embryonic and neoplastic cells. Same species as c

TWEEDLE, Ch. D.; Ph.D. – Depts. of Anat. and Zool., Michigan State Univ., EAST LANSING, MI 48824, USA
a Formation of neuromuscular junctions in developing muscle. Rat
b Collateral nerve sprouting in injured muscle. (Mammalia)
c Development of the fasciculus cuneate-fasciculus gracilis complex. (Mammalia)

TYLER, M.J.; M.Sc. – Dept. of Zool., Univ. of Adelaide, North Terrace, G.P.O.Box 498, ADELAIDE, S.A. 5001, Australia
a Morphology and ecology of larvae; metamorphosis. Litoria spec., Limnodynastes spec., Uperoleia spec., Ranidella spec. and others (Anura)
b Teratogenic action of long term exposure of tadpoles to herbicides. Limnodynastes tasmaniensis (Anura)
c Teratogenic action of natural radon radiation upon tadpoles. (Hylidae & Leptodactylidae: Anura)

TYLER, Ms. M. S.; Ph.D. – Dept. of Zool., Univ. of Maine, ORONO, ME 04469, USA
a Influence of epithelium on membrane bone formation in cranio-facial region. Chicken, Mouse
b Factors which control epithelial differentiation and the role that mesenchyme and extracellular matrices play in directing and influencing histogenesis and morphogenesis of epithelia from oral-facial organs. Chicken, Mouse

TYNDALE-BISCOE, C. H.; Ph.D. – Div. of Wildlife Res., C.S.I.R.O., P.O.Box 84, LYNEHAM, A.C.T. 2602, Australia
a Fine structure of the blastocyst. Macropus eugenii (Marsupialia)
b Factors involved in resumption of development by blastocysts in diapause. Same species as a
c In vitro culture of blastocyst and vesicle stages. Same species as a

UCHIDA, T. A.; Dr.Agr., Prof. – Zool. Lab., Fac. of Agric., Kyûshû Univ., 46–06, FUKUOKA, 812 Japan
a Reproduction and embryology. Pipistrellus abramus, Miniopterus schreibersi, Rhinolophus ferrumequinum (Chiroptera)
b EM of the mechanism of fertilisation. Species as a

UEMURA, I. – Dept. of Biol., Tokyo Metropolitan Univ., 2–1–1 Fukazawa, Setagaya-ku, TOKYO 158, Japan
a Electron microscopy of calcification in the embryo. Arbacia punctulata (Echinoidea)
b Electron microscopy of cortical changes in early embryology. Hemicentrotus pulcherrimus (Echinoidea)

ULBERG, L. C.; Ph.D., Prof. – Dept. of Anim. Sci., North Carolina State Univ., P.O.Box 5127, RALEIGH, NC 27607, USA

UNNI, B. G.; M.Sc. – Dept. of Biochem., Fac. of Sci., Allahabad Univ., ALLAHABAD 211002, India

UNSWORTH, B. R.; Ph.D. – Dept. of Biol., Marquette Univ., 530 North 15th St., MILWAUKEE, WI 53233, USA
a Control of myogenesis. Rat

UPHOLT, W. B.; Ph.D. – Depts. of Pediat. and Biochem., Univ. of Chicago, HM 413, CHICAGO, IL 60637, USA
a Control of gene expression during differentiation of dissociated limb bud (stage 25) into cartilage in vitro. Chicken

URIST, M. R.; M.D. – Bone Res. Lab., Univ. of California, 1000 Veteran Ave., Rm.A3–34, LOS ANGELES, CA 90024, USA
a Bone morphogenesis: physiology and biochemistry of bone matrix in health and disease; regulation of bone generation, growth and regeneration by a new enzyme system, BMP-BMPase; osteosarcoma derived bone morphogenetic protein; transplantation; calcification; ossification. Mus perognathus, Rattus sigmoidon, Cavia porcellus (Rodentia), (Lagomorpha), Homo sapiens (Primates)

VACQUIER, V. D.; Ph.D. – A–002 Marine Biol. Res. Div., Scripps Inst. of Oceanogr., U.C.S.D., LA JOLLA, CA 92093, USA
a Morphology and biochemistry of fertilisation. (Echinoidea)

VAFOPOULOU-MANDALOS, Ms. X.; Ph.D. – Biol. Sci. Grp., Sect. Devl. Biol., Univ. of Connecticut, Life Sci. Bldg. U–42, STORRS, CT 06268, USA
a Hemoglobin synthesis during larval development. Chironomus spec. (Diptera)

VALDEZ TOLEDO, Ms. C. L. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 4000 S.M. de TUCUMÁN, Argentina
a Descriptive analysis of oogenesis. Bufo arenarum (Anura)
b Thyroid gland and epididymal function. Rat
c Endocrine control of metabolism during oocyte maturation. Same species as a

VANABLE, J. W., Jr.; Ph.D. – Dept. of Biol. Sci., Purdue Univ., WEST LAFAYETTE, IN 47907, USA
a The possibility of selectivity in neuromuscular associations: extrinsic ocular muscles. Xenopus laevis (Anura)
b Visual mutants as a tool to study eye development. Mouse
c Electrical currents and regeneration. Triturus viridescens, Ambystoma mexicanum (Urodela), Xenopus laevis, Rana pipiens (Anura)

VAN ALTEN, P. J.; Ph.D., Prof. – Dept. of Anat., Coll. of Med., Univ. of Illinois, P.O.Box 6998, CHICAGO, IL 60680, USA
a Ontogeny of the immunological mechanism. Chicken
b Development of lymphocyte competence to respond to mitogens in vitro. Chicken, Rat
c Isotope studies of blood cell formation, part. lymphocytopoiesis. Chicken
d Development of the reticulo-endothelial system (RES), both cell and serum (phagocytic promoting factors); relation of central lymhoid organs on the RES. (Aves)

VAN DER MEULEN, Ms D. M.; B.Sc. (Hons.) – Physiol. Dept., Fac. of Med., Univ. of Natal at Durban, P.O.Box 17039, CONGELLA 4013, S. Africa
a Differentiation and development of pancreatic islet cells. Gallus gallus, Coturnix c. japonica (Aves)

VAN DER WESTHUIZEN, Ms. L. de K.; M.Sc. – Depts. of Anat. and Zool., Univ. of the Orange Free State, P.O.Box 339, BLOEMFONTEIN 9300, S. Africa
a Experimental encephalocele. Chicken
VAN EXAN, R. J.; Dr. – Dept. of Biol., Dalhousie Univ., HALIFAX, N.S. B3H 4J1, Canada
a Induction of mucous metaplasia of skin and hair follicles in vitro by vitamin A (EM, separation and recombination of dermis and epidermis, autofluorescence of vitamin A). Mouse
b Differentiation of the dermis, its cell types and intercellular matrix in 12–18 day embryos (histochemistry, LM and EM). Mouse
c Epithelial induction of bone formation in the ectomesenchyme of the embryonic mandible (histology, EM, tissue separation, transfilter recombination of epidermis and ectomesenchyme). Chicken
VAN STONE, J. M.; Ph.D., Prof. – Dept. of Biol., Trinity Coll., HARTFORD, CT 06106, USA
a General study of limb regeneration. Rana sylvatica (Anura)
VARON, S. S.; M.D., Prof. – Ctr. for Devl. Biol. M–001, Univ. of Calif., San Diego, LA JOLLA, CA 92093, USA
VASAN, N. S.; D.V.M., Ph.D. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Role of proteoglycans in tissue interaction and differentiation. Chicken
b Proteoglycans in limb development. Chicken
VAUGHN, J. E.; Ph.D. – Div. of Neurosci., City of Hope Res. Inst., 1450 E. Duarte Rd., DUARTE, CA 91010, USA
a Development of neuroglial cells in the CNS (EM, autoradiography). Rat
b EM of spinal cord development. Rat, Mouse
c LM and autoradiography of spinal cord development. Mouse
VEKEMANS, M.; M.D. – Dept. of Biol., McGill Univ., 1205 McGregor Ave., MONTREAL, Que. H3A 1B1, Canada
VENEZIANO, P. P.; Ph.D., Prof. – Dept. of Biol., Wilbur Wright Coll., 3400 N. Austin Ave., CHICAGO, IL 60634, USA
a Effects of low intensity applied magnetic fields on developing nervous system. Chicken
b Effects of strong applied magnetic fields on heart rate. Chicken
VENKATASUBRAMANIAN, K.; Ph.D. – Div. of Fetal Pharmacol., Children's Hosp. Res. Found., Elland & Bethesda Aves., CINCINNATI, OH 45229, USA
a Role of cell adhesion and movement (chemotaxis) in early embryogenesis
b Role of cell movement and membrane changes in birth defects
VINCENT, W. S.; Ph.D., Prof. – Dept. of Biol. Sci., Univ. of Delaware, NEWARK, DE 19711, USA
VOGEL, S.; Ph.D. – Dept. of Physiol., Sch. of Med., Univ. of Virginia, CHARLOTTESVILLE, VA 22908, USA
a Receptors on young embryonic hearts
VOLPE, E. P.; Ph.D., Prof. – Dept. of Biol., Tulane Univ., NEW ORLEANS, LA 70118, USA
VOORHEES, F. R.; Ph.D. – Dept. of Biol., Centr. Missouri State Univ., WARRENSBURG, MO 64093, USA
a Mechanisms controlling reproductive system development. Aedes spec., Drosophila spec. (Diptera)
WADA, M.; Dr. – Dept. of Biol., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan
a Timing, position and direction of cell division in gametophytes. Adiantum capillus-veneris (Filices)
WADE, R. J.; B.S.A. – Dept. of Dairy Sci., Coll. of Agric. Sci., Clemson Univ., CLEMSON, SC 29631, USA
a Fatty acids as a possible energy source; culture of two-cell embryos in medium containing omega fluorinated fatty acids which, when metabolised, will act as metabolic inhibitors of the tricarboxylic acid cycle. (Viability assessed with fluorescence). Rabbit
WAELSCH, Ms. S. GLUECKSOHN; Ph.D., Prof. – Dept. of Genet., Albert Einstein Coll. of Med., Yeshiva Univ., 1300 Morris Park Ave., NEW YORK, Bronx, NY 10461, USA
a Genetic control of cellular and biochemical differentiation. Mouse
b Somatic cell hybridisation to study nature of genetic defect in deletion mutations. Mouse
c Hybridisation of rat hepatoma and mutant mouse liver cells
WAINWRIGHT, Ms. L. K.; Ph.D., Prof. – Biol. Dept., Mt. Saint Vincent Univ., 166 Bedford Highway, HALIFAX, N.S. B3M 2J6, Canada
a Regulation of serotonin acetyltransferase activity of the pineal gland in organ culture. Chicken
WAINWRIGHT, S. D.; Ph.D., Prof. – Biochem. Dept., Med. Sch., Dalhousie Univ., Sir Charles Tupper Bldg., HALIFAX, N.S. B3H 4H7, Canada
WAKAHARA, M.; D.Sc. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N.10, W.8, SAPPORO, 060 Japan
a Mechanism of differentiation of primordial germ cells. Xenopus laevis (Anura)
b Factor(s) causing initiation of meiosis. Same species as a
WAKITA, M.; Dr.Med. – Dept. of Oral Anat., Sch. of Dent., Niigata Univ., NIIGATA, 951 Japan
a Cell differentiation of ameloblasts. (Teleostei), Mus musculus (Rodentia)
b Phylogenetic development of tooth enamel. (Vertebrata)
c Relations between replacement pattern in very early stages of tooth development and distribution of neural crest cells that initiate the teeth. (Amphibia)
WALDMAN, S. A.; Ph.D. – Div. of Clin. Pharmacol., Dept. of Intern. Med., Univ. of Virginia, CHARLOTTESVILLE, VA 22901, USA
a Chemical composition and molecular organisation of plasma membranes in embryogenesis and oncogenesis. Rat

b Role of guanylate cyclase in membrane-mediated regulation of cellular events in normal, regenerating, and neoplastic tissues. Rat

WALKER, B. E.; M.D., Ph.D., Prof. – Dept. of Anat., Michigan State Univ., A519 East Fee Hall, EAST LANSING, MI 48824, USA

a Teratogenic effects of diethylstilbestrol. Mouse

WALKER, Ch. W.; Ph.D. – Dept. of Zool., Univ. of New Hampshire, Spaulding Bldg., DURHAM, NH 03824, USA

a Structural and functional studies of cell proliferation and cytodifferentiation during regeneration and spermatogenesis. Asterias vulgaris, Stephanasterias albula (Asteroidea)

WALLACE, J. A.; Ph.D. – Lab. Devl. Neurobiol., Dept. of Anat., Sch. of Med., Univ. of North Carolina, 111 Swing Bldg 217H, CHAPEL HILL, NC 27514, USA

a Roles of monoamines in early embryonic morphogenesis as studied by the teratogenetic effects of drugs used to manipulate monoamine levels during development. Chicken

WALLACE, R. A.; Ph.D. – Biol. Div., Oak Ridge Natl. Lab., P.O.Box Y, OAK RIDGE, TN 37830, USA

WARD, R. T.; Ph.D. – Anat. Dept., Downstate Med. Ctr., State Univ. of New York, 450 Clarkson Ave., NEW YORK, Brooklyn, NY 11203, USA

a Changes in crystalline form of the protein yolk in young oocytes. Rana pipiens (Anura)

b Reconstruction of the nuclear pore complex from serial sections of oocytes. Same species as a

WARD, S.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Parkway, BALTIMORE, MD 21210, USA

a Analysis of fertilization using fertilization-defective mutants; these are characterized by light and electron microscopy, immunology, and biochemistry of lipids and proteins. Caenorhabditis elegans (Nematoda)

b Analysis of early embryogenesis using mutants and inhibitory drugs. Same species as a

c Sperm motility. Same species as a, and Ascaris suum (Nematoda)

d Genetic control of cell morphology. Species as a

WARING, G. L.; Ph.D. – Biol. Dept., Marquette Univ., 530 N. 15th St., MILWAUKEE, WI 53233, USA

a Genetic and molecular analysis of chorion gene expression. Drosophila melanogaster (Diptera)

b Immunocytochemical analysis of chorion ultrastructure. Species as a

WARSHANA, Ms. K. Z.; B.Sc. – Dept. of Zool., Fac. of Sci., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt

a Effect of potassium perchlorate on development of thyroid and pituitary glands. Bufo regularis (Anura) (with M. I. MICHAEL)

WASHITANI, Ms. S.; M.Sc. – Lab. of Biol., Hitotsubashi Univ., Kunitachi, TOKYO, 186 Japan

a Role of cytoplasm in cell cycle in early embryo. Hemicentrotus pulcherrimus, Pseudocentrotus depressus and other spp. (Echinoidea), Asterina pectinifera, Asterias amurensis and other spp. (Asteroidea)

WASSERSUG, R. J.; Ph.D. – Dept. of Anat., Univ. of Chicago, CHICAGO, IL 60637, USA

WATANABE, H.; Ph.D. – Shimoda Marine Res. Ctr., Univ. of Tsukuba, Shimoda 5–10–1, Shizuoka-ken, SHIMODA, 415 Japan

a Recognition of specificity in compound forms. Botryllus primigenus, Botrylloides violaceum Clavelina concrescens (Ascidiacea)

b Asexual reproduction of compound forms. Perophora japonica, Polycitor mutabilis, Botryllus primigenus, Metandrocarpa taylori (Ascidiacea)

c Tissue culture. Perophora japonica, Polycitor mutabilis, Botryllus primigenus (Ascidiacea)

d Periodical spawning in a compound form. Polyandrocarpa misakiensis (Ascidiacea)

WATANABE, K.; Dr., Prof. – Dept. of Biol., Sch. of Dent. Med., Tsurumi Univ., 2–1–3 Tsurumi, YOKOHAMA, 230 Japan

WATANABE, K.; Ph.D. – 1st Dept. of Anat., Fukui Med. Univ., Matsuoka-cho, Yoshida-gun, FUKUI, 910–11, Japan

a Neuroendocrine circuits regulating gonadal development under photic stimulation, part. luteinising hormone releasing factor (LHRH) and aminergic neuron systems. Quail

b Development of enterocephalic photoreceptor cells in vivo and in vitro using a specific antibody against the photo-receptive protein opsin. Quail, Chicken, Rat

WATANABE, K.; D.Sc. – Kanebo Inst. for Canc. Res., 1–9–1, Misaki-cho, Hyogo-ku, KOBE, 652 Japan

WATANABE, T.; Ph.D. – Dept. of Hyg. and Prevent. Med., Sch. of Med., Yamagata Univ., Zao-lida, YAMAGATA 990–23 Japan

a Origin of aneuploid formations studied in metaphase II oocytes. Mesocricetus auratus, Mouse (Rodentia)

WATERMAN, R. E.; Ph.D., Prof. – Dept. of Anat., Univ. of New Mexico, North Campus, ALBUQUERQUE, NM 87131, USA

a SEM and TEM of normal and abnormal oro-facial development. (Rodentia), Man

b Migration of neural crest cells. Brachydanio rerio (Teleostei)

WATSON, A. G. – Dept. of Metab., Box J-144 JHMHC, Coll. of Vet. Med., Univ. of Florida, GAINESVILLE, FL 32610, USA

WATTERSON, R. L.; Ph.D., Prof. – Dept. of Genet. and Developm., Univ. of Illinois, 515 Morrill Hall, URBANA, IL 61801, USA

WEBB, A. C.; Ph.D. – Dept. of Biol. Sci., Wellesley Coll., WELLESLEY, MA 02181, USA

a Biogenesis of oocyte mitochondria: 1. characterisation of poly(A)-associated mitochondrial RNAs and their purification; 2. synthesis of radioactive cDNA from mitochondrial poly(A) + RNAs; 3. in vitro translation of poly(A) + RNAs in rat liver sub-mitochondrial system; 4.

analysis of temporal expression of mitochondrial genome during oogenesis using cDNA "back-hybridisation". Xenopus laevis (Anura)

b Nucleocytoplasmic interactions during oogenesis: 1. formation of mitochondrial hybrids by microinjection of organelles from one species to another; 2. detection of hybrid mitochondrial populations by radioactive cRNA synthesised from purified mitochondrial DNAs and restriction endonuclease patterns; 3. analysis of nucleocytoplasmic transfer of macromolecules in "hybrids". Xenopus laevis, X. tropicalis, X. borealis (Anura)

WEBB, Ms. C. A. G.; Ph.D. – Dept. of Horm. Res., Weizmann Inst. of Sci., P.O.B. 26, REHOVOT, Israel

a Stage specific cell surface proteins in preimplantation embryos; correlation of surface macromolecules with differentiative fate (immunology & biochemistry). Mouse

b Role of cytoskeletal components in preimplantation development; their localisation studied by immunofluorescence. Mouse

c Induction of teratocarcinomas; regulation by immunological and hormonal manipulation of host. Mouse

WEE, Ms. E. L.; Ph.D. – Div. of Fetal Pharmacol., Children's Hosp. Res. Found., Elland & Bethesda Aves., CINCINNATI, OH 45229, USA

a Morphogenetic movements in palate shelf: role of contractile proteins and neurotransmitters; teratogens causing cleft palate.

WEGMANN, R.; Dr.Méd., D.Sc., Prof. – see part 1, p. 117

WEINSTOCK, A.; D.D.S., Ph.D., Prof. – Ctr. for Health Sci., Sch. of Dent. 63–032, Univ. of California, LOS ANGELES, CA 90024, USA

a Development of bone and tooth matrices, mainly glycoproteins (electron microscope radioautography). Rat

b Biosynthesis and secretion of bone and dentin procollagen (subcellular fractionation and radioautography). Chicken, Rat

WEIRICH, G.; Dr.rer.nat. – Insect Physiol. Lab., U.S. Dept. of Agric., AR Sci. and Educ. Admin., BARC-East Bldg. 467, BELTSVILLE, MD 20705, USA

a Enzymes involved in the metabolism of juvenile hormone, especially their regulation and specificity. Manduca sexta, Hyalophora cecropia (Lepidoptera)

b Proteins involved in transport and cellular action of juvenile hormone. Same species as a

c Enzymes of ecdysone biosynthesis and degradation; their relation to embryonic and post-embryonic development; tissue- and subcellular localization; control mechanisms and inhibitors. Manduca sexta (Lepidoptera)

WEIS (SHULMAN), Ms. J. S.; Ph.D., Prof. – Dept. of Zool., Rutgers Univ., 195 University Ave., NEWARK, NJ 07102, USA

a Effects of environmental pollutants on development. Fundulus heteroclitus, Cyprinodon variegatus (Teleostei)

b Experimental modification of regenerative response in limbs and fins. Same species as a, and Rana spec. (Anura)

c Regeneration of limbs: modification by environmental conditions. Uca spec. (Decapoda, Crustacea)

WEIS, P.; D.D.S., Prof. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA

a Teratogenetic effect of natural and artificial environmental variables, part. heavy metals. Fundulus heteroclitus (Teleostei)

b Mechanisms of tolerance to teratogenic effects of heavy metals. Species as a

WEISS, L.; Sc.D., M.D., Ph.D., Prof. – Dept. of Exper. Pathol., Roswell Park Mem. Inst., 666 Elm St., BUFFALO, NY 14263, USA

a Biophysics of cell interactions

WEISS, P. A.; Ph.D., Sc.D., Prof. (Emer.) – Dept. of Developm. & Neural Biol., Rockefeller Univ., 66th St. and York Ave., NEW YORK, NY 10021, USA

WENGER, B. S.; Ph.D., Prof. – Dept. of Anat., Univ. of Saskatchewan, SASKATOON, Sask. S7N 0W0, Canada

WERNER, Y. L.; Ph.D. – Dept. of Zool., Hebrew Univ., JERUSALEM, Israel

WESSELLS, N. K.; Dr. – Dept. of Biol. Sci., Stanford Univ., STANFORD, CA 94305, USA

WEST, J. D.; Ph.D. – Dept. of Molec. Biol., Roswell Park Mem. Inst., 666 Elm St., BUFFALO, NY 14263, USA

WEST, N. R.; Ph.D., – Dept. of Anat., Upstate Med. Ctr., State Univ. of New York, 766 Irving Ave., SYRACUSE, NY 13210, USA

a Differentiation sequence of proteins in neural crest cells. Chicken

WESTENBERG, I. S.; Ph.D. – Inst. for the Study of Devl. Disabilities, 1640 W. Roosevelt Rd., CHICAGO, IL 60608, USA

a Possible links between mutant genes at the albino locus and: 1. abnormal numbers of axons in the optic nerve and tracts (EM); 2. abnormal timing of developmental events, e.g. the time of eye-opening; 3. gross deformities of the optic nerve. Mouse, Rat

b Possible links between mutant genes at the albino locus and abnormal drug absorption, distribution, metabolism, excretion, brain sensitivity and tolerance. Mouse, Rat

WESTERMAN, R. A.; Ph.D. – Dept. of Physiol., Monash Univ., Wellington Rd., CLAYTON, Vict. 3168, Australia

a Electrophysiology, histology, and ultrastructure of functional neuromuscular connections during normal neonatal development and after various experimental reinnervations. Cat

b Evolution of locomotor skills in neonates. Cat

WESTON, J. A.; Ph.D., Prof. – Dept. of Biol., Univ. of Oregon, EUGENE, OR 97403, USA
a Migration and differentiation of neural crest cells. Chicken, Mouse
b Cell surface as an effector of cell specificity. Same species as a
c Action of morphogenetic agents on embryonic cell behavior in vivo and in vitro. Chicken
WHITELAW, S. – Dept. of Zool., Univ. of New England, ARMIDALE, N.S.W. 2351, Australia
a Regeneration and development. Blattella germanica (Blattodea) (with A.F.O'FARRELL)
WHITT, G. S.; Ph.D. – Dept. of Genet. and Developm., Univ. of Illinois, 515 Morrill Hall, URBANA, IL 61801, USA
WHITTAKER, J. R.; Ph.D. – Wistar Inst. of Anat. and Biol., 36th St. at Spruce, PHILADELPHIA, PA 19104, USA
a Mechanisms regulating melanogenesis in normal differentiating pigment cells and in malignant tumor cells. Ciona intestinalis (Ascidiacea), Chicken, Mesocricetus auratus (Rodentia)
b Egg cytoplasmic determinants in mosaic embryos for histospecific enzyme differentiations: acetylcholinesterase, tyrosinase, and alkaline phosphatase. Ciona intestinalis, Styela partita, Molgula manhattensis (Ascidiacea)
c Differentiation of the pineal gland in vitro and in situ. Chicken
d Structural and histochemical features of development relating to the origin of the larva, its ecological adaptations, and the evolution of pelagic forms. Various spp. (Ascidiacea; Larvacea)
WHITTEN, W. K.; D.Sc., B.V.Sc. – The Jackson Lab., BAR HARBOR, ME 04609, USA
WILDE, Ch. E., Jr.; Ph.D., Prof. – Dept. of Zool., Univ. of Rhode Island, KINGSTON, RI 02881, USA
a Order of protein synthesis (gene expression) in very early embryogenesis. Fundulus spec. (Teleostei)
b Mechanism of growth of the balancer. (Urodela)
c Regeneration of the lung. (Urodela)
d Positional information and its cytolocation in early embryogenesis in Fundulus spec. (Teleostei) and in regeneration (Urodela)
e Positional information in embryogenesis and tentacle regeneration. Ilyanassa spec. (Gastropoda)
f Symmetry relations in embryogenesis
WILEY, Ms. L. M.; Ph.D. – Dept. of Anat., Univ. of Virginia, Med. Ctr., Box 439, CHARLOTTESVILLE, VA 22908, USA
a Control of morphogenetic events by cell surface and cytoskeleton during pre-implantation development (embryo culture, use of anti-microtubular (colcemid) and anti-microfilament (cytochalasin B) drugs together with antisera specific for stage-specific, embryo-specific cell surface components (immunolabeling, indirect immunofluorescence, immunoferritin.) Mouse
b Developmental potential of cells in early embryos; epigenetic control of determination. Mouse
c Characterisation of human chorionic gonadotropin (hCG)-like antigens in pre-implantation embryos (immunoprecipitation combined with SDS-PAGE. Mouse
d Role of maternal oocyte components in the regulation of preimplantation development of the embryo, using embryonic antigens as developmental probes. Mouse
WILLIAMS, D. T.; B.S. – Merck Inst. for Therap. Res., P.O.Box 2000, RAHWAY, NJ 07065, USA
WILLIAMS, Ms. L. A.; Ph. D. – Dept. of Biol., West Virginia Univ., Brooks Hall, MORGANTOWN, WV 26506, USA
a Control mechanisms in the regeneration of ocular lens and iris. Notophthalmus viridescens (Urodela)
WILLIAMS, N. E.; Ph.D., Prof. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA
a Control mechanisms which underlie the synthesis and assembly of microtubules and surface membrane during the regeneration of cilia. Tetrahymena thermophila (Ciliata)
b Analysis of the cell cycle. Same species as a
WILSON, Ms. D. BURDA; Ph.D. – Div. of Anat., M–004, Med. School, Univ. of California, San Diego, LA JOLLA, CA 92093, USA
a Mechanisms of teratogenesis in the embryonic and neonatal nervous system (autoradiography, TEM, SEM, tissue culture). Chicken, Mouse; Macaca mulatta (Primates)
b Cellular kinetics in the embryonic nervous system (normal and abnormal); developmental genetics of neurological mutants. Species as a
c Normal and abnormal growth and differentiation of the pituitary gland. Species as a
WILSON, P.; Ph.D. – Dept. of Behav. Biol., Res. Sch. of Biol. Sci., Australian Natl. Univ., CANBERRA, A.C.T. 2600, Australia
a Developmental physiology of the visual system (neurophysiology, neuroanatomy). Chicken, Rat
b Developmental physiology of the neuromuscular system (neurophysiology, neuroanatomy). Chicken
c Developmental physiology of the somatic sensory system (neurophysiology, neuroanatomy). Macropus eugenii (Marsupialia)
WILT, F. H.; Ph.D., Prof. – Dept. of Zool., Univ. of California, BERKELEY, CA 94720, USA
a Mechanism of origin of hemoglobin-synthesizing machinery during development. Chicken
b Activation of protein and RNA synthesis in cleaving eggs. Strongylocentrotus purpuratus (Echinoidea)
c RNA synthesis during development. Same species as b
WIMSATT, W. A.; Ph., Prof. – Div. of Biol. Sci., Cornell Univ., G45 Emerson Hall, ITHACA, NY 14853, USA
WISCHNITZER, S.; Ph.D., Prof. – Dept. of Biol., Yeshiva Univ., 186th St. & Amsterdam Ave., NEW YORK, NY 10033, USA

WISELY, Ms. V. M.; M.Sc. – Zool. Dept., Canterbury Univ., Private Bag, CHRISTCHURCH 1, New Zealand
a Placentation. Leiolopisma nigriplantare and other New Zealand spp. (Scincidae, Lacertilia)
WISEMAN, L. L.; Ph.D. – Dept. of Biol., Coll. of William and Mary, WILLIAMSBURG, VA 23185, USA
a Adhesion and movement of embryonic cells in culture. Chicken, Mouse
WITMAN, G. B.; Ph.D. – Dept. of Biol., Princeton Univ., PRINCETON, NJ 08544, USA
a Morphogenesis of organelles; synthesis, assembly and function of ciliary and flagellar components. Chlamydomonas spec. (Volvocales, Chlorophyceae)
WOLFE, H. G.; Ph.D., Prof. – Dept. of Physiol. and Cell Biol., Univ. of Kansas, LAWRENCE, KS 66045, USA
a Genetic and physiological bases (cellular level) for differences in gonadotropin response in gonads of lines selected for high and low gonadotropin-induced ovulation rate: 1. 125–I–FSH and 125–I–LH binding of testicular cell fractions; 2. colony formation of Sertoli cells in culture; 3. testosterone release in culture. Mouse
WOLFE, J. S.; Ph.D. – Dept. of Biol., Wesleyan Univ., MIDDLETOWN, CT 06457, USA
a Developmental aspects of conjugation (autoradiography, EM, density gradient centrifugation, electrophoresis, cell cycle analyses, chemical mutagenesis, surface probes). Tetrahymena thermophila (Ciliata)
b Non histone chromosomal proteins in the division cycle and during sexual differentiation. Species as a
c Cell-cell communication mechanisms during distinct interactions associated with mating
WOLK, C. P.; Ph.D., Prof. – Plant Res. Lab., Michigan State Univ., EAST LANSING, MI 48824, USA
a Biochemical mechanisms governing differentiation and pattern formation in filamentous forms. Anabaena cylindrica, A. variabilis, Cylindrospermum licheniforme (Cyanophyceae)
WOLSKY, A; Dr.phil., Prof. – Dept. of Radiol., Med. Ctr., New York Univ., 550 First Ave., NEW York, NY 10016, USA
a Effect of ultrasound on development and regeneration. Drosophila melanogaster (Diptera), Triturus viridescens, Rana pipiens (Amphibia)
b Re-investigation of the influence of neurogenesis on development of the compound eye. Bombyx mori (Lepidoptera)
WOOD, Ms. B. G.; Ph.D. – Dept. of Zool., Univ. of Maine, Murray Hall, ORONO, ME 04469, USA
a Influence of pituitary hormones on the induction of development in the mammary glands of a dwarf mutant. Mouse
WOODS, J. E.; Ph.D., Assoc.Prof. – Dept. of Biol. Sci., De Paul Univ., 1036 W.Belden Ave., CHICAGO, IL 60614, USA
WORMINGTON, W. M.; Ph.D. – Dept. of Embryol., Carnegie Inst. of Washington, 115 W. University Pkw., BALTIMORE, MD 21210, USA
a In vitro transcription, identification of nucleotide sequences, and associated protein factors controlling expression of oocyte and somatic 5sRNA genes. Xenopus laevis (Anura)
b Coordinate control of 5sRNA and tRNA transcription during oogenesis. Species as a
WOURMS, J. P.; Ph.D. – Dept. of Zool., Clemson Univ., CLEMSON, SC 29631, USA
a Cellular aspects of spontaneous dispersion-reaggregation during early development; description of embryogenesis in the reaggregation mass; experimental analysis of development; biochemistry of development; physiological and genetic basis of embryonic diapause. Annual fishes: Austrofundulus spec., Cynolebias spec., Pterolebias spec., Nothobranchius spec., Aphyosemion spec. (Cyprinodontoidei, Teleostei)
b Oogenesis; egg transport; oviduct differentiation; sperm storage; fertilization and early development; fetal and maternal adaptations for viviparity (ultrastructure, biochemistry, physiology). Isurus spec., Prionace spec., Carcharinus spec., Mustelus spec. (Galeoidea). Squalus spec., Heterodontus spec. (Squaloidea, Pleurotremata), Raja spec., Dasyatis spec., Myliobatis spec. (Batoidea, Hypotremata), Hydrolagus spec. (Holocephali, Elasmobranchii)
c Embryonic adaptations for viviparity. Latimeria spec. (Crossopterygii)
d Maternal-fetal metabolic transfer in viviparous forms. Ameca splendens, Heterandria spec., Anableps spec. (Cyprinodontoidei, Teleostei)
WRIGHT, J. E.; Ph.D. – Boll Weevil Res. Lab., U.S. Dept. of Agric. Fed. Res., Sci. and Educ. Administr., P.O.Box 5367, MISSISSIPPI STATE, MS 39762, USA
a Genetics on development of single sex by genes resistant or susceptible to pesticides. Anthonomus grandis (Coleoptera)
WRIGHT, Th. R. F.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA
WU, Chung-Fang; Ph.D. – Dept. of Zool., Univ. of Iowa, IOWA-City, IA 52242, USA
a Neuronal development of normal and mutant animals (genetics, neurophysiology). Drosophila melanogaster (Diptera)
WYATT, G. R.; Ph.D., Prof. – Dept. of Biol., Queen's Univ., KINGSTON, Ont. K7L 3N6, Canada
WYE-DVORAK, Ms. J.; B.Sc. – Res. Sch. of Biol. Sci., Austr. Natl. Univ., P.O.Box 475, CANBERRA, A.C.T. 2601, Australia
WYMAN, R. J.; Ph.D. – Dept. of Biol., Yale Univ., P.O.Box 2169, NEW HAVEN, CT 06520, USA
a Genetic control of neuronal connectivity. Drosophila melanogaster (Diptera)
WYTTENBACH, Ch. R.; Ph.D., Prof. – Dept. of Physiol. and Cell Biol., Univ. of Kansas, LAWRENCE, KS 66045, USA
a Nature and causal mechanisms of teratogenesis by organophosphate and methylcarbamate insecticides in 0–72 hour embryos. Chicken

b Patterns and mechanisms of cell movement associated with stolon elongation, studied via continuous observations of movements of single vitally-stained epidermal cells in intact stolons and isolated segments. Campanularia flexuosa (Hydrozoa)

YAFFE, D.; Dr. – Dept. of Cell Biol., Weizmann Inst. of Sci., P.O.Box 26, REHOVOT, Israel

YAJIMA, H.; Ph.D., Prof. – Dept. of Biol., Fac. of Sci., Ibaraki Univ., Bunkyo–2–chome, MITO 310 Japan

a Malformations induced by irradiation with monochromatic ultraviolet light. Chironomus samoensis (Diptera)

b Effects of temperature and of sodium cyanide (NaCN) during and after centrifugation of eggs on the production of double malformations. Species as a

c Effect of UV irradiation upon the re-entry of pole cells (EM). Species as a

YAMADA, J.; D.Agr., Prof. – Lab. of Physiol. and Ecol., Fac. of Fish., Hokkaido Univ., HAKODATE, Hokkaido, 041 Japan

a Embryonic and larval development of otoliths. (Cichlidae & Gadidae: Teleostei)

b Larval and postlarval death in culture. Sebastes schlegeli (Scorpaenidae, Teleostei)

YAMADA, K.; M.Sc. – Lab. of Biol., Gifu Coll. of Dent., 1851 Takano, Hozumi-cho, Motosu-gun, GIFU-ken, Japan

a EM of the embryonic gonad. Chicken

YAMADA, T.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa–4–chome, CHIBA, 260 Japan

a Biochemical studies on effect of radiation on the embryo. Oryzias latipes (Teleostei), Bufo vulgaris (Anura)

b Biochemical studies on radiation-induced death of thymic lymphocytes of growing animals. Rat

c Effect of tritium on development of embryos cultured from 2–cell stage to blastocyst in a medium containing tritium (cytology, biochemistry). Mouse

YAMADORI, T.; M.D., Prof. – Dept. of Anat., Div. I, Hirosaki Univ., Zaifucho 5, HIROSAKI-City, Aomori-ken, 036 Japan

a Development of the visual system. Rat

YAMAGAMI, K.; D.Sc. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan

a Biochemical studies on egg envelope proteins. (Teleostei)

b Purification and characterization of chorionase and mechanism of hatching. Oryzias latipes, Salmo gairdneri (= irideus) (Teleostei)

c Ontogeny of hemoglobins in embryos and larvae. Salmo gairdneri (= irideus) (Teleostei)

YAMAGUCHI, T.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, Anagawa–4–chome, CHIBA, 260 Japan

a Regeneration of cell renewal systems after radiation injury. Mouse, Cavia porcellus (Rodentia)

b Chalone mechanisms and the cell cycle (regenerating ear epidermis and epidermis in vitro). Species as a

YAMAMOTO, K.; D.Sc., Prof. (Emer.) – Dept. of Biol., Fac. of Fish., Hokkaido Univ., 3–1–1 Minatocho, HAKODATE, 041 Japan

a Descriptive and comparative embryology. Anguilla japonica (Teleostei)

YAMAMOTO, T. S.; D.Sc., Prof. – Zool. Inst., Fac. of Sci., Hokkaido Univ., N.10, W.8, SAPPORO, 060 Japan

a Cytochemistry of development. (Teleostei)

b Ultrastructure of fertilisation. (Teleostei)

YAMANA, K.; D.Sc., Prof. – Embryol. Lab., Dept. of Biol., Kyûshû Univ. 33, Hakozaki, FUKUOKA 812, Japan

a Regulation of ribosomal RNA synthesis during embryonic development. Xenopus laevis (Anura)

YAMAOKA, L. H. – Dept. of Biol. Sci., Bowling Green State Univ., BOWLING GREEN, OH 43403, USA

YAMASAKI, F.; M.D., Ph.D. – Dept. of Biol., Sapporo Med. Coll., S–1, W–17, Chuoku, SAPPORO 060, Japan

a Development of digestive system. Platanista gangetica, Pontoporia blainvillei, Stenella coeruleoalba (Cetacea)

b Papillary projections at the lingual margin: development in the fetus, maximum development early postnatally, disappearance by weaning, traces in the adult, probable function in suckling. Stenella coeruleoalba (Cetacea)

c Development of taste buds and pits at the lingual posterior dorsum. Same species as b

YAMAUCHI, Koh-en; Ph.D. – Dept. of Anat., Div.I, Hirosaki Univ., Zaifucho 5, HIROSAKI-City, Aomori-ken, 036 Japan

a Development of the visual system. Rat

YAMAUCHI, Kouhei; Ph.D. – Lab. of Fresh-water Fish Cult., Dept. of Biol., Fac. of Fish., Hokkaido Univ., 3–1–1 Minatocho, HAKODATE, 041 Japan

a Physiological maturation of oocytes in vitro. Oryzias spec., Carassius spec., Oncorhynchus spec. (Teleostei)

YAMAZAKI, F.; Ph.D. – Lab. of Embryol. and Genet., Dept. of Biol., Fac. of Fish., Hokkaido Univ., HAKODATE, 041 Japan

a Developmental genetics, especially relations between enzymic polymorphisms and developmental stages. (Salmonidae, Teleostei)

b Developmental oncology. (Pleuronectidae & Gobiidae: Teleostei)

YANAGISAWA, T.; D.Sc., Prof. – Embryol. Sect., Dept. of Biol., Tokyo Metropolitan Univ., 2–1–1, Fukazawa, Setagaya-ku, TOKYO, 158 Japan

a Tracer experiments on phosphate, sugar, and nucleic acid metabolism of the embryo. (Echinodermata)

b Kinetic complexity of genome and gene expression during development (DNA-DNA reassociation and DNA-RNA hybridisation reactions). Phyllacanthus spp., Stomopneustes spp., Strongylocentrotus spp., Heterocentrotus spp. (Echinoidea)

YANAI, J.; Ph.D. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. Sch., P.O.Box 1172. JERUSALEM 91000, Israel

a Long-term effects of prenatal administration of psychoactive drugs and other agents on brain morphology, biochemistry and behavior. Mouse

YANG, S. F.; Ph.D. – Dept. of Biomorphics, Natl. Defense Med. Ctr., P.O.Box 8244, TAIPEI 107, Taiwan, Rep. of China

a Nucleic acids in development

b Tryptophan oxygenase synthesis in uterus in response to liver mRNA. Mouse

c Immunological approach to sex preselection. Man

YAROSS, Ms. M. S.; Ph.D. – Dept. of Biol., Univ. of Virginia, Gilmer Hall, CHARLOTTESVILLE, VA 22901, USA

YASUDA, K.; Ph.D. – Lab. of Cell Sci., Inst. of Biophys. and Molec. Biol., Univ. of Kyoto, Kitashirakawa, Sakyo-ku, KYOTO, 606 Japan

a Molecular events in the transdifferentiation of retinal cells in culture. Quail, Chicken

YASUDA, M.; M.D., Prof. – Dept. of Anat., Hiroshima Univ., Kasmi 1–2–3, Minami-ku, HIROSHIMA, 734 Japan

a Morphogenesis of certain malformations of extremities in embryos. Mouse, Man

b Enzyme development in embryos. Mouse, Rat

c Embryotoxicity of various chemicals. Mouse, Rat

YASUDA, Ms. Y.; M.D. – Dept. of Anat., Sch. of Med., Kinki Univ., Sayamacho, OSAKA, 589 Japan

a Transplacental carcinogenicity of ethinylestradiol administered during 11th to 17th day of gestation. Mouse

b Effect on fertility and spermatogenesis of heavy metals, injected intratesticular or intraperitoneal as potassium dichromate and mercurychloride. Mouse

c Transplacental effect on reproductive organs and pituitary of estradiol given by gastric intubation on day 14 or 17 of pregnancy. Mouse

YASUGI, S.; D.Sc. – Zool. Inst., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan

a Tissue interactions in differentiating digestive organs. Quail, Chicken

b Regulation of isozyme synthesis during development. Species as a, and Anas platyrhychos domestica (Aves)

YAZAKI, Ms. I.; M.Sc. – Embryol. Sect., Dept. of Biol., Tokyo Metropolitan Univ., 2–1–1, Fukazawa, Setagaya-ku, TOKYO, 158 Japan

a Behavior of the egg surface during development studied by a fluorescent antibody specific to it. Hemicentrotus pulcherrimus, Anthocidaris crassispina (Echinoidea)

YEW, D. T.; Ph.D. – Dept. of Anat., Univ. of Hong Kong, Li Shu Fan Bldg., 5 Sassoon Rd., HONG KONG

a Effects of light (different wavelengths, also laser) and neurotrophic agents on prenatal and postnatal development of eye (part. retina) and visual pathways. Mouse, Rat

b Morphology, morphometry and biochemistry of prenatal eye development. Man

c Afferent interruption and its effect on visual system development. Mouse, Rat

YNTEMA, C. L.; Ph.D., Prof. – Dept. of Anat., Upstate Med. Ctr., State Univ. of New York, 766 Irving Ave., SYRACUSE, NY 13210, USA

a Effects of temperature on development. (Chelonia)

YOFFEY, J. M.; D.Sc., M.D., Prof. – Dept. of Anat. and Embryol., Hebrew Univ. – Hadassah Med. School, P.O.Box 1172, JERUSALEM 91000, Israel

a Kinetic properties of haemopoietic stem cells in prenatal and postnatal life, and factors controlling their differentiation and migration

YOKOYA, S.; Dr. – Div. of Cell Sci., Centr. Res. Lab., Fukushima Med. Coll., FUKUSHIMA, 960 Japan

a Mechanism of hatching. Salmo gairdneri, S. trutta, Salvelinus fontinalis (Teleostei)

b Morphogenesis during early stages of development. Oryzias latipes (Teleostei)

YONEDA, M.; D.Sc., Prof. – Lab. of Devl. Biol., Dept. of Zool., Kyoto Univ., Sakyo-ku, KYOTO, 606 Japan

a Physical properties of eggs and oocytes in relation to: 1) cleavage and meiotic division; 2) structure of the cell surface. (Echinodermata)

YOSHIDA, K.; M.D. – Dept. of Anat., Sch. of Med., Shinshu Univ., Asahi 3–1–1, MATSUMOTO 390, Japan

a Development of eyes in embryo and newborn (EM autoradiography). Mouse, Rat, Man

YOSHIDA, O.; Ph.D. – Biol. Lab., Chiba Univ., Yayoi-cho 1–33, CHIBA, 260 Japan

a Correlation between pollen and stigma; fertilisation process of male and female gamete. Schoepfia jasminodora (Olacaceae), various spp. (Ulmaceae)

YOSHIDA, S.; M.D. – Dept. of Physiol., Inst. for Brain Res., Kyoto Univ., Yoshidakonoe-cho, Sakyo-ku, KYOTO, 606 Japan

YOSHIKAWA, I.; Dr. – Dept. of Genet., Nagasaki Univ., 12–4, Sakomoto-machi, NAGASAKI, 852 Japan

a Radiation genetics (embryo, germ cells). Drosophila melanogaster (Diptera)

YOSHIOKA, M.; M.D. – Dept. of Anat., Univ. of Tokyo, Hongo, Bunkyo-ku, TOKYO, 113 Japan

a Chronological change of the distribution of mitotic cells in lower second molar tooth germ. Mouse

b Chronological change of the distribution of cell death in lower molar tooth germs. Mouse

c Development of cleft palate. Mouse
d Chronological change of the distribution of mitotic cells in cleft palate. Mouse

YOSHIZAKI, N.; Ph.D. – Dept. of Biol., Fac. of Gen. Educ., Gifu Univ., GIFU, 502 Japan
a Induction of several embryonic cells from the presumptive ectoderm by inorganic ions; regulation of differentiation by intracellular ions. Rana japonica (Anura)

YOUSON, J. H.; Ph.D. – Dept. of Zool., Scarborough Coll., Univ. of Toronto, WEST HILL, Ont. M1C 1A4, Canada
a Morphology and physiology and regulation of metamorphosis. Petromyzon marinus (Cyclostomata)

YU, M. C.; Ph.D. – Dept. of Anat., New Jersey Med. School, 100 Bergen St., NEWARK, NJ 07103, USA
a Effects of hypoxia and malnutrition on brain development (biochemistry, morphology). Rat

YÜ (KOU), Ms. N. W.; B.Sc., Prof. – Dept. of Biomorphics, Natl. Defense Med. Ctr., P.O.Box 8244, TAIPEI 107, Taiwan, Rep. of China
a Enzyme development in larval interrenals. Rana catesbeiana (Anura)

YUKAWA, O.; Ph.D. – Div. of Biol., Natl. Inst. of Radiol. Sci., 9–1, 4–chome, Anagawa, CHIBA 280, Japan

ZELARAYAN, Ms. L.; Ph.D. – Inst. de Biol., Univ. Nac. de Tucumán, Chacabuco 461, 400 S.M. de TUCUMÁN, Argentina
a Sperm maturation: epididymal activity. Rat
b In vitro fertilisation. Mesocricetus auratus (Rodentia)

ZELENKA, Ms. P. S.; Ph.D. – Sect. Exp. Embryol., Lab. of Vision Res., Natl. Eye Inst., Natl. Inst. of Health, BETHESDA, MD 20205, USA
a Biosynthesis of lens fiber plasma membranes and metabolism of their phospholipids during embryogenesis. Gallus domesticus (Aves)

ZIMMERMAN, E. F.; Ph.D. – Div. of Fetal Pharmacol., Children's Hosp. Res. Found., Elland & Bethesda Aves., CINCINNATI, OH 45229, USA
a Morphogenetic movements in palate shelf: role of contractile proteins; teratogens (incl. glucocorticoids, diphenylhydantoin) causing cleft palate and/or affecting cell movement. Mouse, Man and others (Mammalia)

ZIMMERMAN, J.; Ph.D. – Dept. of Anat., Univ. of Alabama, 617 Volker Hall, BIRMINGHAM, AL 35294, USA
a Developmental onset of synthesis of newly isolated melanosomal proteins. Chicken
b Changes in cell junctional complexes during development of pigment epithelium. Chicken

DIRECTORY OF INSTITUTES

with Members engaged in Developmental Biology

(geographical order)

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x EL TAWIL, M.H. - Demonstr.
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BRITISH COLUMBIA (B.C.)

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Dept. of Surg. (Diagn. Radiol.)
x McCREDIE, A. - Prof.
x SHOOBRIDGE, Ms. E.R.
Sch. of Biol. Sci., Zool. Bldg.
x ANDERSON, D.T. - Prof.
x CROSSLEY, A.C. - Assoc. Prof.
x MORRIS, Ms. V.B. - Sen. Lect.
x ARMATI-GULSON, P.J. - Lect.

QUEENSLAND (Qld.)

Brisbane, Univ. of Queensland,
School of Anat.
BRYDEN, M.M.
HUGHES, R.L. - Reader Embryol.
Townsville, James Cook Univ.,
School of Biol. Sci.,
Depts. of Marine Biol. & Zool.
x BURDON-JONES, C. - Prof., Head
x LUCAS, J.S. - Sen. Lect.

SOUTH AUSTRALIA (S.A.)

Adelaide, Univ. of Adelaide,
Dept. of Zool.
x TYLER, M.J.
x DAVIES, Ms. M.
x BROOKS, Ms. J.A. - Postgrad. Stud.
x JOHN, U.P. - Postgrad. Student
Dept. of Environm. Studies
x AUSTIN, Ms. S.A.
Bedford Park, Flinders Univ.,
School of Biol. Sci.
DIXON, K.E. - Sen. Lect.
Sch. of Med., Dept. of Hum. Morphol.
x STRAZNICKY, C. - Assoc. Prof.
x TAY, D.K.C. - Res. Assoc.
x HISCOCK, Ms. J. - Res. Asst.
North Adelaide, Adelaide Children's
Hosp., Dept. of Histopathol.
x ELLIS, D.H.

VICTORIA (Vict.)

Clayton, Monash Univ.,
Dept. of Anat.
x GÜLDNER, F.H.
Dept. of Biochem.
x AUSTIN, L. - Reader
x JEFFREY, P.L. - Sen. Lect.
x ROSTAS, J.A.P. - Res. Fellow
Dept. of Physiol.
x WESTERMAN, R.A. - Sen. Lect.
x CRAGG, B.G. - Reader
x REES, Ms. S. - Res. Fellow
Kew
x LAVARACK, J.O.
Melbourne, Lincoln Inst. of Health
Sci., Dept. of Biol. Sci.
x SATHANANTHAN, A.H.
Parkville, Univ. of Melbourne,
School of Anat.
x STRATFORD(MILLER), Ms. B.F. -
Sen. Lect.

WEST AUSTRALIA (W.A.)

Murdoch, Murdoch Univ.,
Environm. & Life Sci.
x POTTER, I.C. - Prof.
x RENFREE, Ms. M.B. - Sen. Lect. Biol.
x BIRD, D.J.

NEW ZEALAND

Auckland, Univ. of Auckland,
Dept. of Biochem.
x RENWICK, A.G.C. - Prof.
Christchurch, Univ. of Canterbury,
Dept. of Zool.
x STOUT, V.M. - Reader
x WISELY, Ms. V.M. - Lect.
Dunedin, Univ. of Otago,
Dept. of Zool.
x PILKINGTON, J.B. - Lect.

SUBJECT INDEX

(alphabetical order)

For an introduction to the subject index, see part 1, page 151.
To save space, two alterations have been made:
The singular form only is used for the Headings. Cross references between Headings are indicated by the following abbreviations:
s. for see
sa. for see also.

ABDOMINAL CAVITY
s.Body cavity

ABNORMALITY
s.Anomaly
(early development)
Malformation
sa.Teratogenesis

ABORTIONS & Embryonic Death
sa.Malformation
Pathology

Homo
Ikeuchi
Lin
Ornoy
Sasaki
Mammalia
Baetz
Dickey

ACCESSORY SEX GLAND
s.Reproductive system

ACTIN
s.Protein

ACTINOMYCIN
sa.Antibiotic

ACTIVATION
s.Fertilisation

ADAPTATION
sa.Environmental factor
Phylogenesis

Amphibia
del Pino
Pugin
Plantae
Beale
Teleostei
Goto
Hamada

ADHESIVE GLAND
s.Gland

ADIPOSE TISSUE
sa.Lipid

Insecta
Butterworth
Cruz
Locke

ADRENAL GLAND
sa.Chromaffin cell
Hormone(vert.)

Amphibia
Yu
Homo
Artal
Mammalia
Setoguti

AGE(AGING)

general
Kelley
Angiospermae
Nooden
Aves
Bloom
Oppenheimer
Echinoidea
Oppenheimer
Homo
Makinodan
Toto
Tucker
Insecta
Courtright
Cruz
Kumaran
Mammalia
Fisher
Goldberg
Hay
Lhotka
Makinodan
Oppenheimer
Pritchard
Rivera
Tesoriero
Toto
Tucker

AGGREGATION
s.Cell

AIR BLADDER
s.Lung

AIR SAC
s.Lung

ALIMENTARY TRACT
s.Digestive tract

ALKYLATING AGENT

ALLANTOIS
s.Embryonic membrane

AMINE
sa.Neurotransmitter

Mammalia
Baker
Rennert
Myxomycetes
Kuehn

AMINO ACID
sa. Neurotransmitter

Amphibia
Crawford
Aves
Hambley
Echinodermata
Crawford
Insecta
Rapport
Trytek
Mammalia
Coufalik
Galbraith
Kuriyama
Monder
Plantae
Harada
Teleostei
Crawford

AMITOSIS

Rhizopoda
Band

AMNION
s.Embryonic membrane

ANABIOSIS
s.Diapause

ANDROGENESIS
s.Genetics

ANESTHESIA

Amphibia
Kato

ANEUPLOIDY
s.Heteroploidy

ANIMAL GRADIENT (animalis.)
s.Gradients
sa. Embryology (experimental)
Embryology (physiol.)

ANOMALY (early development)
sa.Pathology
Teratogenesis

Homo
Ornoy

ANOMALY (later development)
s.Malformation
sa. Teratogenesis

ANOXIA
s.Respiration

ANTIBIOTIC
sa.Actinomycin

Aves
Sudarwati
Surjono
Homo
Ooe
Mammalia
Burk
Sutasurya
Syarief

ANTIBODY
s.Immunology

ANTIGEN
s.Immunology

ANTIMETABOLITE

Amphibia
Dinsmore
Aves
Frederickson
Mammalia
Chamberlain
Galbraith
Layton
Pollard
Razon
Schmidt

ANTIMITOTIC AGENT

Amphibia
Meyerhof
Insecta
Imberski
Invertebrata
Meyerhof
Mollusca
Stiles
Teleostei
Stiles

ANTLER
s.Horn

AORTA
s.Vascular syst.
sa.Heart (& great vessel)

APICAL DOMINANCE

Angiospermae
Scott

ARCHENTERON (roof)
s.Gastrulation
Neurulation
sa.Induction

ARTIFICIAL INSEMINATION

Mammalia
Hamner

ASEXUAL REPRODUCTION (& developm.)
sa. Culture & preservation
Ascidiacea
Kawamura
Mukai
Nakauchi
Watanabe
Ciliata
Pang
Tchang
Ectoprocta
Mukai
Oda
Fungi
Blamire
Gymnospermae
Greenwood
Hydrozoa
Kato
Wyttenbach
Scyphozoa
Kato
Turbellaria
Kishida

ASYMMETRY
s.Symmetry

AUDITORY ORGAN (& external ear)

Amniota
Maderson
Aves
Barnard
De Jager
Gottlieb
Somes
Chelonia
Frank
Smit
Mammalia
Feldman
McNutt
Noden
Teleostei
Yamada

AUTONOMIC NERVOUS SYSTEM

Aves
Pappano
Homo
Artal
Mammalia
Wilson

BACTERIA
sa.Toxin

BEAK

Amphibia
Kollros

BEHAVIOUR (embryonic & postnatal)

Arachnida
Kimmel
Aves
Bekoff
Gottlieb
Seiger
Crustacea
Lewis
Insecta
Seiger
Mammalia
Bekoff
Devor
Jensh
Nakane
Narayanan
Naruse
Noden
Oda
Rodier
Tanimura
Westerman
Yanai
Teleostei
Oppenheimer

BIDDER'S ORGAN

BIO-ELECTRICITY

Insecta
Meer

BIO-ENGINEERING
s.Culture & preservation
Transfer

BIOGENIC AMINE
s.Neurotransmitter

BIOMETRY
s.Growth

BIRTH

BLADDER
s.Urogenital system

BLASTEMA
s.Regeneration (traumatic)

BLASTOCYST
sa.Cleavage
Culture (& preservation)
Implantation
Transfer

general & miscellaneous & unspecified
Anderson
Boving

biochemical &
biophysical
Manes
Terayama
descriptive &
comparative
Rasweiler
Tyndale
experimental
Fisher
genetical
Takagi
pathological &
teratological
Singh
Yamada
physiological
Davis
Hamner
Hinds
Izaike
Lindner
Orsini
Renfree
Singh
Suga
Torbit
Tyndale
Wade

BLASTODERM
sa.Cleavage
Primitive streak

Aves
Brick
Eyal
McMaster

BLASTODISC
s.Blastoderm

BLASTOMERE
s.Cleavage

BLASTULA
s.Cleavage

BLOOD
sa.Circulation
Hematopoiesis
Hemolymph
Vascular syst.

Amphibia
Goto
Okazaki
Shukuya

Aves
Betz
Bloom
Somes
Tahara
Tobin
Van Alten
Wilt
Homo
Furusawa
Insecta
Gundling
Kuliawat
Laufer
Vafopoulou
Mammalia
Furusawa
Nute
Reeves
Rennert
Shepard
Yoffey
Teleostei
Iuchi
Yamagami

BLOOD VESSEL
s.Vascular syst. specific organs, etc.
sa.Circulation

BODY CAVITY (& its lining)

Homo
Nakamura

BONE
sa.Bone marrow
Cartilage
Skeleton

Amphibia
McWhinnie
Aves
Buss
Caplan
Hall
Krukowski
McWhinnie
Tyler
Van Exan
Homo
Ornoy
Shupe
Mammalia
Beresford
Hall
Hirano
Krukowski
Nogami
Oohira
Shupe
Triffitt
Tyler
Urist
Weinstock

BONE MARROW
sa.Hematopoiesis
Mast cell

Mammalia
Hay

BRAIN
sa.Optic centre & tract

general &
miscellaneous &
unspecified
Birge
Bonny
Ibata
Langman
biochemical &
biophysical
Baker
Brown
La Velle
Piddington
Roth
Tay
Watanabe
cell biological
Hoshino
LaVelle
Shoji
descriptive &
comparative
Chamberlain
Cragg
Das
Feldman
Inouye
Marin
Muller
Ozoran
Peters
Peusner
experimental
Constantine
Das
Ganchrow
Guldner
Hiscock
Inouye
Jacobson
Rees
Semba
Tay
pathological &
teratological
Baker
Bryan
Cragg
Das
Hambley
Hayashi
Hoshino
Kameyama
Keino
Kennedy
Kuriyama
Langman
LaVelle
Marin
Ornoy
Rees
Sato
Semba
Takehira
Van der Westhuizen
Westenberg
Yanai
Yu
physiological
Carri
Daikoku
Gona
Gordon
Greengard
Hirsch
Lauder
Oppenheimer
Suburo

BRANCHIAL REGION
sa. Pharynx

BRISTLE
s.Integument

BURSA OF FABRICIUS
sa.Lymphatic system

Aves
Fitzsimmons
Noumura

CAMBIUM
s.Vascular tissue

CAPILLARY
s.Vascular syst.

CAPSULE (Egg)
s.Egg covering

CARAPACE

CARBOHYDRATE
sa.Cell (matrix)

cell biology
Struck
differentiation
Schjeide
embryo
Lhotka
Suga
Vasan
fetus & larva & neonate
Goto
Okazaki
Shukuya
invertebrates
Frye
Goudsmit
Rapport
Yanagisawa
molecular biology
Kinoshita
organs & organogenesis
Angello
Banerjee
Benzo
Bernfield
Caplan
Fambrough
Gotoh
Hay
Jeffrey
Lhotka
Morgan
Sawyer
Schmidt
placenta & fetal membranes
Suga
plants
Seago
regeneration
Dearlove
teratogenesis
Goetinck
Reynolds

CARCINOGENETIC AGENT
sa. Tumour

general
Murison
Aves
Kitani
Mammalia
Rice
Yasuda

CARTILAGE

Aves
Caplan
Goetinck
Hall
Levenson
Sawyer
Solursh
Upholt
Homo
Shepard
Invertebrata
Koshida
Mammalia
Beresford
Bersu
Elmer
Grimes
Hall
Ho
Nogami
Oohira
Ornoy
Overman
Schmidt
Shepard
Toto

CASTE DETERMINATION
s.Polymorphism

CELL
sa.Subcellular component

general & miscellaneous & unspecified
Fischman
Macintyre
Maslow
Morrill
Spiegel
adhesion & affinity
Armstrong
Bernfield
Brick
Campbell
Fausto
Ikushima
Izzard
Lipton
McClay
Oppenheimer
Poole
Steinberg
Wiseman
aggregation & reaggr.,dissoc.
Humphreys
Kuroda
Rivera
Rothman
Shoji
Turner
Wourms
behaviour & movement
Amemiya
Armstrong
Bell
Clark
Counce
Crowell
Dan
DeHaan
Eguchi
Izzard
Jaffe
Kelley
Lavarack
Lenhoff
Morris
Roberts
Sanders
Sheffield
Spiegelman
Trinkaus
Tweedell
Venkatasubramanian
Wiseman
Wyttenbach
biochemistry & biophysics & molecular biol.
Brick
Byrd
Harris
Jaffe
Kessel
Kochhar
Meer
Nuccitelli
Ramirez
Ryerse
Sanders
Traeger
Weiss
chemotaxis
Bonner
Miller
Poole
Venkatasubramanian
contact & junctions
Albertini
Schoenwolf
Takeichi
Zimmerman
culture in vitro
Brooks
Coleman
Ide
Kaufman
Kuroda
Matsuzawa
Minato
Mitrani
Moment
Murison
Oberlander
Rafferty
Schuetz
Shininger
Takata
Tweedell
cycle
Bloch
Byrd
Hoshino
Keynan
Kirschner
Komamine
Levy
Meyerhof
Minato
Newton
Ron
Sandler
Sato
Washitani
Williams
Wolfe
Yamaguchi
death
Bryant
Butterworth
Constantine

Counce
Fallon
Goel
Ho
Lyerla
Mottet
Narayanan
Pollack
Sohal
Yoshioka
fusion
Coleman
Langman
Lipton
Torbit
Traeger
growth
Brooks
Schjeide
heredity
Kuroda
immunology
Artzt
Bennett
Dooher
Spiegelman
Takata
interaction &
communication &
recognition
Auerbach
Bernfield
Besharse
Bhaskaran
Cather
Das
Elmer
Eyal
Glass
Hall
Hosick
Kochhar
Lesseps
Lilien
McClay
Mayhew
Mitrani
Nemoto
Newman
Oppenheimer
Potter
Rostas
Sherman
Shur
Takasaki
Weiss
matrix
Boving
Brownell
Burk
Caplan
Dunn
Erickson
Fitzharris
Grimes
Hardy
Hirano
Iwasa
Johnson
Lindholm
Meier
Morris
Spiegelman
Triffitt
Tyler
Urist
Van Exan
Weinstock
membrane,
biochemical
Albertini
Anderson
Boving
Fambrough
Harris
Humphries
Kawai
Lee
McWhinnie
Nichols
Pagano
Pollock
Roth
Rotundo
Schuetz
Struck
Waldman
Zelenka
membrane,
other
Armstrong
Besharse
Chepenik
DeHaan
Forbes
McMahon
Marchesi
Moog
Roberts
Sheffield
Sperelakis
Venkatasubramanian
Williams
migration
Fujimoto
Hay
Maxwell
Nakamura
Noden
Poole
Reyer
Solursh
Waterman
Weston
Yoffey
shape, size
Bell
Burnside
Campbell
Clark
Counce
Gasser
Jacobson
Jaffe
Millington
Trinkaus
Ward
surface,
biochemical
Aketa
Angello
Barber
Jetten
Lee
Maloney
Oppenheimer
Porzig
Przybylski
Rostas
Shimizu
Shur
Taketa
Terayama
Webb
Yoneda
surface,
other
Bayne
Bell
Brick
Clutter
Filosa
Grey
Hall
Kelley
Kochhar
Langman
Lilien
Morrill
Sanders
Traeger
Trinkaus
Turner
Weston
Wiley
Yazaki
wall
Iwasa
Komamine
Lovett
Quatrano

CELL DIVISION
s.Cell
Mitosis

CELL-LINEAGE
s.Embryology
(experimental)

CELL RENEWAL
s.Regeneration
(physiol.)

CENTRAL NERVOUS
SYSTEM
sa.Brain
Neural crest
Neural plate
Neuroglia
Spinal cord
general &
miscellaneous &
unspecified
Kimmel
Kollros
biochemical &
biophysical
Hay
cell biological
Hendrickx
Rodier
descriptive &
comparative
Culberson
De Gennaro
Haight
Mark
O'Rahilly
Peters
Schoenwolf
Vaughn
experimental
Altman
Armati
Constantine
Devor
Gasser
Gordon
Hay
Meyer
Sadler
Shoji
Straznicky

genetical
Wyman
pathological &
teratological
Agnew
Armati
De Gennaro
Hayashi
Kashiwamata
Matsuyama
Rodier
Shepard
physiological
Berry
De Gennaro
Narayanan
theoretical
Gordon

CENTRIFUGATION
s.Embryology
(experimental)
Embryology
(physiol.)

CEPHALOGENESIS
s.Head

CEREBELLUM
s.Brain

CHALONE

Amphibia
Scadding
Mammalia
Yamaguchi

CHEMICAL
(biologically
active)
s.specific
chemicals
(Antibiotic
Antimitotic
agent, etc.)
Chemical
element
Drug
Ion
Teratogenesis

CHEMICAL ELEMENT
sa.Ion

cadmium
Keino
Miller
Monie
Pierro
calcium
Buss
Dunn
Epel
Izzard
Krukowski
Lhotka
Nakazawa
Reynolds
Turner
fluorine
Herold
Shupe
heavy metals
Calabrese
Ferm
Frederickson
Martin
Weis
Yasuda
iron
Lhotka
lead
Cragg
De Gennaro
metals
Hein
phosphorus
Yanagisawa
silicon
Drum
Gordon
Kaufman
sodium
Nuccitelli
trace elements
Hori
Michibata
Rennert
Shimada

CHEMICAL
MICROANALYSIS

CHEMORECEPTOR

CHIMERA
s.Genetics

CHONDROCRANIUM

Aves
Maderson
Mammalia
Maderson

CHONDROGENESIS
s.Cartilage

CHORDA
s.Notochord

CHORION
s.Placenta
sa.Embryonic
membrane

CHOROID PLEXUS
s.Brain

CHROMAFFIN CELL

CHROMATIN
s.Chromosome

CHROMATOPHORE

Amphibia
Bagnara
Hama
Ide
Lyerla
Crustacea
Ranga
Teleostei
Hama

CHROMOSOME

general
DiBerardino
Sandler
aberrations
Bersu
Chrisman
Lakshmanan
Makino
Miyake
Ornoy
Sasaki
abortion
Ikeuchi
cytogenetics
Dickey
Endo
Gates
Ishikawa
Macintyre
Stiles
developmental
changes
Cline
Martin
early developm.
Ikeuchi
Takagi
heterochromatin
Gay
Gerbi
Rae
lampbrush
Cameron
Gall
meiosis
Begg
Hiramoto
Lakshmanan
Masui
Risley
molecular biol.,
biochemistry
Asami
Brown
Hennen
Kinoshita
Matsumoto
Newman
Ozaki
Reeder
Reeves
Risley
Wolfe
polytene, puff,
Balbiani ring
Cameron
Clutter
Donady
Gerbi
Hosick
Laufer
sex chromosome
Biddle
Gerbi
Sanders
Takagi
structure
Galor
Gay
Meyerhof
Noto
Sollner

CILIUM

Bivalvia
Rikmenspoel
Chlorophyceae
Witman
Ciliata
Rikmenspoel
Williams

Echinoidea
Amemiya
Gastropoda
Morrill
Polychaeta
Rikmenspoel
Zoomastigina
Rikmenspoel

CINEMICROGRAPHY
s.Microcinematography

CIRCULATION
sa.Vascular system specific organs, etc.
Homo
Kamakshi

CLEAVAGE (& morula, blastula)
sa.Blastocyst
Blastoderm
Blastodisc
general & miscellaneous & unspecified
Hiramoto
Sanders
Sawada
Takasaki
biochemical & biophysical
Harris
Kidder
Kiefer
Ozaki
Pollard
Ruderman
Steinhardt
Wilt
Yoneda
descriptive & comparative
Arnold
Fainstain
Humphreys
experimental
Cather
Freeman
Kirschner
Kubota
Meyerhof
mitosis
Beams
Endo
Kirchen
Ohta
Rappaport
Sakai
physiological
Kojima
Maurer
Reynhout

CLOACA
s.Urogenital system

CLONE
s.Asexual reproduction
Cell

COELOM
s.Body cavity

COLCHICINE
s.Antimitotic agent

COLLAGEN
Amphibia
Dearlove
Dresden
Kato
Kemp
Linsenmayer
Aves
Frederickson
Goetinck
Hay
Kollar
Linsenmayer
Mitrani
Schmidt
Trelstad
Weinstock
Echinoidea
Benson
Elasmobranchii
Kemp
Mammalia
Banerjee
Bernfield
Kollar
Leblond
Levenson
Schmidt
Weinstock
Teleostei
Kemp
Vertebrata
Macarak

COLOUR PATTERN
s.Chromatophore
Pigment(ation)

COMPARTMENT (developmental)
s.Embryology (experimental)

COMPETENCE (inductive)

CONGENITAL MALFORMATION
s.Malformation

CONJUGATION
sa.Fertilisation
Ciliata
Wolfe

CONNECTIVE TISSUE
sa.Fibroblast
Mast cell
Aves
Caplan
Trelstad
Mammalia
Frederickson

CORPUS ALLATUM
Insecta
Beig
Bueno

CORPUS LUTEUM
Mammalia
Gulyas
Orsini

CORTEX
s.Cell
Egg

CORTISONE
s.Hormone(vert.)

CRANIUM
s.Skull
sa.Chondrocranium

CRYPTOBIOSIS
s.Diapause

CULTURE & PRESERVATION (embryo,etc.)
sa.Artificial insemination
Rearing method
Transfer
embryo, mammals
Bank
Byrd
Davis
Dickey
Fisher
Gunberg
Hinds
Hsu
Inoue
Klein
Lindner
Matthaei
Maurer
Persaud
Sathananthan
Sherman
Sorensen
Torbit
Tyndale
Wade
Wiley
embryo, other
Goel
Klein
Shinde
gametes & germ cells
Niwa
Stoss
Tsunoda
invertebrates
Brooks
Bryant
Ruskan
organs & organogenesis
Goel
Shinde
plants
Harada
Hicks
Komamine

CYCLIC AMP
s.Nucleotide

CYST &
ENCYSTMENT

Acrasiales
Filosa
O'Day
Ciliata
Pang
Tchang
Fungi
Cantino
Rhizopoda
Band

CYTOCHALASIN
s.Antibiotic

CYTOGENETICS
s.Chromosome

CYTOLOGY
s.Chromosome

CYTOSTATIC AGENT
s.Antimitotic
agent

CYTOTOXIC AGENT
s.Drug

DEDIFFEREN-
TIATION
sa.Metaplasia

Acrasiales
Oohata
Amphibia
Reyer
Angiospermae
Komamine
Ascidiacea
Numakunai

DEOXYRIBONUCLEIC
ACID
sa.Nucleic acid

adult
Manes
embryo
Manes
Kirschner
gametes &
germ cells
Goldberg
Masui
invertebrates
Cruz
Klein
Reyer
molecular biol.
Atkinson
Church
Flickinger
Fosket
Infante
Kirschner
Klein
Manes
Nemer
Reeves
Schultz
Siddiqui
Smith
Sollner
organs
Siddiqui
placenta
Izaike
Suga
plants
Sorenson

DETERMINATION
(embryonic)
sa.Induction
specific
organs,etc.

general
Hakim
differentiation,
organogenesis
Juurlink
Kollros
early developm.
Clement
Eyal
Jacobson
Jeffery
Webb
Wiley
plants
Hicks
Kirk
slime molds
McMahon

DEVELOPMENT
(general)
sa.Asexual
reproduction
Life cycle
Morphogenesis

Amphibia
Jacobson
Wolsky
Anura
Armstrong
DiBerardino
Humphries
Artiodactyla
Church
Ascidiacea
Fuke
Mukai
Bivalvia
Scheltema
Blattodea
O'Farrell
Whitelaw
Carnivora
Noden
Cyprinodontoidei
Fahy
Iwamatsu
Weis
Diptera
Bhaskaran
Crossley
Leopold
Nanjundiah
Echinodermata
Hein
Echinothurioida
Amemiya
Enteropneusta
Burdon
Hydroidea
Campbell
Lenhoff
Hydrozoa
Crowell
George
Lesh
Insecta
Crossley
Wolsky
Insectivora
Oda
Invertebrata
Sullivan
Lepidoptera
Bhaskaran
Locke
Svoboda
Marsupialia
Renfree
Mollusca
Sullivan
Nemertina
Iwata
Orthoptera
Leopold
Primates
Burdi
Pterobranchia
Burdon
Rodentia
Bagwell
Salmonoidei
Donaldson
Teleostei
Jacobson
Turbellaria
Hein
Urodela
Tassava

DEVELOPMENT
(larval)
sa.Polymorphism

Amphibia
Khan
Anomura
Haley
Anura
Kollros
Tyler
Ascidiacea
Cavey
Copepoda
Izawa
Ooishi
Crustacea
Aoto
Cyclostomata
Bird
Potter
Decapoda
Shokita
Diptera
Devlin
Hymenoptera
Cruz
Invertebrata
Scheltema
Lepidoptera
Silhacek
Nematoda
McFadden
Polychaeta
D'Asaro
Prosobranchia
D'Asaro
Pulmonata
Pilkington
Teleostei
Schlesinger
Takita

Tunicata
Whittaker
Urodela
Miller

DEVELOPMENT
(plant:general)

general
Lacalli
Acrasiales
Cox
Filosa
McMahon
O'Day
Sussman
Angiospermae
Crouch
Ascomycetes
Lipke
Basidiomycetes
Trione
Charophyceae
Imahori
Chlorophyceae
Imahori
Iwasa
Millington
Saito
Shihira
Witman
Dicotyledonae
Bal
Blaydes
Hicks
Kaufman
Loy
Storey
Filices
Kadota
Mineyuki
Fungi
Tsusue
Gymnospermae
Greenwood
Monocotyledonae
Kaufman
Myxomycetes
Dove
Jeffery
Kuehn
Pteridophyta
DeMaggio
Spermatophyta
DeMaggio

DEVELOPMENT
(postembryonic,
fetal)

Araneae
Sadana
Artiodactyla
Izaike
Okano
Cetacea
Yamasaki
Homo
Tanaka
Rodentia
Nakazawa
Urodela
Ballard

DEVELOPMENT
(unicellular
organism:general)

Bacteria
Newton
Chlorophyceae
Dillard
Iwasa
Saito
Shihira
Ciliata
Butzel
Frankel
Gall
Gavin
Pollock
Tartar
Wolfe
Desmidiales
Lacalli
Diatomeae
Drum
Gordon
Iwasa
Euglenophyceae
Shihira
Rhizopoda
Band
Perkins
Rappaport

DEVELOPMENTAL
GENETICS
s.Genetics

DEVELOPMENTAL
PATHOLOGY
s.Pathology

DEVELOPMENTAL
PHYSIOLOGY
s.Embryology
(experimental)
Embryology
(physiol.&
biochemical)
sa.Development

DIAPAUSE
sa. Dormancy

Crustacea
Humphreys
Insecta
Brust
Koga
Mammalia
Hinds
Stewart
Tyndale
Teleostei
Wourms

DIAPHRAGM
s.Body cavity

DIET
s.Nutrition

DIFFERENTIATION
sa.Dedifferen-
tiation
Metaplasia
specific
organs,etc.

general
Brauckmann
Crowell
Ide
Macarak
Mintz
Noto
Pitot
Poulson
Ramos
cellular
Bloch
Briggs
Brooks
Cameron
Chepko
Coleman
Doane
Eguchi
Flickinger
Frederickson
Furusawa
Gasser
Goicoechea
Hakim
Haswell
Hay
Jorquera
Juurlink
Katsura
Lesh
Levine
Lyser
Matsuzawa
Matthaei
Miller
Millington
Molinari
Newman
Newton
Oppenheimer
Quatrano
Rafferty
Sachs
Schindler
Schjeide
Shaaya
Sherman
Sohal
Takasaki
Turner
Waelsch
Walker
Yoffey
early developm.
Brummett
Coward
Kinoshita
Matthaei
Nakamura
Yoshizaki
gametes &
germ cells
Iwamatsu
organogenesis
Altman
Arking
Berry
Brownell
Fujisawa
Hall
Hardy
Hosick
Katoh
Kollar
Lemanski
Levenson
Maxwell
Okada
Ramirez

Sherer
Vasan
Wakita
Weston
plants
Cantino
Iwasa
Kirk
Komamine
Lovett
Schjeide
Shininger
Wolk
regeneration
Bode
slime molds
Bonner
Dove
Rothman
unicellular organisms
Ginzburg
Keynan

DIGESTIVE TRACT
sa.specific parts

Amphibia
Horiuchi
Koshida
Sugimoto
Aves
Andrew
Betz
Kramer
Mizuno
Rawdon
Yasugi
Mammalia
Yamasaki

DISAGGREGATION
s.Cell

DORMANCY
sa.Diapause

Angiospermae
Sussex

DRUG (& other biologically active chemicals)
sa.specific classes of agents (Antimitotic agent,etc.)
Teratogenesis
Thalidomide
Pesticide

general
Murison
Amphibia
Aziz
Miller
Aves
Boone
Gilani
Kolesari
Wallace
Homo
Miller
Tanimura
Zimmerman
Mammalia
Aggarwal
Agnish
Baker
Fantel
Kuriyama
Lu
Merchant
Miller
Mirkes
Persaud
Radha
Shah
Simmons
Singh
Syarief
Tanimura
Westenberg
Zimmerman
Nematoda
Ward

EAR
s.Auditory organ (& external ear)

ECTODERM
s.Embryology (experimental)
Embryology (general & descriptive)

EGG (& oocyte)
sa. Blastocyst
Cleavage
Culture & preservation
Fertilisation
Gradient
Oogenesis
Transfer (blastocyst)
Yolk

general & miscellaneous & unspecified
Sorensen
Stoss
Yazaki
biochemical & biophysical
Arnold
Bast
Begg
Cabada
Crawford
Epel
Guraya
Harris
Hollinger
Hori
Ishida
Ishimoda
Kunkle
Lee
Mahowald
Malacinski
Masui
Michibata
Morrill
Nemoto
Peterson
Reeder
Reynhout
Roth
Schuetz
Shaver
Shimizu
Terayama
Uemura
Wormington
Yoneda
cell biological
Ishikawa
descriptive & comparative
Beams
Brummett
Fainstain
Guraya
Hori
Oshima
Schroeder
Shirai
Ward
experimental
Arnold
Brooks
Jeffery
Kane
Kotani
Mariano
Meer
Morrill
Nuccitelli
Whittaker
genetical
Kalthoff
Malacinski
Masui
Raff
maturation
Budeguer
Buhler
Cameron
DiBerardino
Hollinger
Iwamatsu
Kanatani
Kishimoto
Lee
Legname
Markert
Masui
Nagahama
Nemoto
Salomon
Schuetz
Shimada
Shirai
Smith
Swartz
Tsafriri
Tsukahara
Tweedell
Valdez
Yamauchi
pathological & teratological
Endo
Flood
Shimada
Watanabe
physiological
Adams
Albertini
Cameron
Flood

Glass
Hendrickx
Iwamatsu
Miller
Nakano
Nakazawa
Nemoto
Pener
Reynhout
Schroeder
Sedra
Swartz
Tsunoda
Wolfe
Wourms

EGG COVERING

Amphibia
John
Aves
Buss
Cestoda
Guraya
Parshad
Insecta
Goldsmith
Okada
Spradling
Waring
Nematoda
Guraya
Parshad
Teleostei
Yamagami

EGG MEMBRANE
s.Egg covering
Embryonic membrane

EGG SHELL
s.Egg covering

ELECTRIC ORGAN

ELECTRICITY
s.Bio-electricity

ELEMENT (chemical)
s.Chemical element

EMBRYO-MATERNAL RELATIONSHIP
sa.Placenta

Amphibia
del Pino
Aves
Roth
Mammalia
Bachvarova
Dickey
Flood
Izaike
Lala
Maurer
Ostrand
Saitoh
Suga
Teleostei
Wourms

EMBRYO PRESERVATION
s.Culture & preservation

EMBRYO TRANSFER
s.Transfer

EMBRYOLOGY (experimental)
sa.Specific stages
Determination
Gradient
Induction
Morphogenesis
Pattern formation
Regulation

Amphibia
Lipton
Nakamura
Anura
Blackler
Elinson
Kirschner
Kubota
Miller
Asteroidea
Dan
Nemoto
Washitani
Aves
Coleman
Eyal
Finnegan
Goel
Hardy
Jacobson
Lipton
Mattan
Meier
Mitrani
Mottet
Rangini
Stephens
Sudarwati
Surjono
Bivalvia
Jeffery
Blattodea
Brooks
Cephalopoda
Arnold
Chelonia
Yntema
Coelenterata
Freeman
Coleoptera
Meer
Ctenophora
Freeman
Cyprinodontoidei
Armstrong
Lesseps
Wilde
Wourms
Yokoya
Diptera
Fausto
Imberski
Meer
Schwalm
Segal
Yajima
Echinoidea
Herold
Kitajima
McClay
Nelson
Washitani
Gastropoda
Cather
Freeman
Jeffery
Morrill
Homo
Sathananthan
Hymenoptera
Amy
Lacertilia
Goel
Shinde
Lepidoptera
Miya
Mammalia
Kanagawa
Mollusca
Stiles
Nematoda
Ward
Nemertina
Freeman
Polychaeta
Lacalli
Prosobranchia
Clement
Schmidt
Wilde
Rodentia
Gasser
Kanagawa
Matsuzawa
Matthaei
Sherman
Stark
Sutasurya
Syarief
Takabayashi
Takano
Teicher
Torbit
Teleostei
Stiles
Urodela
Brick
Finnegan
Jacobson
Kawakami
Kubota
Sasaki
Wilde

EMBRYOLOGY (general & descriptive)
sa.specific stages
Development (general)
Organogenesis

Acanthocephala
Guraya
Parshad
Actinozoa
Lyke
Amphibia
Satoh
Sutasurya
Anomura
Haley
Anostraca
Humphreys
Anguilliformes
Yamamoto
Anura
Brick
del Pino

Kessel
Khan
Richards
Ascidiacea
Satoh
Aves
Brick
Eyal
Goldie
Mobbs
Bivalvia
Byrd
Brachyura
Iwata
Cephalopoda
Arnold
Cestoda
Guraya
Parshad
Chelonia
Sutasurya
Chiroptera
Mann
Rasweiler
Uchida
Cladocera
Stout
Coelenterata
Satoh
Coleoptera
Heming
Crossopterygii
Wourms
Crustacea
Anderson
Cyprinodontoidei
Brummett
Kirchen
Wourms
Decapoda
Sherman
Echinodermata
Satoh
Echinoidea
Byrd
Katsura
Kitajima
Morrill
Elasmobranchii
Wourms
Gastropoda
Byrd
Hadfield
Gobioidei
Dotsu
Heteroptera
Enslee
Homo
Barry
Dickson
Maue
O'Rahilly
Homoptera
Heming
Hydroidea
Iwata
Insecta
Crossley
Insectivora
Mann
Lacertilia
Bou
Goel
Lagomorpha
Gulyas
Lepidoptera
Hakim
Miya
Marsupialia
Lyne
Nematoda
Guraya
Parshad
Nemertina
Iwata
Pisces
Sutasurya
Platyhelminthes
Guraya
Parshad
Polychaeta
Crossley
D'Asaro
Porifera
Satoh
Primates
Butler
Oshima
Pulmonata
Sathanathan
Rodentia
Markert
Sorensen
Spiegelman
Takeuchi
Scorpiones
George
Teleostei
Takita
Thysanoptera
Heming
Turbellaria
Coward
Iwata
Urodela
Ballard
Brick

EMBRYOLOGY
(physiological
& biochemical)
sa.specific
stages
Development
Energy
Metabolism
Nutrition
Respiration,etc.

general
Caston
Acanthocephala
Guraya
Parshad
Amphibia
Frye
Pool
Anomura
Haley
Anostraca
Iwasaki
Nakazawa
Anura
Brothers
Hampel
Legname
Lyerla
Masui
Prahlad
Reynhout
Risley
Salomon
Shiokawa
Yamada
Yamana
Artiodactyla
Ishida
Suga
Asteroidea
Barber
Aves
Frye
Goldie
Jaffe
Lhotka
Linsenmayer
Pool
Siddiqui
Temin
Wallace
Yasugi
Bivalvia
Byrd
Blattodea
Trytek
Cestoda
Guraya
Parshad
Coleoptera
Jaffe
Cyprinodontoidei
Brummett
Crawford
Egami
Jaffe
Wilde
Wourms
Yamada
Diptera
Jaffe
Raff
Schwalm
Echinodermata
Crawford
Yanagisawa
Echinoidea
Barber
Black
Bollum
Byrd
Epel
Hisanaga
Infante
Kane
Morrill
Nakano
Nemer
Ozaki
Pfohl
Raff
Rapraeger
Sato
Terayama
Elasmobranchii
Wourms
Gastropoda
Byrd
Kidder
Homo
Glass
Insecta
Grosch
Invertebrata
Epel
Lagomorpha
Schultz
Lepidoptera
Koga
Weirich

Mammalia
Glass
Martin
Rennert
Marsupialia
Renfree
Stewart
Nematoda
Furusawa
Guraya
McFadden
Miwa
Parshad
Platyhelminthes
Guraya
Parshad
Primates
Hendrickx
Oshima
Prosobranchia
Collier
Pulmonata
Morrill
Rodentia
Aggarwal
Bachvarova
Dunn
Greene
Gunberg
Gwatkin
Ishida
Jetten
Kidder
McIver
Monahan
Oliphant
Schindler
Spiegelman
Waldman
Webb
Wiley
Yamada
Scyphozoa
Black
Teleostei
Yamamoto
Urodela
Brick
Brothers
Crawford
Linsenmayer
Masui

EMBRYOLOGY (Plant: experimental)
sa.Meiosis

Chlorophyceae
Blamire
Dicotyledonae
Abe
Clutter
Komamine
Matsumoto
Filices
Wada
Fungi
Blamire
Mascarenhas
Monocotyledonae
Mascarenhas
Quatrano
Sagawa
Phaeophyceae
Quatrano

EMBRYOMA
s.Teratoma

EMBRYONIC FLUID
s.Embryonic membrane

EMBRYONIC MEMBRANE (& fluid)

Amphibia
Jacobson
Aves
Betz
Dunn
Jacobson
Mobbs
Roth
Tahara
Homo
Artal
Francis
Johnson
Macintyre
Mammalia
Baetz
Dunn
Francis
Izaike
Johnson
Luckett
Mossman
Okano
Renfree
Sherman

ENCYSTMENT
s.Cyst

ENDOCRINE ORGAN
sa.specific organs
Hormone (Inv.)
Hormone (Vert.)

Aves
Andrew
Betz
Kamar
Kramer
Rawdon
Mammalia
Oshima
Ross
Teleostei
Egami

ENDODERM
s.Embryology (experimental)
Embryology (general & descriptive

ENERGY (developmental)

Amphibia
Crawford
Insecta
Silhacek
Teleostei
Crawford

ENTEROCHROMAFFIN CELL
s. Chromaffin cell

ENVIRONMENTAL FACTOR
sa.Adaptation
Pollutant specific
physical agents

Acrasiales
O'Day
Amphibia
Vanable
Aves
Kamar
Chlorophyceae
Shihira

Decapoda
Weis
Fungi
Leach
Insecta
Beig
Grosch
Hunt
Invertebrata
Scheltema
Mammalia
Ferm
Michaeli
Staples
Reptilia
Maderson
Teleostei
Fahy
Vertebrata
Birge
Theil

ENZYME

general & miscellaneous & unspecified
Lyerla
Markert
Yasugi
cell biology
Shur
Waldman
differentiation
Ramirez
embryo
Brick
Crawford
Goldie
Miceli
Temin
Yamagami
Yasuda
fetus & larva & neonate
Boell
Dearlove
Goto
Greengard
Hsu
Katagiri
Okazaki
Shukuya
gametes & germ cells
Ishida
Terayama

genetics
Imberski
McKnight
Pai
Richards
Scandalios
Yamazaki
invertebrates
Barber
Black
Bollum
Borack
Courtright
Crawford
Devlin
Dickinson
Doane
Haley
Hein
Kumaran
Laufer
Nemoto
Ozaki
Pfohl
Postlethwait
Rapraeger
Rizki
Trytek
Weirich
Whittaker
molecular biol.
Reeves
organs &
organogenesis
Aggarwal
Banerjee
Bernfield
Cutler
Fambrough
Herzfeld
Ide
Knox
Love
McWhinnie
Monder
Nakazawa
Narayanan
Piddington
Pritchard
Quevedo
Redman
Rotundo
Swartz
Urist
Wainwright
Yang
Yu
placenta &
fetal membranes
Inbam
plants
McFadden
Storey
regeneration
Dearlove
slime molds
Kuehn
O'Day
Oohata
tumours
Herzfeld
unicellular
organisms
Dillard

EPIDERMIS

general
Locke
Insecta
Shaaya
Mammalia
Yamaguchi
Reptilia
Maderson
Teleostei
Krejsa
Vertebrata
Takagi

EPIDIDYMIS

Mammalia
del Rio
Quiros
Valdez
Zelarayan

EPIPHYSIS
s.Pineal organ

EPITHELIAL-
MESENCHYMAL
INTERACTION
sa.Induction

Amphibia
Fry
Aves
Burdi
Goetinck
Hall
Hay
Kollar
Mitrani
Mizuno
Sawyer
Sherer
Trelstad
Tyler
Van Exan
Vasan
Yasugi
Homo
Hardy
Macarak
Mammalia
Banerjee
Bernfield
Brinkley
Cunha
Cutler
Galbraith
Hall
Hardy
Kollar
Lasnitzki
Mizuno
Pandit
Slavkin
Tyler
Van Exan
Teleostei
Krejsa

EPITHELIUM

Amphibia
Armstrong
Miller
Aves
Frederickson
Kollar
Mobbs
Tyler
Homo
Boving
Mammalia
Hall
Kollar
Tyler
Vertebrata
Eguchi

EQUIPMENT
s.Method

ERYTHRÓCYTE
s.Blood

ERYTHROPOIESIS
s.Hematopoiesis

EVOLUTION
s.Phylogenesis

EXCRETORY SYSTEM
sa.Kidney
Urogenital
system

Insecta
Ryerse

EXTRACELLULAR
MATRIX
s.Cell (matrix)

EXTRA-EMBRYONIC
MEMBRANE
s.Embryonic
membrane

EXTREMITIES
s.Limb
Wing

EYE
sa.Eye lens
Optic centre
& tract

general &
miscellaneous &
unspecified
Bell
Goel
Hay
Masters
Porzig
Yamadori
Yamauchi
Yew
biochemical &
biophysical
Araki
Hambley
Kishida
Meyer
Morgan
Trelstad
Yoshida
cell biological
Besharse
Lesseps
McClay
Morris
Sheffield
descriptive &
comparative
Aoto
Campana
Coulombre
El Mekkawy
Fisher

Hilfer
Hinds
Hiscock
Meyer
Narayanan
Yoshida
experimental
Betz
Burnside
Constantine
Fujisawa
Goicoechea
Hall
Hanson
Hasegawa
Hollyfield
Jacobson
Jorquera
Juurlink
Khalil
Kishida
Michael
Molinari
Morris
Moussad
Okada
Reyer
Tucker
Vanable
Williams
Wolsky
Yasuda
genetical
Gumbreck
Vanable
Westenberg
pathological &
teratological
Chase
Hoshino
Kameyama
Nakane
Oda
Pierro
Westenberg
physiological
Coulombre
Morgan
Sohal
Wilson
theoretical
Gordon

EYE LENS
sa.Regeneration
(traumatic)

general
Pal
Amphibia
Dearlove
McDevitt
Aves
Chepko
Katoh
Kondo
McDevitt
Zelenka
Lacertilia
Goel
Nerurkar
Pal
Mammalia
McAvoy
McDevitt
Pandit

FACE
s.Head

FALLOPIAN TUBE
s.Oviduct

FAT
s.Adipose tissue
Lipid

FAT BODY
s.Adipose tissue

FATE MAP
s.Embryology
(experimental)

FATTY ACID
s.Lipid

FEATHER

Aves
Goetinck
Gopinath
Kischer
Kollar
Somes

FECUNDITY
s.Fertility

FERTILISATION
sa.Conjugation

Amphibia
Blackler
Cabada
Cameron
Dworkin
Elinson
Fernandez
Garrido
Gomez
Grey
Humphries
Katagiri
Mariano
Masui
Meyerhof
Miceli
Nuccitelli
Poccia
Pugin
Schuetz
Steinhardt
Angiospermae
Yoshida
Ascidiacea
Numakunai
Asteroidea
Barber
Schuetz
Shirai
Aves
Fainstain
Cestoda
Guraya
Parshad
Coelenterata
Lyke
Echinodermata
Hiramoto
Kane
Lee
Echinoidea
Aketa
Albertini
Asami
Barber
Byrd
Epel
Harris
Ishikawa
Nakazawa
Nelson
Nemoto
Nishioka
Noda
Ozaki
Poccia
Schmidt
Steinhardt
Sugiyama
Vacquier
Echiura
Noda
Elasmobranchii
Wourms
Gastropoda
Lewis
Homo
Glass
Hydrozoa
Miller
Invertebrata
Epel
Mammalia
Akruk
Albertini
Anderson
Byrd
Glass
Gulyas
Gwatkin
Hamner
Hanada
Hendrickx
Humphreys
Markert
Masui
Mori
Niwa
Noda
Oliphant
Oshima
Poirier
Shur
Stark
Terayama
Uchida
Zelarayan
Mollusca
Byrd
Stiles
Nematoda
Guraya
Parshad
Roberts
Ward
Polychaeta
Noda
Teleostei
Brummett
Hori
Nuccitelli
Ohta

Stiles
Yamamoto
Xiphosura
Clapper

FERTILITY
(& sterility)
Mammalia
Stark
Syarief
Yasuda

FETAL FLUID
s.Embryonic membrane

FETAL MEMBRANE
s.Embryonic membrane

FETUS
sa.Development (postembryonic, fetal)
Homo
Macintyre
Mammalia
Hendrickx
Nancarrow

FIBROBLAST
general
Kelley
Amphibia
Izzard
Aves
Izzard
Homo
Nichols
Mammalia
Izzard
Nichols
Pagano

FIN
Amphibia
Weis
Teleostei
Fahy
Kemp
Krejsa
Weis

FLAGELLA
Chlorophyceae
Witman
Euglenophyceae
Rikmenspoel

FLOWER(ING)
Angiospermae
Harada
Hicks
Lang
Sachs
Sawhney
Trione

FLUORESCENCE MICROSCOPY
sa.Immunology

FLUORINE
s.Chemical element

FOLLICLE (egg-)
s.Ovary

FOLLICLE CELL
s.Oogenesis

FREE-MARTIN

FREE RADICAL

FRUIT(ING)
Angiospermae
Nooden

GALL BLADDER
sa.Liver

GAMETE (& gametogenesis)
sa.Germ cell
Oogenesis
Spermatogenesis, etc.
Cephalochordata
Guraya
Cephalopoda
Arnold
Cestoda
Guraya
Parshad
Coelenterata
Lyke
Echinoidea
Ozaki
Sato
Fungi
Mascarenhas
Mammalia
Bryan
Gates
Markert
Nematoda
Guraya
Parshad
Platyhelminthes
Guraya
Parshad
Polychaeta
Schroeder
Turbellaria
Coward

GANGLION
Amphibia
Constantine
Dinsmore
Etheridge
Pollack
Aves
Lyser
Narayanan
Homo
Lyser
Mammalia
Armati
McCredie
Noden
Tucker

GASTRULA(TION)
Amphibia
Johnson
Kubota
Nakatsujii
Phillips
Schoenwolf
Aves
Schoenwolf

GENE
sa.Genetics
Mutant
general
Kuliawat
Noto
activation
Freeman
Haley
Kinoshita
Kuehn
Nakano
Reeder
Reeves
Sorensen
amplification
Gall
expression
Bachvarova
Bonner
Brothers
Cameron
Church
Dawid
Dove
Ernest
Fosket
Furusawa
Galbraith
Kidder
Kleinsmith
Kumaran
Kuroda
Levy
Lin
McKnight
Morrow
Peterson
Risley
Ruddle
Ruderman
Sachs
Scandalios
Schindler
Schultz
Theil
Tobin
Upholt
Waring
Wilde
Wormington
Yanagisawa
function in
genome
Kirk
Nickla
gene products
Roberts
molecular biol.
Bender
Bogenhagen
Brown
Dawid
Donady
Gage
Goldsmith
Grimberg
Jacobs
Kedes
Manning
Moore

Rae
Reeder
Reeves
Samols
Shure
Sollner
Suzuki
Tsuda
Tsujimoto
Wormington
regulation
Collier
Fedoroff
Gubler
Hirose
Kedes
Moore
Shure
Spradling
Suzuki
specific loci
Cline
Fausto
Goldsmith
Lemanski
Nakamura
Razon
Richards
Shur
Tocci
Traeger

GENETICS
(developmental)
sa.specific
aspects:
Cell heredity
Chromosome
Gene
Hybrid
Mutant
Nucleus,etc.

general
Ayaki
Blackler
Briggs
Butterworth
Butzel
Chase
Cox
Frankel
Furusawa
Hadfield
Heim
Kuroda
Loy
Malacinski
Markert
Miwa
Pollock
Richards
Rothman
Ruddle
Shiomi
Stevens
Sussex
Sussman
Teicher
Ward
Yoshikawa
abnormal
development
Bender
Biddle
Bloom
Buss
Chase
Gumbreck
Heim
Hoshino
Juriloff
Kameyama
Knudsen
Layton
Long
Muramatsu
Nakane
Oda
Rapport
Shoji
Tomita
andro- &
gynogenesis
Harada
Nishioka
Onozato
Richards
Stanley
cell hybridis.
Teicher
Waelsch
chimera, mosaic,
allophene
Farberov
Ginsburg
Grosch
Iannaccone
Jacobson
Kankel
Leopold
Markert
Mintz
Pai
Pollard
Whittaker
clonal analysis
Kankel
differentiation,
organogenesis
Doane
Hoshino
Kameyama
Kondo
Nakane
Newton
Oda
Pierro
Poulson
Sachs
Waelsch
Wu
Wyman
early developm.
Kidder
Wourms
engineering
Bogenhagen
McKnight
Ruddle
enzymes &
isoenzymes
Borack
Courtright
Dickinson
Doane
Imberski
Lyerla
Quevedo
Rizki
Scandalios
Yamazaki
gametogenesis
Kiefer
King
Postlethwait
Teng
genome
Yanagisawa
gynandromorph
Grosch
inbreeding
Hyodo
Richards
Stiles
matern.effects
Bender
Brothers
Counce
Poulson
Wiley
mutation
Biddle
Hisano
Kuroda
McKnight
Shiomi
Smith
Sollner
Waelsch
neoplasm
Rizki
Temin
patterns
Brick
Cline
Frankel
Mayer
Seiger
Tomita
pleiotropy
Bender
Somes
sexual developm.
Postlethwait
Wright

GENITAL TRACT
sa.Reproductive
system
Urogenital
system

Insecta
Beig
Lai
Mammalia
Boving
Lasnitzki
Mizuno
Teleostei
Takano

GENITALIA
s.Reproductive
system

GERM CELL
(general)
sa.Gamete

Insecta
Hisano
Shiomi
Yoshikawa
Mammalia
Aggarwal
Duke
Merchant
Ruddle
Teleostei
Hamaguchi

GERM CELL
(primordial)

Amphibia
Ikenishi
Kotani
Poole
Sutasurya
Wakahara
Aves
Farberov
Fujimoto
Ginsburg
Rangini
Swartz
Chelonia
Sutasurya
Homo
Fujimoto
Insecta
Hennen
Leopold
Mahowald
Niki
Okada
Yajima
Mammalia
Merchant
Swartz
Pisces
Sutasurya
Teleostei
Iwamatsu

GERM LAYER
s.Embryology
(experimental)
Embryology
(general &
descriptive)

GERMINAL VESICLE
s.Nucleus

GERMINATION
s.Seed
Spore

GESTATION
s.Pregnancy

GILL

GLAND
(endocrine)
s.specific
endocrine
glands
Endocrine
organs

GLANDS
(exocrine)
sa.specific
glands
specific
organs
Hatching

Amphibia
Kollros
Lyerla
Aves
Somes
Homo
McCafferty
Insecta
Cruz
Mammalia
McCafferty
Panchamukhi
Mollusca
Cather

GLUCOSE
s.Carbohydrate

GLYCOGEN
s.Carbohydrate

GONAD
sa.Ovary
Testis

general &
miscellaneous &
unspecified
Fisher
Guraya
Hamaguchi
Iwasawa
Oshima
Parshad
biochemical &
biophysical
Courtright
Dang
Glass
Guraya
Parshad
cell biological
Glass
descriptive &
comparative
Amanuma
Hanada
Takano
Tanaka
Yamada
experimental
Amanuma
Hsu
Takahashi
pathological &
teratological
Etoh
Hendrickx
Swartz
physiological
Bagnara
Dang
Ellinwood
Gulyas
Guraya
Kalt
Kamar
Lee
Parshad
Stewart

GRADIENT
sa.Symmetry

Ciliata
Tartar
Echinoidea
Katsura
Insecta
Meer
Phaeophyceae
Quatrano
Turbellaria
Boyer

GRAFT REACTION
s.Immunology
Transplantation

GRAFTING
s.Transplantation

GRANULOSA CELL
s.Ovary

GROWTH
sa.Growth factor
specific
organs,etc.

general &
miscellaneous &
unspecified
Etheridge
Goss
Kamar
embryo
Hsu
Klein
Matsuzawa
fetus & larva &
neonate
Bagwell
Betz
Heath
Jensh
invertebrates
Bhaskaran
Brooks
Frye
Kato
Lewis
Shaaya
Shappirio
Wyttenbach
organs &
organogenesis
Cole
Deck
Hall
Makinodan
Mun
Nuttall
Terayama
Urist
plants
Furuya
Goldsmith
Scott
Seago
theoretical
Ontell

GROWTH FACTOR

Amphibia
Miller
Homo
Minato
Mammalia
Elmer
Porzig
Vertebrata
Stockdale

GUANOPHORE
s.Chromatophore

GYNOGENESIS
s.Genetics

HAIR

Mammalia
Chase
Hardy
Kischer
Kollar
Lhotka
Van Exan

HAPLOIDY

Teleostei
Onozato

HATCHING (& hatching gland)

Amphibia
Katagiri
Aves
Andrew
Betz
Bekoff
Rawdon
Teleostei
Iuchi
Yamagami
Yokoya

HEAD

Aves
Tyler
Homo
Burdi
Dickson
Gasser
Maue
Lacertilia
Khan
Mammalia
Gasser
Juriloff
Overman
Ross
Tyler

HEART (& great vessel)

general & miscellaneous & unspecified
Sachs
biochemical & biophysical
Gotoh
Lemanski
Schmidt
Vogel
cell biological
DeHaan
Fischman
Lesseps
Sperelakis
descriptive & comparative
Fitzharris
Forbes
Hirakow
Pappano
experimental
Amano
Deck
Inoue
Traeger
pathological & teratological
Dunn
Gilani
Jaffee
Kaplan
Lemanski
Przybylski
Sachs
Schmidt
physiological
Biegon
Challice
DeHaan
Fitzharris
Jaffee
Josephson
Kaplan
Pappano
Sperelakis
Veneziano

HEMATOPOIESIS
sa.Liver

general
Sachs
Amphibia
Kobayashi
Tamanoi
Aves
Bloch
Bollum
Tobin
Cyclostomata
George
Mammalia
Bollum
Daniels
Flickinger
McGarry
Mintz
Murata
Rennert
Tamanoi
Vertebrata
Theil

HEMOGLOBIN
s.Blood

HEMOLYMPH

Insecta
Crossley

HENSEN'S NODE
s.Primitive streak

HEREDITY
s.Genetics

HERMAPHRODITISM

Mammalia
Allison
Gumbreck

HETEROPLOIDY

Homo
Bersu
Mammalia
Shimada
Watanabe

HETEROSIS
s.Genetics

HISTOBLAST

Insecta
Bhaskaran

HISTONE

Amphibia
Byrd
Echinodermata
Kedes
Echinoidea
Byrd
Levy
Mammalia
Goldberg
Kedes
Reeves

HISTORY OF EMBRYOLOGY

Bodemer

HOMEOSIS
s.Mutant
sa.Regeneration (traumatic)

HOMOGENATES
s.Tissue

HOMOLOGOUS INHIBITION
s.Tissue

HORMONE (invertebrate)

Arthropoda
Kaplanis
Asteroidea
Schroeder
Crustacea
Laufer
Ranga
Insecta
Bell
Bender
Berry
Bhaskaran
Butterworth
Campos
Cruz
Dahm
Doane
Ferkovich
Fuchs
Hunt
Ishizaki
Kumaran
Laufer
Oberlander
Ohnishi
Pener
Postlethwait
Roller
Ryerse
Shaaya
Silhacek
Stay
Svoboda
Weirich

HORMONE (plant)

general
Shininger
Acrasiales
O'Day
Angiospermae
Blaydes
Fosket
Goldsmith
Greyson
Harada
Kaplanis
Kaufman
Loy
Sawhney

Scott
Sussex
Equisetophyta
Kaufman

HORMONE
(vertebrate)
sa.Chalone
Neurotransmitter
Prostaglandin

general &
miscellaneous &
unspecified
Renwick
adrenal hormone
Asan
Herold
Kauffman
Lauder
Piddington
calcitonin
McWhinnie
digestive
tract & liver
Benzo
Ernest
Monder
Moog
Zimmerman
embryo
Cabada
Iwasawa
Lyerla
Sanchez
Singh
fetus & larva &
neonate
Atkinson
Bagnara
Betz
Doneen
Flood
Frye
Greengard
Nancarrow
Oshima
gametes &
germ cells
Budeguer
Salomon
Sanchez
Tsafriri
Valdez
glands
Hosick
Rivera
Redman

gonadotropins
Bagnara
Chrisman
Chung
Ellinwood
Stewart
Wiley
Wolfe
hypophyseal horm.
Doneen
Fry
Frye
Gulyas
Gunasegaran
Mitra
Singhas
Stewart
Wood
hypothalamic
factors
Daikoku
Watanabe
implantation
Orsini
insulin
Coalson
Przybylski
Sadler
Thommes
nervous sytem &
sense organs
Betz
Gona
Juurlink
Lauder
Marotte
Narayanan
Pollack
organs,general
Hendrickx
Herzfeld
parathyroid
McWhinnie
placenta & fetal
membranes
Betz
regeneration
Bromley
Hiradhar
Jayshree
Scadding
Schmidt
Thomas
reproduction
Adams
Cabada
Dotsu
Hamner

Kamar
Radha
sex hormones
Boving
skeletal system
Love
Ornoy
skin &
derivatives
Gopinath
Maderson
steroids
Chung
Ellinwood
Hendrickx
Hsu
Kobayashi
Lee
Luck
Merchant
Miller
Noumura
Renfree
Renwick
Richards
Singh
Singhas
Slavkin
Smith
Stoss
Takahashi
Walker
Yasuda
thyroid hormone
Frye
Kollros
Lauder
Marotte
Pollack
Prahlad
tumour
Webb
urogenital syst.
Cunha
Gulyas
Janssens
Kalt
Noumura
Schuetz
Teng

HORN

HYBRID
sa.Cell (cell
heredity)

Amphibia
Davies

Elinson
Johnson
Kawamura
Nishioka
Asteroidea
Lucas
Bivalvia
Stiles
Insecta
Leopold

HYPERPLASIA
s.Growth

HYPERTROPHY
s.Growth

HYPOPHYSIS

Amphibia
Connelly
Michael
Warshana
Aves
Betz
Thommes
Wilson
Mammalia
Wilson
Yasuda

HYPOXIA
s.Respiration

IMAGINAL DISC

Insecta
Arking
Ayaki
Bryant
Courtright
Cruz
Fausto
Ferkovich
Kuroda
Oberlander
Rapport
Ryerse

IMMUNOCHEMISTRY

Amphibia
Connelly
Dearlove
Insecta
Waring
Mammalia
Herold
Tamanoi

IMMUNOLOGY
(developm.)
sa.Self-recognition

general & miscellaneous & unspecified
Anderson
Gearhart
Globerson
Ruben
Sato
Seto
Van Alten

embryo
Bennett
Brown
Fitzsimmons
Mun
Orsini
Spiegelman
Wiley

fetus & larva & neonate
Auerbach
Lala
Nancarrow
Okano
Ostrand
Seto

gametes & germ cells
Bennett
Cabada
Dooher
Glass
Ishimoda
Roth
Shaver
Tsunoda

invertebrates
McClay
Rizki

organs & organogenesis
Fischman
Katagiri
LaVelle
Rivera
Takagi
Yang

placenta & fetal membranes
Roth

theoretical
Fitzsimmons

tumours
Artzt

IMPLANTATION

Mammalia
Boving
Butler
Church
Hendrickx
Izaike
Maurer
Morris
Orsini
Oshima
Pope
Potter
Rasweiler
Renfree
Suga
Torbit

INDUCTION
(embryonic)
sa.Competence
Determination
Epithelial-mesenchymal interaction
Pattern formation
specific organs, etc.

general
Eakin
Kelley

differentiation, organogenesis
Hall
Nogami

early developm.
Eyal
Hama
Meier
Nakamura
Sasaki

inductive agent
Barbieri
Kawakami
Sanchez
Yoshizaki

INFECTION
s.Bacteria
Virus
sa.Pathology

INNERVATION
s.specific organs, etc.

INSECTICIDE
s.Pesticide

INSEMINATION
s.Reproduction

INSULIN
s.Hormone(vert.)

INTEGUMENT
sa.Moult
Shell
Skin
Wound healing

Crustacea
Stevenson

Insecta
Bhaskaran
Cline
Counce
Ferkovich
Jacoby
Locke
Roller

INTERSEXUALITY

INTERSTITIAL CELL

Hydrozoa
Bode
Lenhoff
Lesh

INTESTINAL TRACT

Amphibia
Grubb
Michael
Rageh

Aves
Dunn
Moog

Homo
Herzfeld

Insecta
Poulson

Mammalia
Dunn
Hay
Herzfeld
Sack

IODINE
s.Chemical element

IONS
sa.Chemical element

Amphibia
Cameron
Kubota
Pool
Reynhout
Schuetz
Yoshizaki

Angiospermae
Matsumoto

Asteroidea
Barber

Aves
Doneen
Pool

Echinodermata
Crawford

Echinoidea
Barber
Harris
Nishioka
Lee

Insecta
Cameron
Jaffe
Meer

Mammalia
Cutler
Schuetz

Rhizopoda
Perkins

Teleostei
Jaffe
Nuccitelli

Xiphosura
Clapper

IRON
s.Chemical element

IRRADIATION
sa.Ultraviolet irradiation
X-irradiation

Amphibia
Dearlove
Kawamura
Nishioka
Tyler
Yamada

Aves
Muramatsu

Bivalvia
Stiles

Crustacea
Iwasaki
Nakazawa
Insecta
Amy
Ayaki
Grosch
Shiomi
Yoshikawa
Mammalia
Inouye
Jensh
Kobayashi
Muramatsu
Nakazawa
Tamanoi
Yamada
Yamaguchi
Teleostei
Egami
Etoh
Hyodo
Yamada

JAW

Amphibia
Graver
Grubb
Aves
Van Exan
Mammalia
Katsura
Kollar
Toto

JOINT
s.Skeleton

KARYOTYPE
s.Chromosome

KIDNEY

Amphibia
Etheridge
Shiokawa
Aves
Goicoechea
Jorquera
Molinari
Sato
Homo
Herzfeld
Kramer
Ohno
Mammalia
Aggarwal
Greengard
Herzfeld
Janssens
Ohno
Sato
Vertebrata
Stephens

LABYRINTH
s.Static organ

LARVAL
DEVELOPMENT
s.Development
(larval)

LARYNX
s.Respiratory
tract

LATERAL LINE
SYSTEM

LEAF
sa.Apical
dominance
Phyllotaxis

Angiospermae
Kaufman
Millington
Sachs
Filices
Hicks

LEUCOCYTES
s.Blood

LIFE CYCLE
sa.Development
(general)

LIGHT
sa.Environmental
factor

Amphibia
Hollyfield
Aves
Coleman
Watanabe
Insecta
Brust
Mammalia
Watanabe
Yew
Plantae
Beale

LIMB
sa.Regeneration
(traumatic)
Skeleton
Wing

general &
miscellaneous &
unspecified
Agnish
Goel
Nakamura
biochemical &
biophysical
Caplan
El Din
El Tawil
Khalil
Michael
Newman
Phillips
Schmidt
Vasan
descriptive &
comparative
Kelley
Sack
Searls
Stephens
experimental
Carlson
Elmer
El Tawil
Goetinck
Hassona
Khalil
Michael
Mittenthal
Naruse
Pollack
Saunders
Sawyer
Sedra
Solursh
Stephens
genetical
Nakamura
Upholt
pathological &
teratological
Battle
Buss
Kameyama
Kato
Kochhar
Loewenthal
Long
McCredie
Ranga
Schmidt
Shoobridge
Takehira
Yasuda
physiological
Bekoff
Ranga
Scott

LIP
s.Mouth

LIPID (&
fatty acid)
sa.Adipose
tissue

Amphibia
Armstrong
Bagnara
Miceli
Aves
Buss
Chepko
Roth
Zelenka
Homo
Nichols
Insecta
Butterworth
Silhacek
Mammalia
Chepenik
Gotoh
Nichols
Pagano
Pritchard
Struck
Wade

LITHIUM
s.Chemical
element

LIVER
sa.Gall bladder
Hematopoiesis
Regeneration
(traumatic)

biochemical &
biophysical
Hancock
Herzfeld
Murison
Nagata
Rennert

descriptive &
comparative
Seftalioglu
experimental
Sherer
genetical
Ernest
Morrow
physiological
Benzo
Coufalik
Greengard
Monder
Nakazawa
Sherer

LOCOMOTION
s.Behaviour

LONGEVITY

Insecta
Heim
Mammalia
Rafferty

LUNG (& air sac,
swim bladder)

general
Sato
Amphibia
Graver
Wilde
Mammalia
Armenti
Frederickson
Hay
Kauffman
Marchok
Masters
Seftalioglu

LYMPHATIC SYSTEM
sa.Bursa of
Fabricius
Spleen
Thymus

Amphibia
Tochinai
Aves
Asnani
Bonny
Shah
Van Alten
Homo
Takagi
Lacertilia
Shah
Mammalia
Gearhart
Globerson
Hendrickx
Pagano
Quevedo
Takagi
Van Alten
Yamada
Reptilia
Asnani
Bonny

LYMPHOCYTE
s.Lymphatic
system

LYSOSOME
s.Subcellular
component

MACROPHAGE
SYSTEM

Aves
Van Alten
Mammalia
Chamberlain

MAGNETIC FIELD
sa.Environmental
factor

Aves
Veneziano
Homo
Cole
Mammalia
Cole

MALFORMATION
sa.Abortion
Mouth
Teratogenesis

general &
miscellaneous &
unspecified
DeLahunta
Francis
Hoshino
Kameyama
Khan
Mitra
Oda
cell biology
Venkatasubramanian
digestive
tract & liver
Layton
embryo
Tanimura
fetus & larva &
neonate
Johnson
Nancarrow
genetics
Bersu
Gumbreck
Heim
Ishikawa
Knudsen
Makino
Shoji
nervous system &
sense organs
Chamberlain
Chase
Evans
Gumbreck
Marin
Pierro
Rodier
Sadler
Van der Westhuizen
skeletal & musc.
system
Agnish
Battle
Dickson
Elmer
Enlow
Kolesari
Maue
Ornoy
Overman
Shah
Shepard
Waterman
Yasuda
urogenital syst.
Allison
Chung
Gumbreck
Kramer
vasc. & lymph.
syst. & blood
Sachs

MALPIGHIAN
TUBULE
s.Excretory
system

MAMMARY GLAND

Homo
Hosick
Mammalia
Angello
Haswell
Hosick
Rivera
Wood

MAST CELL
sa.Bone marrow
Connective
tissue

MATERNAL EFFECT
s.Genetics

MATERNAL
INHERITANCE
s.Genetics

MATHEMATICS
s.Theoretical
biology

MATRIX
(extracellular)
s.Cell

MATURATION
s.Egg

MEIOSIS
s.Egg
sa.Embryology
(plant)
Oogenesis
Spermatogen.

MELANIN
s.Pigment(ation)
sa.Melanophore

MELANOPHORE
sa.Neural crest
Pigment(ation)

Amphibia
Thurmond
Aves
Reams
Mammalia
Galbraith
Reams
Teleostei
Gordon

MEMBRANE
s.Cell
Fertilisation
Subcellular
component

MERISTEM

Angiospermae
Sagawa
Steeves

MEROGONE
s.Genetics
Hybrid

MESENCHYME

Amphibia
Finnegan
Aves
Newman
Echinoidea
Solursh
Turner
Homo
Kelley

MESODERM
s.Embryology (experimental)
Embryology (general & descriptive)

MESONEPHROS
s.Kidney

METABOLISM (general)
sa.Energy
Respiration

Amphibia
Budeguer
Buhler
Crawford
Goto
Legname
McWhinnie
Miller
Salomon
Shukuya
Steinhardt
Angiospermae
Komamine
McFadden
Storey
Aves
Doneen
Fainstain
George
Kaplan
McWhinnie
Schjeide
Echinoidea
Asami
Black
Nakano
Nemoto
Steinhardt
Homo
Ornoy
Reynolds
Insecta
Doane
Svoboda
Weirich
Lacertilia
Satyanarayana
Mammalia
Borack
Doneen
Gunberg
Janssens
Monder
Nakazawa
Renfree
Reynolds
Saitoh
Swiatek
Torbit
Wade
Nematoda
McFadden
Plantae
Schjeide
Scyphozoa
Black

METAL
s.Chemical element

METAMORPHOSIS

Amphibia
Atkinson
Bagnara
Dearlove
Frye
Goto
Hiscock
Kollros
Lyerla
Okazaki
Shukuya
Sugimoto
Tyler
Ascidiacea
Ishikawa
Numakunai
Crustacea
Laufer
Cyclostomata
Bird
Manion
Potter
Youson
Gastropoda
Hadfield
Pilkington
Insecta
Bueno
Heming
Hunt
Kumaran
Laufer
Oberlander
Pener
Shappirio
Trematoda
Dresden

METANEPHROS
s.Kidney

METAPLASIA

Aves
Tahara
Yasuda
Mammalia
Hardy
Van Exan
Vertebrata
Eguchi

METHOD (& equipment)
sa.Rearing method

MICROCINE-MATOGRAPHY

Amphibia
Brick

MINERAL
s.Chemical element

MITOCHONDRIA
s.Subcellular component

MITOSIS
sa.Amitosis
Antimitotic agent
Cell
Cleavage
Growth factor

general & miscellaneous & unspecified
Bertalanffy
Horiuchi
Izaike
Kirchen
Koshida
Miller
Mineyuki
Morris
Ohta
Suga
Van Alten
biochemical & biophysical
Fosket
Hisanaga
Jaffe
Pool
Rennert
Sato
descriptive & comparative
Beams
Yoshioka
experimental
Bode
Cameron
DeHaan
De Terra
Kane
McAvoy
Poccia
Porzig
Redman
Reyer
Walker
pathological
Bertalanffy
physiological
Coleman
Furuya
Loy

MONSTROSITY
s.Malformation

MORPHOGENESIS
sa.Culture & preservation
Development
Embryology

general
Fallon
Ilan
Izzard
Lilien
Lipton
Martin
agents
Kalthoff
Schmidt
Schwalm
Weston
differentation, organogenesis
Armstrong
Banerjee
Eguchi
Erickson
Hall
Kawamura
Lee
Lesh
Miller
early developm.
Sanders
Shepard
Wiley
Yokoya
forces
Phillips
movements
Ballard
Brummett
Burnside
Campbell
Crossley
Erickson
Gordon
Hama
Jacobson
Johnson
Lesseps
Nakamura
Overman
Sadler
Sathananthan
Schoenwolf
Steinberg
Trinkaus
Wee
Zimmerman
plants
Kirk
Lacalli
regeneration
Carlson
Connelly
Grimes
slime mold
Rothman
unicellular organisms
Butzel
De Terra
Dillard

MORPHOGENETIC FIELD
s.Embryology (experimental)
Regeneration (traumatic)

MORTALITY (embryonic, fetal)
s.Pathology
sa.Abortion

MORULA
s.Cleavage

MOSAICISM (genetical)
s.Genetics

MOTILITY
s.Behaviour
Cell-behaviour
Morphogenesis

MOTOR END PLATE
s.Nervous system
sa.Synapse

MOULT(ING)

Insecta
Brooks
Minato
Teleostei
Krejsa

MOUTH, LIP & PALATE
sa.Pharynx

Aves
Tyler
Homo
Dickson
Enlow
Maue
Semba
Toto
Waterman
Zimmerman
Insecta
Heming
Mammalia
Asan
Bagwell
Biddle
Brinkley
Burk
Clark
Eto
Fujimoto
Herold
Juriloff
Long
Overman
Piddington
Ross
Shah
Slavkin
Toto
Tyler
Waterman
Wee
Yamasaki
Yoshioka
Zimmerman

MUCOPOLY-SACCHARIDE
s.Carbohydrate

MÜLLERIAN DUCT

Aves
Noumura
Teng

MULTIPLE BIRTH
s.Twins

MUSCLE
sa.Electric organ

general & miscellaneous & unspecified
Coleman
Crossley
Gasser
Traeger
biochemical & biophysical
Atkinson
Bayne
Caplan
Devlin
Fambrough
Finnegan
Fischman
Ishimoda
Lemanski
Love
Macarak
Przybylski
Ramirez
Rostas
Rotundo
Unsworth
cell biological
McKay
Sperelakis
descriptive & comparative
Allen
Finnegan
Forbes
Katsura
Lipton
Ontell
Sherman
Tweedle
experimental
Browder
Carlson
Cassens
Cole
Faulkner
Mark
Rostas
Solursh
Tweedle
Vanable
genetical
Donady
Pierro
Siddiqui
pathological & teratological
Allen
Austin
Deck
Dickson
Rostas
physiological
Denton
Przybylski
Shah
Sherman
Wilson

MUTAGENIC AGENT
general
Murison
Mammalia
Endo

MUTANT
sa.Gene
Phenocopy
general
Armstrong
Artzt
Bennett
Biddle
Bloom
Bryan
Imberski
Lenhoff
Sawhney
Shur
Ward
behavioural
McNutt
biochemical
Dickinson
Doane
Dung
Nishioka
Westenberg
cell-lethal
Arking
homoeotic
Kamrat
Postlethwait
Segal
lethal, incl.
semi- &
conditional
Buss
Juriloff
Nickla
Pai
Pollard
maternal effect
Bender
Counce
Hennen
Mohler
morphogenetic
Blamire
Counce
Elmer
Frankel
physiological
Doane
Galbraith
Sanders
Shepard
Vanable
reproductive
Butterworth
Dooher
structural
Bersu
Blamire
Chase
Goetinck
Jacoby
Knudsen
Loy
McDevitt
Somes
Spiegelman
Wilson
Wood
Wu
temp.-sensitive
Arking

MUTATION
s.Genetics

MYCETOME

MYELIN(ISATION)
s.Central
nervous system

MYOBLAST
s.Muscle

MYOGENESIS
s.Muscle

MYOSIN
s.Protein

MYOTOME
s.Somite

NASAL ORGAN
s.Olfactory
organ

NEMATOCYST

NEOPLASIA
s.Tumour

NEOTENY
s.Metamorphosis

NERVE
Amphibia
Foret
Mark
Aves
Ide
Scott
Gastropoda
Kater
Homo
Cauna
Hydrozoa
Lesh
Insecta
Wu
Mammalia
Cassens
Cauna
Cragg
Rees
Sack
Tweedle
Teleostei
Mark

NERVE CELL
Amphibia
Hollyfield
Aves
Fisher
Nuttall
Gastropoda
Pilkington
Mammalia
Das
Fisher
LaVelle
Peters
Semba

NERVOUS SYSTEM
sa.specific
components
Neuroglia
Neurotrans-
mitter
Synapse
general &
miscellaneous &
unspecified
Carri
Fedoroff
Gasser
Hamburger
Jacobson
Kawai
Kishida
Suburo
biochemical &
biophysical
Ide
Lasek
cell biological
Rostas
descriptive &
comparative
McCredie
Sherman
Takeuchi
experimental
Altman
Austin
Bromley
Cohen
Cole
Counce
Fambrough
Hanson
Heim
Ide
Kankel
Kimmel
Kollar
Lacalli
Lavail
Liversage
McCullough
Muller
Narayanan
Pollack
Scadding
Singer
Sohal
Vanable
Wolsky
genetical
Dung
Lavail
Wilson
pathological &
teratological
DeLahunta
Hendrickx
McCredie
Monie
Nakane
Oda
Poulson
Shoobridge
Takeuchi
Wilson
physiological
Atsumi
Avery
Bekoff
Ganchrow
Pollack
Sherman
Veneziano
Wilson

NEURAL CREST

Amphibia
Bagnara
Brick
Browder
Etheridge
Wakita
Aves
Erickson
Hall
Kollar
Kramer
McCredie
Maxwell
Meier
Nakamura
Shoobridge
Takahashi
West
Weston
Mammalia
Clark
Erickson
Hall
Kollar
Noden
Takahashi
Weston
Teleostei
Waterman

NEURAL PLATE

Amphibia
Burnside
Gordon
Jacobson
Aves
Jacobson
Schoenwolf
Teleostei
Burnside

NEURAL TUBE
s.Central Nervous System

NEUROGLIA

Hirudinea
Muller
Mammalia
Burton
Das
Juurlink
Matsuyama
Peters
Vaughn

NEURON
s.Nerve cell

NEUROSECRETION

Amphibia
Aoto
Crustacea
Aoto
Gastropoda
Goudsmit
Insecta
Beig
Ishizaki
Mammalia
Ibata
Pisces
Aoto

NEUROTRANSMITTER
sa.Hormone(vert.)

embryo
Brick
Wallace
fetus & larva & neonate
Artal
gametes & germ cells
Kalt
Nelson
Shaver
invertebrates
Ishizaki
Ozaki
nervous system
Anderson
Hollyfield
Lauder
organs (other)
Fambrough
Kalt
Rotundo
Wainwright
Wee

NEURULA(TION)

Amphibia
Jacobson
Kawakami
Schoenwolf
Aves
Jacobson
Schoenwolf

NITROGEN
s.Chemical element

NORMAL TABLE
s.Embryology (general & descriptive)

NOTOCHORD
Amphibia
Jacobson
Aves
Jacobson

NUCLEAR TRANSPLANTATION
s.Nucleus

NUCLEIC ACID
sa.specific nucleic acids
Nucleotide (& nucleoside)
general & miscellaneous & unspecified
Caston
Yang
embryo
Cabada
Hampel
McMaster
Sanchez
Schwalm
fetus & larva & neonate
Nakazawa
gametes & germ cells
Sanchez
Schwalm
invertebrates
Berry
Collier
Donady
Gay
Gerbi
Infante
Koga
Shaaya
Yanagisawa
molecular biol.
Gall
Gerbi
organs & organogenesis
Cabada
Nagata
plants
Blamire
Gerbi
Sorenson
unicellular organisms
Keynan

NUCLEO-CYTOPLASMIC INTERACTION

Amphibia
Brothers
DiBerardino
Grant
Hennen
Malacinski
Masui
Schuetz
Webb
Angiospermae
Bonnett
Asteroidea
Schuetz
Aves
McKay
Ciliata
De Terra
Pang
Tchang
Echinoidea
Kinoshita
Mammalia
McKay
Schuetz

NUCLEOLUS
s.Nucleus

NUCLEOTIDE (& nucleoside)

Acrasiales
Cox
Amphibia
Scadding
Asteroidea
Kanatani
Shirai
Aves
Caplan
Coleman
Solursh
Echinoidea
Nishioka
Insecta
Berry
Mammalia
Bertalanffy
Cutler
Greene
Kuriyama
Xiphosura
Clapper

NUCLEUS
sa.Chromosome
Nucleo-
cytoplasmic
interaction

general &
miscellaneous &
unspecified
DiBerardino
Mintz
Pang
Tchang
biochemical &
biophysical
Flickinger
Hanzely
Infante
Kidder
LaVelle
cell biological
Kunkle
descriptive &
comparative
Cruz
Elinson
Kessel
Locke
Ward
experimental
Briggs
Markert
genetical
Bloom
Gall

NUTRITION
(embryonic,
larval, etc.)

Amphibia
Etheridge
Aves
Goldie
Klein
Sastrohadinoto
Sukra
Insecta
Stay
Mammalia
Dahinten
Herzfeld
Klein
Pucciarelli
Sastrohadinoto
Sukra
Yu

OESOPHAGUS

Mammalia
Pandit

OESTROUS CYCLE
s.Reproduction

OLFACTORY ORGAN

Homo
Cauna
Mammalia
Cauna

OOCYTE
s.Egg
sa.Gamete

OOGENESIS
sa.Gamete
Vitellogenesis

general &
miscellaneous &
unspecified
Hennen
Humphries
Wourms
biochemical &
biophysical
Berry
Brothers
Goldsmith
Jacobs
Kurihara
Pelham
Schwalm
Smith
Tesoriero
Webb
Wormington
cell biological
Grey
descriptive &
comparative
Bou
Boyer
Cassidy
del Pino
Kessel
Kurihara
Mahowald
Miya
Sawada
Schwalm
Tesoriero
Valdez
experimental
Numakunai
Wakahara
genetical
Bachvarova
King
Mohler
Postlethwait
Spradling
pathological &
teratological
Iwasaki
physiological
Anderson
Postlethwait
Schroeder

OOPLASMIC
SEGREGATION
s.Egg

OPTIC CENTRE
& TRACT

Amphibia
Constantine
Fujisawa
Grant
Hanson
Hiscock
Kereem
Khalil
Michael
Moussad
Sharma
Straznicky
Aves
Bell
Hambley
LaVail
Morgan
Mammalia
Fisher
Guldner
Westenberg
Yamadori
Yamauchi
Yew
Teleostei
Mark
Marotte
Meyer
Morgan
Sharma

ORGANISATION
s.Pattern
formation

ORGANISER
s.Induction

ORGANOGENESIS
sa.specific
organs

Amphibia
Tweedell
Aves
Miller
Homo
Nakamura
Insecta
Berry
Bryant
Enslee
Mammalia
Kessel
Miller
Oda
Vertebrata
Kischer

OSMOREGULATION

OSSIFICATION
s.Skeleton

OSTEOGENESIS
s.Skeleton
sa.Bone

OVARY
sa.Gonad

Amphibia
Cabada
Sanchez
Asteroidea
Nagahama
Aves
Dang
Guraya
Parshad
Echinoidea
Albertini
Homo
Guraya
Insecta
Beig
Bender
Bueno
Fuchs
Kumaran
Mammalia
Albertini
Duke
Fisher
Guraya
Merchant

OVIDUCT
Elasmobranchii
Wourms
Mammalia
Hamner
Oliphant

OVIPOSITION
s.Egg
sa.Reproduction

OVULATION
s.Egg

OVULE
s.Embryology (plant)

OXYGEN
s.Chemical element
Environmental factor

PALATE
s.Mouth

PANCREAS
Aves
Benzo
Coalson
Kramer
Shah
Thommes
Van der Meulen
Homo
Pourany
Reynolds
Lacertilia
Shah
Mammalia
Coalson
Nagata
Reynolds

PARABIOSIS

PARASITISM
Crustacea
Izawa
Ooishi

PARATHYROID GLAND

PARTHENOGENESIS (& paedogenesis)
genesis
Amphibia
Poccia
Aves
Buss
Mun
Bivalvia
Stiles
Echinoidea
Ishikawa
Poccia
Sugiyama
Mammalia
Gulyas
Stevens

PATHOLOGY (developmental)
sa.Abortions
Anomaly
Bacteria
Malformation
Teratogenesis
Toxin
Virus
general & miscellaneous & unspecified
Macintyre
embryo
Tweedell
fetus & larva & neonate
Baetz
Brown
Burbacher
Buss
Chepenik
Newman
Ornoy
Reynolds
Tweedell
nervous system & sense organs
Agnew
Armati
Bryan
De Gennaro
DeLahunta
Kashiwamata
Matsuyama
Naruse
Sato
Semba
organs (other)
Allen
Angello
Armenti
Artal
Buss
Hardy
Marchok
Pourany
Rostas
Shepard
Wilson
placenta
Inbam
Kamakshi
Stratford

PATTERN FORMATION
sa.Induction
general
Fowler
Acrasiales
Cox
Nanjundiah
Amphibia
Bagnara
Bryant
Fallon
Ide
Kimmel
Lipton
Poole
Wilde
Angiospermae
Millington
Sachs
Ascidiacea
Kawamura
Nakauchi
Aves
Fallon
Kollar
Lipton
Meier
Newman
Saunders
Stephens
Chelonia
Fallon
Ciliata
Frankel
Tartar
Cyanophyceae
Wolk
Gastropoda
Wilde
Hydrozoa
Bode
Insecta
Bhaskaran
Bryant
Cline
Counce
Hanson
Meer
Nanjundiah
Nijhout
Roller
Ryerse
Segal
Mammalia
Fallon
Kollar
Saunders
Teleostei
Gordon
Kimmel
Wilde

PELVIC GIRDLE
s.Skeleton

PEPTIDE
s.Protein

PERITONEUM
s.Body cavity

PERIVITELLINE FLUID
s.Egg

PERMEABILITY
Insecta
Okada

PESTICIDE
Amphibia
Austin
Brooks
Prahlad
Tyler
Aves
Jaffee
Prahlad
Sudarwati
Surjono
Sutasurya
Swartz
Wyttenbach
Insecta
Wright

Teleostei
Crawford
Vertebrata
Pal

PHARMACOLOGY
s.Drug

PHARYNX
sa.Branchial region
Mouth

PHENOCOPY

PHOSPHORUS
s.Chemical element

PHOTOMORPHOGENESIS
Angiospermae
Furuya
Filices
Furuya
Kadota

PHYLLOTAXIS
sa.Leaf

PHYLOGENESIS
general
Gerbi
Amphibia
Scadding
Sutasurya
Aves
Frank
Smit
Chelonia
Sutasurya
Chlorophyceae
Iwasa
Chlorophyta
Imahori
Insecta
Dickinson
Mammalia
Luckett
Pisces
Sutasurya
Reptilia
Frank
Smit
Tunicata
Whittaker
Vertebrata
Bagnara
Wakita

PHYSICAL FACTOR
s.specific physical agents
Environmental factor

PHYSIOLOGY (developmental)
s.Embryology (experimental)
Embryology (physiol.)
sa.Development

PIGMENT(ATION)
sa.Chromatophore
Melanophore
Neural crest
Amphibia
Bagnara
Brick
Ide
Ascidiacea
Whittaker
Aves
Seiger
Whittaker
Zimmerman
Crustacea
Ranga
Echinoidea
Benson
Harris
Insecta
Hunt
Nijhout
Mammalia
Lavail
Mayer
Whittaker
Teleostei
Hasegawa
Tomita
Turbellaria
Kishida

PINEAL ORGAN (& parapineal organ)
Aves
Wainwright
Whittaker
Lacertilia
Goel

PITUITARY
s.Hypophysis

PLACENTA(TION)
sa.Blastocyst
Embryo-maternal relationship
Pregnancy
general & miscellaneous & unspecified
Boving
Izaike
Wisely
biochemical & biophysical
Renwick
Suga
descriptive & comparative
Butler
Kamakshi
Luckett
Mann
Stratford
experimental
Sherman
pathological & teratological
Baetz
Kamakshi
Kauffman
Ornoy
Stratford
Yasuda
physiological
Chepenik
Inbam
Miller
Ornoy
Persaud
Renfree
Rice

PLACODE
sa.Sense organ
Aves
Meier
Mammalia
Noden

PLEURA
s.Body cavity

POLAR BODY
s.Egg

POLARITY
s.Gradient
Symmetry

POLE CELL
s.Germ cell (primordial)

POLLEN (& Pollen tube)
s.Embryology (plant: experimental)
Fertilisation

POLLUTANT
Crustacea
Ranga
Echinoidea
Kobayashi
Gastropoda
Kobayashi
Mammalia
Gates
Lu
Teleostei
Weis

POLYAMINE
s.Amine

POLYEMBRYONY

POLYMORPHISM
Insecta
Beig
Campos

POLYPEPTIDE
s.Protein

POLYPLOIDY
Amphibia
Pollack
Gastropoda
Pilkington
Mammalia
Stark
Teleostei
Stanley

POLYSACCHARIDE
s.Carbohydrate

POSTEMBRYONIC DEVELOPMENT
s.Development (postembryonic, fetal)

POTENCY
s.Embryology (experimental)
sa.Determination
Pattern formation
Regulation

PREGNANCY
sa.Embryo-maternal relationship
Placenta(tion)

Mammalia
Nancarrow
Newman
Orsini
Saitoh

PRESERVATION
s.Culture & preservation

PRESSURE
sa.Environmental factor

PRIMITIVE STREAK
sa.Blastoderm

PRIMORDIAL GERM CELL
s.Germ cell (primordial)

PROLIFERATION
s.Mitosis

PRONEPHRIC DUCT
s.Urogenital system

PRONEPHROS
s.Kidney

PROSPECTIVE MAP
s.Embryology (experimental)

PROSTAGLANDIN

Aves
Kischer
Persaud
Mammalia
Greene
Ho
Kischer
Persaud

PROTEIN (incl. peptide & polypeptide)
sa.Ribonucleo-protein

general & miscellaneous & unspecified
Caston
DiBerardino
Ilan
Izzard
Marchesi
digestive tract & liver
Asami
Hancock
Murison
Nagata
embryo
Cabada
Clark
Crawford
DiBerardino
Dickey
Hampel
Klein
McMaster
Monahan
Pai
Reynhout
Risley
Sanchez
Sato
Torbit
Webb
Wee
West
Yamagami
Zimmerman
fetus & larva & neonate
Atkinson
Izaike
Nancarrow
Okano
Zimmerman
gametes & germ cells
Goldberg
Hollinger
Kalt
Reynhout
Risley
Roth
Sanchez
Sato
Schuetz
Steinhardt
Teng
Ward
insects
Bast
Berry
Courtright
Devlin
Donady
Gage
Gay
Goldsmith
Gubler
Hirose
Hosick
Jacobs
Kiefer
Koga
Laufer
Manning
Samols
Scandalios
Shaaya
Spradling
Suzuki
Trytek
Tsuda
Tsujimoto
Weirich
invertebrates (other)
Begg
Collier
Harris
Hisanaga
Humphreys
Infante
Kane
Kunkle
Laufer
Moment
Ozaki
Ruderman
Steinhardt
Stiles
Wilt
molecular biol.
Kinoshita
Kleinsmith
Newman
Scandalios
nervous system & sense organs
Austin
Brown
Dearlove
Goel
Hay
Jeffrey
Lasek
Lavail
LaVelle
McAvoy
McDevitt
Nerurkar
Pal
organs (other)
Klein
Kobayashi
Locke
Maurer
Redman
Sato
Schmidt
Yamagami
plants
Blamire
Crouch
Fosket
Lovett
Matsumoto
Quatrano
Scandalios
Shure
Storey
Sussex
regeneration
Dearlove
reproduction
Saitoh
skeletal & musc. system
Allen
Graver
Herold
Hirano
Ishimoda
Jeffrey
Lindholm
Love
Przybylski
Triffitt
Urist
Weinstock
slime molds
Dove
Kawai
Kuehn
O'Day
teratogenesis
Klein
tumours
Massover
unicellular organisms
Ron
Wolfe

urogenital system
Cabada

RADIATION
s.Irradiation

RADICAL (free)
s.Free radical

RADIOMIMETIC
AGENT

REAGGREGATION
s.Cell

REARING METHOD

Anura
Nace
Cephalopoda
Arnold
Chiroptera
Rasweiler
Cirripedia
Lewis
Cyprinoidei
Onozato
Decapoda
Shokita
Gadiformes
Yamada
Gobioidei
Dotsu
Hemiptera
Hunt
Percoidei
Yamada
Polychaeta
D'Asaro
Salmonoidei
Onozato

REGENERATION
(physiological)

Lacertilia
Maderson
Mammalia
Yamaguchi
Rodentia
Bertalanffy

REGENERATION
(traumatic)
sa.Interstitial
cell
Wound Healing

Amphibia
Liversage
Scadding
Wolsky
Anura
Aziz
Brooks
Carlson
El Tawil
Heim
Jaffe
Khalil
Kollros
Michael
Moussad
Richards
Sharma
Vanable
Van Stone
Weis
Williams
Ascidiacea
Nakauchi
Asteroidea
Cavey
Walker
Aves
Asnani
Bonny
Denton
Linsenmayer
Shah
Blattodea
Cohen
Hiradhar
O'Farrell
Shaaya
Whitelaw
Carnivora
Carlson
Faulkner
Westerman
Ciliata
Maloney
Williams
Crustacea
Hiradhar
Ranga
Cyclostomata
Cohen
Cyprinoidei
Guldner
Kemp
Mark
Marotte
Meyer
Sharma
Cyprinodontoidei
Weis
Decapoda
Mittenthal
Weis
Diptera
Arking
Bryant
Echinodermata
Hein
Hirudinea
Muller
Homo
Cauna
Cole
Urist
Hydroidea
Bode
Hydrozoa
Heath
Kato
Lenhoff
Tweedell
Insecta
Wolsky
Lacertilia
Beresford
Eappen
Hiradhar
Jayshree
Kinariwala
Maderson
Radhakrishnan
Ramachandran
Satyanarayana
Shah
Thomas
Lagomorpha
Urist
Mammalia
Burden
Goss
Nemertina
Iwata
Oligochaeta
Moment
Orthoptera
Enslee
Percoidei
Kemp
Mark
Primates
Toto
Pulmonata
Kater
Morrill
Reptilia
Asnani
Bonny
Rodentia
Asami
Austin
Beresford
Carlson
Cauna
Cole
Cragg
Devor
Faulkner
Ide
McGarry
Rees
Shah
Terayama
Tweedle
Urist
Waldman
Yamaguchi
Scyphozoa
Kato
Teleostei
Hasegawa
Turbellaria
Coward
Hay
Hein
Kishida
Sugino
Urodela
Bromley
Bryant
Carlson
Connelly
Dearlove
Dinsmore
Dresden
Foret
Graver
Grubb
Gulati
Guldner
Hay
Jaffe
Linsenmayer
McCullough
McDevitt
Mark
Okamoto
Reyer
Schmidt
Singer
Tassava
Vanable
Wilde
Vertebrata
Eguchi

REGULATION
(embryonic)

Insecta
Bhaskaran

REPRODUCTION
(asexual)
s. Asexual reproduction

REPRODUCTION
(sexual)
sa. Artificial insemination
Egg
Fertility (& sterility)
Reproductive system
Spermatozoa

Anomura
Haley
Anura
Bagnara
del Pino
Ascidiacea
Numakunai
Watanabe
Asteroidea
Kanatani
Schroeder
Shirai
Aves
Kamar
Blattodea
Stay
Carnivora
Hamner
Chiroptera
Uchida
Ciliata
Ron
Diptera
Adams
Brust
Doane
Leopold
Fungi
Leach
Gymnospermae
Greenwood
Insecta
Grosch
Mammalia
Tsunoda
Orthoptera
Leopold
Pener
Prosobranchia
D'Asaro
Rodentia
Gates
Hamner
Mitra
Salmonoidei
Donaldson
Teleostei
Dotsu
Takita
Vertebrata
Birge

REPRODUCTIVE SYSTEM
sa. specific parts
Genital tract
Urogenital system

Amphibia
Iwasawa
Aves
Muramatsu
Teng
Gastropoda
Goudsmit
Insecta
Voorhees
Mammalia
Armati
Beresford
Cunha
Fisher
Flickinger
Gunasegaran
Hendrickx
Mossman
Muramatsu
Yasuda

RESPIRATION
sa. Metabolism

Echinoidea
Nakazawa
Euglenophyceae
Holowinsky
Mammalia
Yu

RESPIRATORY TRACT

Aves
Noumura
Mammalia
Newman
Ross

RETICULO-ENDOTHELIAL SYSTEM
s. Macrophage system

RHESUS FACTOR
s. Immunology

RIBONUCLEIC ACID
sa. Nucleic acid
Ribonucleoprotein

differentiation
Miller
Pitot
embryo
Church
Crawford
Dawid
Flickinger
Jeffery
Kidder
Manes
Nemer
Noto
Rennert
Sasaki
Schindler
Shiokawa
Yamana
gametes & germ cells
Dworkin
Jeffery
Kalt
Pelham
Smith
invertebrates
Berry
Devlin
Gage
Goldsmith
Grimberg
Gubler
Gundling
Hosick
Humphreys
Jacobs
Jeffery
Kidder
Kiefer
Meer
Ruderman
Wilt
molecular biol.
Atkinson
Ilan
McIver
Monahan
Tocci
Webb
nervous system & sense organs
Austin
Brown
Church
Jeffrey
organs (other)
Banerjee
Bernfield
Rennert
Sperelakis
plants
Lovett
Mascarenhas
Quatrano
Sussex
regeneration
McCullough
slime molds
Jeffery
tumours
Pitot
unicellular organisms
Ron

RIBONUCLEOPROTEIN

RIBOSOME
s. Subcellular component

ROOT
sa. Meristem

SACCUS VASCULOSUS

SALIVARY GLAND

Insecta
Hakim
Hosick
Laufer
Mammalia
Banerjee
Bernfield
Cutler
Katsura
Pritchard
Redman
Toto

SCALE
sa. Skin

Aves
Goetinck

Teleostei
Krejsa

SEED (& Germination)

Angiospermae
Asahi
Bal
McFadden
Matsumoto
Nooden
Storey

SELF-RECOGNITION

Ascidiacea
Fuke
Watanabe

SEMEN
s.Reproduction

SENESCENCE
s.Age

SENSE ORGAN
sa.specific organs
Placode

Homo
Ganchrow
Insecta
Heming
Invertebrata
Eakin
Mammalia
Ide
Yamasaki
Oligochaeta
Moment

SERUM
s.Blood

SEX CHROMATIN
s.Nucleus

SEX DETERMINATION
sa.Sexual development

Angiospermae
Hicks
Amphibia
Richards
Homo
Yang
Insecta
Cline
Postlethwait
Reptilia
Maderson

SEX DIFFERENTIATION
sa.Sexual development

Amphibia
Iwasawa
Kawamura
Merchant
Nishioka
Angiospermae
Greyson
Aves
Fisher
Ciliata
Wolfe
Filices
Furuya
Fungi
Furuya
Inoue
Homo
Burdi
Mammalia
Fisher
Pucciarelli
Ramirez
Teleostei
Hishida
Takahashi

SEX HORMONE
s.Hormone(Inv.)
Hormone(Vert.)

SEX RATIO
sa.Sexual development
Homo
Ikeuchi
Sasaki
Insecta
Poulson

SEX REVERSAL
sa. Sexual development

Amphibia
Liang
Merchant
Teleostei
Hishida
Stoss

SEXUAL DEVELOPMENT
sa.specific organs
Reproductive system
Sex determ.
Sex different.
Sex ratio
Sex reversal

Aves
Noumura
Chlorophyceae
Iwasa
Saito
Insecta
Bender
Wright
Mammalia
Chung
Teleostei
Takahashi

SHELL (body covering)
sa.Carapace

Diatomeae
Gordon

SHELL (egg)
s.Egg covering

SHELL GLAND
s.Integument
Oviduct

SHOOT
sa.Meristem

Angiospermae
Kaufman
Millington
Sachs
Steeves

SHOULDER GIRDLE
s.Skeleton

SILK GLAND

Insecta
Gage
Grimberg
Hakim
Hirose
Manning
Morrow
Samols
Suzuki
Tsuda
Tsujimoto

SKELETON
sa.specific parts
Bone
Cartilage

Amphibia
Brooks
Davies
Kemp
Aves
Hall
Pierro
Chondrostei
Kemp
Echinoidea
Benson
Herold
Kitajima
Morrill
Okazaki
Uemura
Elasmobranchii
Kemp
Homo
Cole
Felts
Lindholm
Meyer
Insecta
Counce
Mammalia
Beresford
Cole
Evans
Felts
Hall
Hirano
Lindholm
Nogami
Oohira
Ornoy
Triffitt
Urist
Teleostei
Kemp

SKIN
sa.Carapace
Epidermis
Integument
Pigment(ation)
Wound healing

Amphibia
Dinsmore

Fry
Kollros
Aves
Gopinath
Kischer
Kollar
Sawyer
Scott
Homo
Cauna
Hardy
Kischer
Mammalia
Cauna
Devor
Hardy
Kischer
Kollar
Reams
Van Exan
Teleostei
Krejsa
Vertebrata
Krejsa

SKULL (& visceral skeleton)
sa.Chondrocranium
Jaw

Amphibia
Gaudin
Aves
Burdi
Frank
Smit
Tyler
Chondrostei
Jollie
Elasmobranchii
Jollie
Holostei
Jollie
Homo
Enlow
Gasser
Shah
Mammalia
Dahinten
Gasser
Hendrickx
Kochhar
Pucciarelli
Toto
Tyler
Reptilia
Frank
Gaudin
Smit
Teleostei
Jollie
Vertebrata
Jollie

SOMATIC MUTATION
s.Genetics

SOMATIC RECOMBINATION
s.Cell heredity

SOMITE

Amphibia
Jacobson
Poole
Aves
Jacobson

SPERMATOGENESIS
sa.Gamete

general & miscellaneous & unspecified
Clermont
Lai
Schuetz
biochemical & biophysical
Bennett
Byrd
Goldberg
Kalt
Kessel
cell biological
Bloch
Lakshmanan
Walker
descriptive & comparative
Byrd
Kalt
Kessel
Koehler
Sawada
experimental
Kotani
Schwalm
genetical
Begg
Kiefer
Risley
Teng
pathological & teratological
Chrisman
Dooher
Hyodo
Yasuda
physiological
Sanders

SPERMATOPHORE
s.Spermatozoa

SPERMATOZOA
sa.Gamete

Amphibia
Garrido
Pugin
Shaver
Crustacea
Koehler
Echinodermata
Hiramoto
Echinoidea
Ishikawa
Kunkle
Lee
Nelson
Ohta
Rikmenspoel
Elasmobranchii
Wourms
Hydrozoa
Miller
Insecta
Lai
Mammalia
Akruk
Boell
Byrd
del Rio
Guraya
Hamner
Nelson
Oliphant
Quiros
Rikmenspoel
Zelarayan
Nematoda
Roberts
Ward
Teleostei
Stoss

SPERMIOGENESIS
s.Spermatogenesis

SPINAL CORD

Amphibia
Dinsmore
Pollack
Aves
Benzo
Fisher
Schoenwolf
Homo
Muller
Mammalia
Fisher
Marin
Vaughn
Vertebrata
Martin

SPLEEN

Aves
Asnani
Betz
Bonny
Mun
Shah
Lacertilia
Shah
Mammalia
Greengard
Rennert
Reptilia
Asnani
Bonny

SPORE (& sporulation)

Bacteria
Galor
Ginzburg
Keynan
Sandler
Charophyceae
Imahori
Chlorophyceae
Millington
Filices
DeMaggio
Furuya
Fungi
Cantino
Ellis
Leach
Lovett
Musci
DeMaggio

STATIC ORGAN

STERILITY
s.Fertility (& sterility)

STEROID
s.Hormone(Inv.)
Hormone(Vert.)

STOLON
s.Asexual reproduction

STOMACH

Mammalia
Hay
Panchamukhi
Pandit

SUBCELLULAR COMPONENT

general
Asahi
Counce
Gavin
Katsura
Shihira
annulate lamella
Kessel
centriole
Endo
Ishikawa
Ohta
chloroplast
Beale
Holowinsky
Honda
Lyman
cytoskeleton
Bell
Hall
Harris
Jeffery
Kane
Lovett
Takagi
Trinkaus
Webb
Wiley
Williams
food vacuole
Pollock
gamma particle
Cantino
Golgi complex
Roth
Sathananthan
lysosome
Butterworth
membrane (intracellular)
Holowinsky
microbody
Hanzely
microsome
Nakazawa
mitochondria
Brothers
Goto
Iwamatsu
Nakazawa
Ryerse
Shukuya
Webb
mitotic apparatus
Kane
Kiefer
Meyerhof
Poccia
Sakai
Sato
Sawada
myofibril
Lemanski
peroxisome
Trytek
ribosome
Caston
Gerbi
Kiefer
Koga
Luck

SUBCOMMISSURAL ORGAN
s.Brain

SUCKER
s.Gland

SUGAR
s.Carbohydrate

SULPHYDRYL GROUPS

Mammalia
Galbraith

SWIM BLADDER
s.Lung

SYMBIOSIS
sa.Mycetome

Insecta
Brooks
Trytek

SYMMETRY (& asymmetry)
sa.Gradient

general
Wilde
Amphibia
Hassona
Khalil
Kubota
Manes
Michael
Sedra
Ascidiacea
Kawamura
Nakauchi
Aves
Eyal
Mattan
Mitrani
Coelenterata
Freeman
Filices
Wada
Gastropoda
Freeman
Mammalia
Layton

SYNAPSE

Amphibia
Anderson
Constantine
Fisher
Fujisawa
Guldner
Kimmel
Rotshenker
Aves
Denton
Jeffrey
Narayanan
Peusner
Rostas
Sohal
Straznicky
Crustacea
Mittenthal
Hirudinea
Muller
Ready
Homo
Cragg
Ganchrow
Mammalia
Burden
Cragg
Fisher
Guldner
Jeffrey
Lauder
Ontell
Tweedle
Westerman
Teleostei
Guldner
Kimmel

TAIL
sa.Regeneration (traumatic)

Amphibia
Dinsmore
Ascidiacea
Numakunai

TEMPERATURE
sa.Environmental factor

Angiospermae
Sawhney
Insecta
Brust
Pener
Yajima
Mammalia
Bank
Chrisman
Maurer
Oligochaeta
Moment
Reptilia
Yntema
Teleostei
Fahy

TENTACLE

Amphibia
Scadding
Hydrozoa
Heath

TERATOGENESIS (experimental)
sa.Anomaly (early development)
Drug
Mouth
Malformation
Pathology
Thalidomide
specific agents
specific organs

general & miscellaneous & unspecified
Burdi
Fisher
Jensh
Johnson
Klein
Kochhar
Persaud
Tanaka
Tellone

action mechanism, effect on cells
Enslee
Fantel
Kamimura
Kaplan
Kihara
Kochhar
Mirkes
Shepard
Tanimura
Wilson
Wyttenbach

effect of drugs
Agnish
Boone
Fantel
Kolesari
Kong
Overman
Radha
Shah
Syarief
Wallace

eff.of handling
Bank

eff.of hormones
Asan
Hendrickx
Sadler
Slavkin
Walker

eff.of maternal metabolism & endocrine imbalance
Chrisman
Kaplan
Schmidt
Slavkin

effect of other chemicals (organ not specified)
Burbacher
Chen
Christian
Clark
Evans
Ferm
Hanada
Joneja
Kamimura
Kaplan
Kihara
Lu
Montiegel
Mottet
Mun
Muramatsu
Noden
Pierro
Reynolds
Shepard
Staples
Sudarwati
Surjono
Sutasurya
Weis
Yasuda

eff.on behaviour
Tanimura

effect on early stages
Bloom
Gunberg
Prahlad
Razon
Wallace

effect on limb
Dinsmore
El Tawil
Kameyama
Kato
Khalil
Loewenthal
Long
Michael
Takehira

eff.on nervous system & sense organs
Chamberlain
Cragg
Das
Devor
Hayashi
Hoshino
Kameyama
Keino
LaVelle
McCredie
Marin
Monie
Nakane
Oda
Shoobridge
Wilson
Yanai

effect on other organs
Asan
Frederickson
Gilani
Hendrickx
Masters
Michael
Newman
Rageh
Warshana
Wee
Yasuda
Zimmerman

eff.on skeletal & musc.system
Brooks
Maderson
Nogami
Oohira
Ornoy
Schmidt
Yoshioka

genetic effects
Biddle
Kolesari
Long

invertebrates
Barber
Grosch
Johnson

nutritional & intrauterine factors
Kennedy
Klein
Sastrohadinoto
Shupe
Sukra

physical & environmental factors
Bank
Ferm
Frederickson
Grosch
Muramatsu
Staples
Tyler
Weis
Yajima

TERATOLOGY
s.Anomaly (early development)
Malformation

TERATOMA

Mammalia
Levine
Martin
Matsuzawa
Matthaei
Mintz
Schindler
Sherman
Stevens
Takagi
Webb

TESTIS

Aves
Dang
Guraya
Lee
Parshad

Homo
Guraya

Insecta
Schwalm

Mammalia
Bryan
Chung
Goldberg
Guraya
Schuetz
Stevens
Wolfe

THALIDOMIDE

Mammalia
McCredie

THEORETICAL BIOLOGY (developm.)

general
Fowler

Acrasiales
Nanjundiah

Amphibia
Gordon
Jacobson
Aves
Jacobson
Maslow
Chlorophyta
Lacalli
Diatomeae
Gordon
Homo
Gasser
Maslow
Insecta
Nanjundiah
Mammalia
Gordon
Hirsch
Lauder
Maslow
Ontell
Plantae
Lacalli

THORACIC CAVITY
s.Body cavity

THYMUS

Aves
Bollum
Fitzsimmons
Homo
Makinodan
Mammalia
Bollum
Makinodan
Simmons

THYREOSTATIC AGENT
s.Thyroid gland

THYROID GLAND

Amphibia
El Din
Michael
Prahlad
Rageh
Warshana
Aves
Hilfer
Prahlad
Thommes
Mammalia
del Rio
Quiros
Valdez

THYROXINE
s.Hormone(Vert.)

TISSUE

Amphibia
Steinberg
Ascidiacea
Watanabe
Aves
Armstrong
Steinberg
Homo
Cole
Insecta
Cruz
Mammalia
Cole
Kessel
Knox
Spiegelman

TONGUE
s.Mouth

TOOTH

Amphibia
Graver
Howes
Kemp
Kollros
Miller
Chondrostei
Kemp
Elasmobranchii
Howes
Kemp
Homo
Burdi
Ooe
Toto
Triffitt
Mammalia
Avery
Brownell
Bryan
Galbraith
Graver
Kollar
Leblond
Levenson
Luckett
Michaeli
Miller
Ooe
Redman
Sayegh
Slavkin
Toto
Triffitt
Weinstock
Yoshioka
Reptilia
Howes
Miller
Teleostei
Herold
Howes
Kemp
Vertebrata
Herold
Wakita

TOXIN
sa.Bacteria
Teratogenesis

Mammalia
Iannaccone
Ornoy
Sato

TRACE ELEMENT
s.Chemical element

TRACHEAL SYSTEM

TRANSFER (blastocyst, etc.)

Mammalia
Church
Dickey
Kanagawa
Soma
Sugie
Takano
Torbit

TRANSPLANTATION
sa.Immunology
Nucleus

Crustacea
Mittenthal
Insecta
Brooks
Mammalia
Bryan
Carlson
Das
Faulkner
Fisher
Hirano
Triffitt
Urist
Vertebrata
Miller

TROPHOBLAST
s.Blastocyst
Placenta

TUMOUR
sa.Carcinogenetic agent
Teratoma

general
Caston
Pitot
Amphibia
Tweedell
Angiospermae
Ames
Ascidiacea
Whittaker
Aves
Coleman
Maslow
Mayhew
Oppenheimer
Temin
Trinkaus
Whittaker
Echinoidea
Oppenheimer
Homo
Auersperg
Hancock
Herzfeld
Lyser
Maslow
Shupe
Insecta
Rizki
Mammalia
Aggarwal
Artzt
Auerbach
Auersperg
Bertalanffy
Cunha
Cutler
Flickinger
Furusawa
Hancock
Haswell
Herzfeld
Iannaccone
Jetten
Kauffman
Lhotka
Lyser

Maslow
Massover
Mayhew
Miller
Monder
Oppenheimer
Rivera
Shupe
Terayama
Trinkaus
Waelsch
Waldman
Whittaker
Teleostei
Trinkaus
Yamazaki

TWINS (& other multiple births)

ULTIMOBRANCHIAL BODY

ULTRASOUND
sa.Environmental factor

Amphibia
Wolsky
Insecta
Wolsky
Mammalia
Shoji
Takabayashi

ULTRAVIOLET IRRADIATION

Insecta
Kalthoff
Yajima

UMBILICAL CORD
sa. Vascular syst.

URETER
s.Urogenital system

URINARY BLADDER
s.Urogenital system

URINARY SYSTEM
s.Excretory system

UROGENITAL SYSTEM
sa.Excretory system
Genital tract
Reproductive system

Amphibia
Poole
Steinberg
Mammalia
Allison
Gumbreck

UTERINE TUBE
s.Oviduct

UTERUS

Mammalia
Boving
Lala
Luck
Orsini
Oshima
Singhas
Terayama
Yang

VAGINA
s.Genital tract

VASCULAR SYSTEM
sa. Circulation
Heart (& great vessel)
specific organs, etc.

Homo
Lhotka
Macarak
Monie
Poole
Mammalia
Auerbach
Poole

VASCULAR TISSUE

Angiospermae
Komamine
Sachs

VASCULARISATION
s.specific organs, etc.

VEGETATIVE GRADIENT
s.Gradient
sa.Embryology (experimental)
Embryology (physiol.)

VEGETATIVE NERVOUS SYSTEM
s.Autonomic nervous system

VERTEBRA(vertebral column)

Aves
Kaplan
Kolesari
Homo
Kaplan
Muller
Mammalia
Kaplan
Teleostei
Fahy
Gabriel

VIRUS

Amphibia
Tweedell
Aves
Roth
Temin
Homo
Shepard
Mammalia
Brown
Sheffield

VISCERA

Mammalia
Layton

VISCERAL SKELETON
s.Skull (& visceral skeleton)

VITAL STAINING

VITAMIN

general
Caston

Amphibia
El Tawil
Khalil
Michael
Aves
Levenson
Homo
Miller
Mammalia
Armenti
Borack
Hardy
Herold
Levenson
Marchok
Miller
Ornoy
Persaud
Radha
Schmidt
Van Exan

VITELLINE MEMBRANE
s.Egg

VITELLOGENESIS
sa.Yolk

Crustacea
Beams
Gastropoda
Sathananthan
Insecta
Bell
Brooks
Mahowald
Trytek

VIVIPARITY

Ascidiacea
Mukai
Crossopterygii
Wourms
Elasmobranchii
Wourms
Insecta
Stay
Teleostei
Takano
Wourms

WATER

WING

Insecta
Nijhout

WOLFFIAN DUCT
s.Urogenital system

WOUND HEALING
Aves
Takeuchi
Homo
Deck
Kischer
Insecta
Bryant
Lacertilia
Eappen
Mammalia
Armstrong
Deck
Grimes
Kobayashi
Reptilia
Maderson
Xiphosura
Armstrong

XANTHOPHORE
s.Chromatophore

X-IRRADIATION
sa.Irradiation
Radiomimetic agent
Mammalia
Bertalanffy
Das
Hayashi
Hoshino
Kameyama
Shoji
Takehira

YOLK
sa.Egg
Nutrition
Vitellogenesis
Amphibia
Ward
Aves
Fainstain
Kobayashi
Nonami
Crustacea
Laufer
Echinoidea
Ozaki
Insecta
Bast
Laufer

YOLK SAC
s.Embryonic membrane

BOOK NOTICES

Most of these notices are descriptive rather than critical. Their main aim is to provide an idea of the scope and potential usefulness of the books. All notices (unless signed) are written by the editor; if necessary he solicits the opinion of the staff of the Hubrecht Laboratory or of other specialists.

Dissertations, some research monographs, and other works of a very specialised nature or written in languages not generally known, are usually provided with brief annotations only.

Various types of books are distinguished according to the following criteria:

Treatises: large comparative or systematic works, incl. serial publications
Textbooks: incl. "readers", introductions, compendia, practical manuals, etc.
Monographs: incl. collections of reviews, essays, atlases, etc.
Dissertations: academic theses
Symposium reports: incl. reports of congresses, conferences, meetings, etc.
Collections of papers: containing original research papers by various authors, or reprintings of papers by one author
Books of readings: containing reprintings of papers by various authors
Reference works: incl. glossaries, data books, source books, etc.

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GENERAL DEVELOPMENTAL BIOLOGY (see also 37,42)

Textbooks

1.
L.W.BROWDER. 1980. DEVELOPMENTAL BIOLOGY
Saunders, Philadelphia. XIV,602 pp., 380 figs., 11 tabs., combined taxonomic and subject index. $ 15.95

Contents: 1. The origins of developmental biology, 2. Gene function in cell determination and differentiation, 3. The nature of genetic information and its utilization during cell differentiation, 4. Control of gene expression during development, 5. Spermatogenesis, 6. Oogenesis, 7. Plant gametogenesis, 8. Fertilization, 9. Becoming multicellular, 10. The developmental consequences of cleavage, 11. Gene expression during the initiation of development, 12. Forming the organizational framework of the multicellular embryo, 13. Organogenesis: determination, morphogenesis, and differentiation.

It seems that the market for developmental biology texts is still not saturated. This latest addition, written for advanced undergraduates, is a

solid, well-organised text, yet I was curiously disappointed by it. The book is crammed full of factual material, most of it up to date and well represented, but the conceptual scaffolding is rather scanty. The emphasis is on the control of gene expression as an explanation of cell differentiation, but the author seems to shy away from equally important global control mechanisms such as morphogenetic fields and positional information. No theories of pattern formation are discussed except in a cursory way in relation to limb development at the very end of the book. "Field" is not even an entry in the subject index.

The book presents an integration of comtemporary research with the classical literature and includes some material on plant development, notably in chs.2, 7, 8, 9 and 12. Ch.13 considers four different systems to exemplify organogenesis: epithelio-mesenchymal interactions, the lens system, hematopoiesis, and the limb. A didactically interesting feature is the discussion of important procedures, processes and systems in seven boxed-in sections separate from the main text. Parts of the manuscript were reviewed by some two dozen North-American developmental biologists.

All chapters have long reference lists which fully document the text and thus exceed the usual lists of further reading. The book is profusely and beautifully illustrated; a large proportion of the figures are photographs and electron micrographs.

2.
L.GALLIEN. 1979. L'OEUF ET LES STADES INITIAUX DE L'ONTOGENÈSE
Presses Univ. de France, Paris. Serie Le Biologiste. 324 pp., 119 figs., 3 tabs., index of animal names

Contents (abridged): I. Introduction (7 chs.); II. Gamétogenèse (6); III. Organisation de l'oeuf (8); IV. Segmentation (4); V. Gastrulation, stades initiaux de la morphogenèse chez quelques types de diblastiques et de protostomes (4); VI. Gastrulation et stades initiaux de la morphogenèse chez les deutérostomes (8)

The back cover of this book says that the text is intended as an "introduction to the experimental investigation of developmental biology". This is only true inasmuch as it prepares the student for other books. There is almost no experimental embryology in it, and only a little chemical or molecular embryology. For the rest the approach is strongly descriptive. The book reads as Part one of a more comprehensive text.

Another feature of the book, which is perhaps typical of French texts, is that the author carefully restricts himself to what is considered as the "classical" body of knowledge and seems to avoid more controversial and recent issues. Moreover, he makes some generalisations (e.g. on the "germ line" *vs.* the "soma") which today are difficult to uphold. The book is good on the classical subjects but lacks stimulus for the student of today.

3.
A.MONROY and A.A.MOSCONA. 1979. INTRODUCTORY CONCEPTS IN DEVELOPMENTAL BIOLOGY
Univ. of Chicago Press, Chicago, etc. VIII,252 pp., 132 figs., 4 tabs., combined author and subject index. $ 20.80, £ 9.60

Contents: 1. The beginnings of embryonic development, 2. Programming of early development during oogenesis, 3. Maturation of the oocyte, 4. Fertilization, 5. Cleavage, 6. Regulation of DNA synthesis and gene expression in the embryo, 7. Cell organization in embryonic morphogenesis, 8. Cell aggregation: construction of multicellular systems from cell suspensions

This book is a strange hybrid and it is not clear for which readership it is intended. This is probably due to the fact that it arose from a series

of lectures delivered to a very mixed audience. Its hybrid nature will be apparent from a quotation from the preface: .... "it should serve as an up-to-date introduction for beginners and as a guidebook for graduate students and teachers to some of the issues, answers, and challenges in developmental biology". No book can be expected to serve this dual function. The authors concede that their approach is selective (and in fact it largely reflects their own special fields of enquiry), but this is incompatible with the requirements of an introductory text. There are far too many gaps in the coverage.

This is not to say that what there is is bad. Most of it makes interesting reading for more advanced students and for newcomers to the field. In chapters 2-6 the emphasis lies on molecular-genetic control mechanisms, in the remaining chapters on cellular events.

The book is attractively turned out and very well illustrated. The literature in the extensive chapter bibliographies rarely goes beyond 1976.

4.
S.B.OPPENHEIMER. 1980. INTRODUCTION TO EMBRYONIC DEVELOPMENT
Allyn & Bacon, Boston, etc. XII,404 pp., 214 figs., combined author, animal & subject indexes. $ 18.95

Contents: Introduction: The puzzle of differentiation; 1. Gametogenesis, 2. Fertilization, 3. Cleavage, 4. Gastrulation, 5. Neurulation and germ layer formation, 6. Early human embryo and primary germ layer derivatives, 7. Organogenesis, 8. Embryonic induction, 9. Mechanisms of morphogenesis, 10. Differentiation: nucleic acids, 11. Differentiation: proteins, 12. Differentiation: higher orders of structure, 13. Cancer and embryology

This text for undergraduates has much to recommend it. It is clearly written and logically arranged, with structural facts coming first and mechanisms only later (particularly molecular mechanisms). The reading lists are good and the key terms printed in the margins and the glossary are useful learning aids.

Although the treatment is up to date in many areas (e.g. the role of the cell surface) a major criticism is that this does not hold for all areas: cases in point are the formation of the mesoderm in amphibians and amphibian limb regeneration.

The lay-out of the book is attractive; the illustrations consist of simple but effective line drawings and very good photographs and scanning electron micrographs. In the reading lists there are some annoying misprints in authors' names.

Monographs

5.
G.P.KOROTKOVA. 1979. THE ORIGIN AND EVOLUTION OF ONTOGENESIS (in Russian)
Leningrad Univ., Leningrad. 296 pp., 47 figs. English summary. R.3.00

Introduces a new hypothesis of biological reproduction based on laws of multiplication by division and of symmetry transformations; discussion of morphogenetic regulation and the relation between asexual and sexual reproduction; treatment ranges from prokaryotes to higher eukaryotes; 14-page bibliography (9 pp. Russian).

6.
D.R.NEWTH and M.BALLS, eds. 1979. MATERNAL EFFECTS IN DEVELOPMENT
Cambridge Univ. Press, Cambridge, etc. VIII,420 pp., 64 figs., 26 tabs., combined taxonomic and subject index. £ 35.00

Contributors: Beetschen, Billett, Billington, Cohen, Deuchar, Dohmen, Ford, Jones, Knowland, Laskey, Lees, McLaren, Malacinsky, Morriss, Smith, Sommerville, Tilney-Bassett, Warn

The topic of the fourth symposium of the British Society for Developmental Biology, held in Exeter in September 1978, was a timely one. It is salutary for embryologists and others to be reminded from time to time that development is not the outcome of the genetic programme inscribed in the DNA, but that the egg is the decoding machinery for the tape that is the genetic code (paraphrased from Jack Cohen's thoughtful introductory chapter). Cohen even advances the possibility that the embryo essentially inherits the code and the decoding machine separately and in parallel (even if the mother's code contains some of the instructions for building the tape player). "To understand the first steps of morphogenesis we must understand not only the code but also the decoding machine", and that is where maternal effects can help us considerably.

All of the 17 reviews in the volume are interesting. No discussions are recorded. There is much emphasis on the amphibians and mammals while *Drosophila* is somewhat underrepresented with one paper on pole plasm. It is a pity that only a few papers have summaries. The volume is adequately illustrated.

7.
S.SUBTELNY and I.R.KONIGSBERG, eds. 1979. DETERMINANTS OF SPATIAL ORGANIZATION
Academic Press, New York, etc. Thirty-Seventh Symposium of the Soc. for Developm. Biol. XXIV,333 pp., 122 figs., 23 tabs., combined taxonomic & subject index. $ 24.00, £ 15.60

Contributors: Brothers, Bryant, Campbell, Dohmen, Frankel, Freeman, Hirsh, Kalthoff, Lawrence, Mahowald, Nüsslein-Volhard, Quatrano, Whittaker, Wolk

It is easy to be enthusiastic about this book, the outcome of a symposium held in Madison, Wis. in June 1978. The meeting was well planned and the contributions are almost without exception highly interesting and readable reviews of recent work; some of them make exciting reading. The 10-page preface by the second editor is in fact a thoughtful summary of the symposium.

The 14 chapters are arranged in three sections as follows: Cytoplasmic localization in early development (6); Maternal effect mutants of development (3, of which one on nematodes); Pattern formation in developing systems (5, of which one each on ciliates and blue-green algae).

The volume is well produced and has a profusion of good figures.

8.
S.SUBTELNY and I.M.SUSSEX, eds. 1978. THE CLONAL BASIS OF DEVELOPMENT
Academic Press, New York, etc. 36th Symposium of Soc. for Developm. Biol. VIII,251 pp., 104 figs., 12 tabs., subject index. $ 19.50

Contributors: Bryant, Coe, Garcia-Bellido, Green, McClintock, Meins, Migeon, Morata, Mullen, Nesbitt, Sachs, Stewart, Wieschaus

The notion of a clonal basis for development is emerging as a possible alternative or at least a complement for the morphogenetic field concept. It was a good idea of the Society for Developmental Biology to devote this symposium (held in Raleigh, N.C. in June 1977) to what is essentially an

inventory of our present knowledge of clones in development. The difficult question of how clones relate to fields remains largely reserved for the future.

Most of the 13 reviews discuss clones, or the possible role of clones, in *Drosophila* (3), mammals (2) and plants (4), as well as nuclear and genetic events in clone initiation in man and plants (one each). Two contributions appear to have little or no relation to clones: that by Bryant on pattern regulation in amphibian limbs, and that by Green on the control of gene expression by insertion mutants in *Drosophila*.

The volume is well produced and illustrated.

THEORETICAL AND MATHEMATICAL DEVELOPMENTAL BIOLOGY

Monographs

9.

I.LAMPRECHT and A.I.ZOTIN, eds. 1978. THERMODYNAMICS OF BIOLOGICAL PROCESSES De Gruyter, Berlin, etc. XIV,428 pp., 69 figs., 19 tabs., combined subject & taxonomic index. DM 180.00

Contents: I. General problems of biological thermodynamics (3 chs.); II. Qualitative phenomenological theory of the development of organisms (4); III. Quantitative phenomenological theory of development of organisms (5); IV. Heat production of living systems (6); V. Some problems of energetics of developmental processes (3); VI. Dissipative structures (5); VII. Probability state and orderliness of biological systems (4)

This book arose from a collaborative effort of the Central Institute for Biochemistry and Biophysics, Free University, West Berlin and the Laboratory of Developmental Biology, Academy of Sciences of the USSR, Moscow. Six contributors belong to the former institute and 15 to the latter. Most authors are adherents of the global approach to non-linear irreversible processes based on the Prigogine-Wiame theory. Prior to publication the subject matter was subjected to extensive discussion in various meetings in Russia and East and West Germany.

In their preface and concluding remarks the editors are careful to point out that this area of study is still in its infancy. The main aim of the book is to reveal basic problems and to summarise first results. The latter are confined to studies by the authors which are still in progress.

PLANT DEVELOPMENT (general) (see also 1,8)

Textbooks

10.

G.FELLENBERG. 1978. ENTWICKLUNGSPHYSIOLOGIE DER PFLANZEN: eine Einführung Thieme, Stuttgart. XII,242 pp., 101 figs., 20 tabs., combined subject & taxonomic index. DM 16.80 (paper)

This concise introductory text is surprisingly comprehensive in all its terseness, and moreover didactically very clear. It is in five main parts: General principles (genetic basis, information transfer, plant hormones, external factors); Cell division and growth; Cell expansion; Morphogenesis; Specific steps in differentiation. The last of these covers more than a third of the book and has 10 chapters on diverse subjects including rest periods and activation, regeneration, turnover, gametogenesis, fertilisation and embryogenesis.

The book is well illustrated and has a list of modern supplementary reading covering some 15 pages in small print and arranged by chapters. A suggestion for a second edition would be the inclusion of a list of abbreviations and a brief glossary of scientific terms.

11.
W.P.JACOBS. 1979. PLANT HORMONES AND PLANT DEVELOPMENT
Cambridge Univ. Press, Cambridge, etc. XII,339 pp., 96 figs., 6 tabs., author index, combined subject & taxonomic index. £ 18.00 (cloth), £ 5.95 (paper)

Contents: 1. Polarity, phototropism, and the discovery of auxin, 2. The action of light in phototropism, 3. The chemical nature of endogenous auxin, 4. Other developmental effects of auxin, 5. The biochemical basis of auxin action, 6. Leaf and bud development and cytokinins, 7. "Flowering hormones" and gibberellins, 8. Senescence, abscission, and abscisic acid, 9. Movement of hormones, 10. Roots and hormones, 11. Overview

The aim of this new text for undergraduates and beginning graduates is to describe the hormones of vascular plants and to discuss the ways in which hormones control and coordinate development. Consequently the emphasis is strongly physiological and cell differentiation and morphogenesis are not treated in their own right. The historical development of ideas is described at some length. The author's approach is critical, as reflected in his choice of only "sound" papers as references and in his extensive treatment of crucial research procedures, coupled with often very valuable advice to the student.

The book is illustrated with clear line drawings, diagrams and graphs and has a bibliography of more than 800 titles and a brief list of books and reviews for further reading.

12.
T.C.MOORE. 1979. BIOCHEMISTRY AND PHYSIOLOGY OF PLANT HORMONES
Springer, New York, etc. XII,274 pp., 164 figs., 13 tabs., combined taxonomic & subject index. DM 49.00, approx. US $ 27.00

Contents: 1. Introduction, 2. Auxins, 3 Gibberellins, 4. Cytokinins, 5. Abscisic acid and related compounds, 6. Ethylene, 7. Phytochrome

This book was written primarily for students but can also be useful to other readers. From the textbook perspective it presents the subject as a factual baseline, with relatively more emphasis on biochemistry than on physiology and without extensive discussion of hormonal interactions and other complexities; the author's experience is that this is the best format for graduate courses.

The text is fluently written and fully documented in the lengthy chapter bibliographies, which moreover contain material for additional reading (it would have been better if these two classes had been listed separately). The book is produced with great care and illustrated with excellent line drawings, diagrams and photographs.

13.
I.K.ROSS. 1979. BIOLOGY OF THE FUNGI: their development, regulation, and associations
McGraw-Hill, New York, etc. McGraw-Hill Series in Organismic Biology. XII,499 pp., 243 figs., 4 tabs., combined subject and taxonomic index. £ 14.95, DM 51.90

Fungi are important to developmental biology because of their curious, mainly non-cellular or semi-cellular nature, and because developmental regulation can be studied in spores which do not require the introduction of another genome through fertilisation. This stimulating text for undergraduates would seem ideally suited to bring developmental biologists of other specialisations up to date, the more so as it includes the slime moulds though these are nowadays no longer placed with the fungi.

Of the three major parts that on development and regulation is of most direct interest to our readers. It occupies the middle third of the text and has chapters on spore germination and the thallus, on vegetative and sexual behaviour, and on multicellularity in ascomycetes and basidiomycetes, with a separate chapter on morphogenesis in the slime moulds. The information assembled in these chapters is quite up to date as textbooks go, although pattern formation in *Dictyostelium* is not treated.

The book is attractively produced and very well illustrated.

INVERTEBRATE DEVELOPMENT (general)

Treatises

14.
H.FRIEDRICH. 1979. NEMERTINI
Fischer, Jena. Morphogenese der Tiere, Reihe 1: Deskriptive Morphogenese, Lieferung 3:D5-I. 136 pp., 30 figs., 9 tabs., author and subject indexes. M 37.00

This is the 3rd issue of the prestigious treatise edited by Seidel. It conforms to the issues that have appeared so far in that much attention is also given to the structure and biology of the adults, to vegetative reproduction, and to maintenance and rearing methods.

The volume is well produced and illustrated with good line drawings from various sources. It has a glossary of technical terms and a bibliography of some 140 titles.
(see also notice no.15.)

15.
O.PFLUGFELDER. 1980. PROTARTHROPODA
Fischer, Jena. Morphogenese der Tiere, Reihe 1: Deskriptive Morphogenese, Lieferung 4:J-I. 124 pp., 97 figs., author index, combined subject & taxonomic index. M 49.00

The first two instalments of this ambitious new treatise were announced in Gen. Embryol. Inf. Serv. vol.17, 2, 1978. Meanwhile a volume on the nemerteans by Friedrich has also appeared (see notice no.14). The present volume deals in three separate chapters with the *Onychophora*, *Tardigrada* and *Pentastomida*. Apart from the descriptive embryology, each chapter deals briefly with systematics, adult characteristics, reproduction and way of life (as well as rearing methods for the first group).

The book is well illustrated with line drawings from various sources and a few micrographs, and has a brief glossary.

Textbooks

16.
O.M.IVANOVA-KAZAS. 1979. COMPARATIVE EMBRYOLOGY OF THE INVERTEBRATES; Arthropoda (Onychophora, Tardigrada, Pentastomida, Pantopoda, Trilobita, Chelicerata and Crustacea) (in Russian)
Publ. House Nauka, Moscow. 224 pp., 112 figs. R.3.20

Deals separately with the 7 classes mentioned and with Xiphosura; treats experimental embryology in spiders and crustaceans, and the evolution of cleavage in the latter; separate chapter on evolutionary problems; numerous good line drawings from various sources; 10-page bibliography (largely non-Russian).

VERTEBRATE DEVELOPMENT (general) (no entries)

DEVELOPMENT OF MAMMALS AND MAN (general) (see also 45)

Textbooks

17.
H.ABDEL RAZEK. 1978. ATLAS DER EMBRYOLOGIE. 2 Vols.
Enke Verlag, Stuttgart
Bildband IV,195 pp., subject index
Tabellenband VIII,184 pp.
DM 39.80 (paper)

These two little volumes (prepared for the press by Prof.Strauss, Bern, after the author's untimely death) constitute an extremely useful aid for the teaching of human embryology. One volume consists entirely of line drawings by the author. These are diagrammatic, often 3-dimensional, and usually very clear. Their aim is to convey the spatial configurations that are so difficult to glean from serial sections. They are conveniently arranged according to organ systems. The most common developmental anomalies are also shown.

The other volume contains the text in tabular form. It closely follows the illustrations, is written in "telegram style" and contains a surprising amount of information, clearly laid out. It is clear that the book has arisen from considerable teaching experience. It is concluded by a list of selected references arranged mainly according to organ systems.

18.
D.J.BEGLEY, J.A.FIRTH and J.R.S.HOULT. 1980. HUMAN REPRODUCTION AND DEVELOPMENTAL BIOLOGY
Macmillan, London, etc. X,250 pp., 165 figs., 18 tabs., subject index.
£ 20.00 (cloth), £ 9.95 (paper)

The aim of this integrated, "multidisciplinary" text is "to explain the biological principles of human reproduction and development by tracing the process from the formation of gametes and their union, through the intrauterine development of the fetus, to birth, growth and ageing". Because of its emphasis on mechanisms rather than structure the book has a "modern" flavour often absent in books for beginning medical students. Moreover the style of writing is such as to hold the attention of the reader.

Understandably, the strictly embryological chapters (embryogenesis and organogenesis) cover only about 20% of the book and consequently provide only the bare minimum of facts. Nevertheless, also there basic mechanisms are duly emphasized. In addition there are chapters on implantation, the structure and function of the placenta, reproductive failure and wastage (including congenital malformations and teratogenesis), and maternal and fetal physiology.

The illustrations are simple but effective. The reading lists, though very brief, are well selected.

19.
G.-H.SCHUMACHER. 1979. EMBRYONALE ENTWICKLUNG DES MENSCHEN. 4th edit.
Volk und Gesundheit, Berlin (DDR). 250 pp., 153 figs., 7 tabs., subject index. M 10.00

That a new edition of this book was required two years after the previous one (1977) shows how popular it is, particularly in East Germany. It has

gradually developed into a text suitable for university teaching. The present edition is much longer than the 3rd and has many more illustrations, part of them using colour for greater clarity.

The contents have been rearranged to form two major parts, the first of which has been particularly expanded for this edition: General embryology (including reproduction, early development, placentation and teratology), and Specific embryology (special organogenesis). New additions are a brief historical chapter and a glossary of Latin and Greek terms with their plural forms and genders.

Symposium reports

20.
F.NAFTOLIN, ed. 1978. ABNORMAL FETAL GROWTH: BIOLOGICAL BASES AND CONSEQUENCES
Verlag Chemie, Weinheim. Dahlem Konferenzen: Life Sciences Research Report 10. 290 pp., 16 figs., 15 tabs., subject index & index to contributors. DM 52.00 (paper)

Contents: I. Definition, epidemiology, identification of abnormal fetal growth (background papers by Ounsted, Robinson), II. Early development (Gropp, Bernfield, Hall), III. Fetal-placental growth-A (Alexander, Greengard, Hill), IV. Fetal-placental growth-B (Meschia, Novy, Benirschke)

The Dahlem Konferenzen are meetings without formal lectures. A number of background reviews are circulated in advance and discussed at the meeting. The published report contains the background papers and Group Reports drawn up by a rapporteur.

The present meeting was held in Berlin in February 1978. It brought together an international group of 40 embryologists, cell biologists, perinatologists and others, which made for unique interdisciplinary interaction. The section of most immediate interest to mammalian embryologists is the second one, which covers 63 pages. Here the participants in the group discussions were Beier, Bernfield, Caplan, Friesen, Gardner, Gropp, Habedank, Lindner, Neubert, Sara, Skalko and Solomon, with Nathanielsz as rapporteur. The 9-page Group Report has its own list of 30 references.

REPRODUCTION, SEXUAL DEVELOPMENT, GAMETOGENESIS, FERTILISATION (see also 5, 18,41,45)

Symposium reports

21.
CIBA - Symposium. 1979. MATERNAL RECOGNITION OF PREGNANCY
Excerpta Medica, Amsterdam, etc. Ciba Foundation Symposium 64 (new series). X,425 pp., 108 figs., 33 tabs., subject index, index to contributors. Dfl.104.00, $ 50.75

Contributors: Aitken, Allen, Beer, Beier, Bell, Billingham, Burton, Cerini, Chavez, Cumming, Enders, Findley, Flint, Fujino, Gadsby, R.Gay, S.Gay, Heap, Hearn, Maule Walker, Mootz, Poyser, Rizzino, Ross, Saunders, Schlafke, Sellens, Shalgi, Sheers, Sherman, Short, Staples, Tyndale-Biscoe, Van Blerkom, Yoshinaga

This symposium was held in May 1978 and, as usual with this series, is a mine of recent information, not least because of the extensive group discussions, complete with references. There are also five general discussions on specific topics at the end of the book. The participants came from the USA, the UK, Australia and various Western European countries. The 15 contributions are up-to-date progress reports and reviews which together cover almost all conceivable aspects of the problem. Much attention goes to delayed

implantation and embryonic diapause.

Two papers are of more specific interest to embryologists: that by Enders and Schlafke on comparative aspects of blastocyst-endometrial interaction, and that by Sherman *et al.* on changes in the blastocyst surface at implantation.

The book is neatly turned out and well illustrated.

22.
P.MAULÉON *et al.*, organisers. 1979. IVth WORKSHOP ON THE DEVELOPMENT AND MATURATION OF REPRODUCTIVE ORGANS AND FUNCTIONS
Inst. Natl. de la Rech. Agron., Jouy-en-Josas. Ann. Biol. Anim. Biochim. Biophys. vol.19, no.4B. 246 pp., 147 figs., 3 pls., 13 tabs.

Contents: Organogenesis and sexual differentiation of the gonads (7 papers); Meiosis and its regulation (6); Steroidogenesis throughout the maturation of the gonad (5); Development of gonadotrophin responsiveness and feed-back mechanisms (6)

This Workshop was held in Luynes (France) in October 1978. The research reports in the first three sections are of general interest to all mammalian developmental biologists, those in the first section more specifically to embryologists.

All papers are in English. They deal with man, various mammalian species and the chick. The contributors came from France, various other European countries, Israel, the U.S.A., Mexico and Japan. The papers are well illustrated, often with beautiful light and electron micrographs.

23.
H.L.VALLET and I.H.PORTER, eds. 1979. GENETIC MECHANISMS OF SEXUAL DEVELOPMENT
Academic Press, New York, etc. XIV,497 pp., 154 figs., 59 tabs., subject index. $ 23.00, £ 14.95

This symposium was held in November 1976 and the publication is therefore long overdue. Although it is predominantly of interest to members of the medical profession, it merits to be briefly reviewed here. The large majority of the 42 contributors are Americans working in biomedical institutes. Most of the 22 papers are progress reports of a strong clinical slant, and only a few describe data obtained in animals. An interesting historical paper by Gordon is followed by an introductory review by Grumbach that bears the same title as the book.

IMPLANTATION, PLACENTA, FETAL MEMBRANES AND FLUIDS (see also 20,21)

Textbooks

24.
A.LEMERCIER. 1979. UN EXAMPLE DE PLACENTATION CHEZ UN PETIT MAMMIFÈRE COMMUN: LA TAUPE EUROPÉENNE, *Talpa europea* L. (Insectivores)
Serv.du Film de Rech. Scient., Paris. 60 pp., numerous illustrations, 65 colour slides

This laboratory guide for students is in the form of a loose-leafed text and 65 colour slides. The text is illustrated with good line drawings. Although the description of reproduction and placental development in the mole is competent, little attention is given to comparative aspects, so that the student could easily get a wrong impression of mammalian placentation as a whole.

The colour slides are of good quality but are not labelled, and no mention is made of the tissue distortions that occur in them.

This guide may have its uses but only with much additional information provided by the instructor.

May be borrowed from the Central Embryological Library, Hubrecht Laboratory, Uppsalalaan 8, 3584 CT Utrecht (Netherlands)

Monographs

25.
D.V.I.FAIRWEATHER and T.K.A.B.ESKES, eds. 1978. AMNIOTIC FLUID; research and clinical application. 2nd revised edit.
Excerpta Medica, Amsterdam, etc. XII,455 pp., 136 figs., 68 tabs., subject index. Dfl.190.00

The first edition of this collaborative research monograph (1973) was briefly reviewed in Gen. Embryol. Inf. Serv. vol.15 part 2, 1974. For the 2nd edition all the original 17 chapters were revised and updated (rarely beyond 1975 or '76) and four new chapters were added: two on phospholipids (pulmonary surfactant) and one each on alpha-fetoprotein and alkaline phosphatase. There are now 30 contributors in all.

TERATOGENESIS, CONGENITAL MALFORMATIONS (no entries)

DEVELOPMENTAL PATHOLOGY, CANCER

Monographs

26.
W.H.FISHMAN and H.BUSCH, eds. 1979. ONCODEVELOPMENTAL ANTIGENS
Academic Press, New York, etc. Methods in Cancer Research vol.18.
XXII,409 pp., 85 figs., 35 tabs., subject index. $ 31.00, £ 20.20

Oncoembryonic antigens are embryonic or fetal gene products found in neoplastic cells. The subject is of considerable theoretical and practical interest to developmental biologists who work on the regulation of gene expression. Although this book was written mainly for oncologists, several chapters will be useful to mammalian embryologists.

This holds particularly for the review by Solter and Damjanov on teratocarcinoma and the expression of oncodevelopmental genes. There is another chapter on teratocarcinoma-derived cell lines stabilised by SV40 transformation, by Levine. The chapter by Hirai deals largely with alpha-fetoprotein in both normal ontogeny and cancer. The remaining seven chapters are either predominantly clinical or methodological in nature.

REGENERATION, RENEWAL (no entries)

ORGANOGENESIS, HISTOGENESIS (incl. tissue and organ culture, histochemistry)
(see also 34,39,43)

Monographs

27.
T.BÄR. 1980. THE VASCULAR SYSTEM OF THE CEREBRAL CORTEX
Springer, Berlin, etc. Advan. Anat. Embryol. Cell Biol. vol.59. VI,62 pp., 33 figs., 8 tabs., subject index. DM 40.00, approx. US $ 22.40 (paper)

Morphometric LM and EM study of vascularisation and vascular sprouting in ink-injected occipital cortex of rats 1-900 days after birth; automatic image analysis; autoradiography; O_2-deficiency experiments.

28.
E.KELEMEN, W.CALVO, T.M.FLIEDNER. 1979. ATLAS OF HUMAN HEMOPOIETIC DEVELOPMENT
Springer, Berlin, etc. XIV,266 pp., 343 figs., 9 tabs., subject index.
DM 368.00, $ 202.40

This atlas, by a Hungarian and two West-German authors, is based on the study of 190 embryos and fetuses ranging mostly from 3 to 28 weeks of age. The introduction surveys the whole period of extraembryonic and embryonic hemopoiesis. The actual atlas is in three parts: Diffuse hemopoiesis, Intravascular hemopoietic cells and Organ-bound hemopoiesis. A brief text accompanies the plates in each of these. An attempt was made to identify different types of hemopoietic precursor cells that may represent early progenitor cells or indeed stem cells.

The histological, cytological and E.M. pictures in the plates are of superb quality and many of them are in colour. There is a bibliography of 66 titles. The book is sumptuously produced.

29.
G.I.POLJAKOW. 1979. ENTWICKLUNG DER NEURONEN DER MENSCHLICHEN GROSSHIRNRINDE
(aus dem russischen Originalmanuskript übersetzt von T.Gross, J.Brümmer und I.Moser), herausgegeben von B.Schönheit
Thieme, Leipzig. 320 pp., 514 figs. M.125.00

This book is the product of many years of research by one of Russia's leading neuroanatomists, one-time head of the Laboratory for Neuronal Structure of the Brain, Academy of Medical Sciences, Moscow. It is an exhaustive, systematic description and interpretation of cortical neuronal structure based on several thousand Golgi series of ca. 200 embryonic and fetal brains from the 2nd month of development. The discussion is based on an original classification of neuronal shapes.

The book is illustrated with a host of meticulous pen-and-ink drawings of neuronal shapes. A loose table summarises the author's "genealogical tree" of the neurons seen in the neocortex. The book is produced with great care. It has a bibliography of 130 titles.

30.
C.D.A.VERWOERD and C.G.VAN OOSTROM. 1979. CEPHALIC NEURAL CREST AND PLACODES
Springer, Berlin, etc. Advan. Anat. Embryol. Cell Biol. vol.58. VI,75 pp., 41 figs., subject index. DM 48.00, approx. US $ 26.90 (paper)

Study of regional differences in thickness of the ectoderm covering the head; 120 mouse embryos of 7-10 days after conception (0-21 somites); photographic reconstructions from serial sections with screen codes indicating thickness of ectoderm; neural plate and placodes originate by thinning-out of adjoining ectoderm; comparison with available data on human material.

Dissertations

31.
H.E.KÖNIG. 1979. ANATOMIE UND ENTWICKLUNG DER BLUTGEFÄSSE IN DER SCHÄDELHÖHLE DER HAUSWIEDERKÄUER (RIND, SCHAF UND ZIEGE)
Ferdinand Enke Verlag, Stuttgart. Habilitation Dissertation, München.
VII,215 pp., 53 figs. DM 39.00 (paper)

Developmental part (27 pp.) confined to 64 bovine embryos and fetuses (CRL 4-800mm); blood vessels of brain and meninges; early stages: serial sections, later stages: injection-corrosion; 6 photographs of corrosion preparations.

May be borrowed from the Central Embryological Library, Hubrecht Laboratory, Uppsalalaan 8, 3584 CT Utrecht (Netherlands)

32.
R.D.FREEMAN, ed. 1979. DEVELOPMENTAL NEUROBIOLOGY OF VISION
Plenum, New York, etc. NATO Advanced Study Inst. Series A: Life Sciences vol.27. XIV,446 pp., 158 figs., 8 tabs., subject index. $ 39.50; countries outside USA ca.$ 47.50

Contents:I.Studies of the kitten's visual system (12 papers), II. Studies of the cat's visual system (7), III. Studies of the monkey's visual system (3), IV.Studies of the human's visual system (4), V. Studies of the visual systems of various sub-primate species (9), VI. Neurochemical studies (2)

This collection of short review and research papers arose from an international conference held in Crete, Greece in September 1978. It is a book for the specialist and it is difficult to discern a central theme. By far the majority of the papers deal with postnatal mammals.

In section V the following papers may be of interest to embryologists: Fraser on neuroplasticity in *Xenopus*, Bunt *et al.* on nerve fibre guidance mechanisms and polarity control in visual projection, and Rubinson and Kennedy on the organisation of the optic tectum in the lamprey. Of the two papers in Section VI one deals with the cholinergic system in the chicken retina and the other with enzyme development in dissociated chick embryo brain cells.

The volume is well printed and adequately illustrated.

33.
J.V.RUCH, organiser. 1979. TOOTH MORPHOGENESIS AND DIFFERENTIATION; an international workshop
Edit. S.N.P.M.D., Paris. Journal de Biol. Buccale vol.6, p.187-342 and vol.7, p.37-156. 271 pp., 183 figs., 17 tabs. FFr.150.00

Contents: Aspects of odontogenesis in lower vertebrates (2 papers); Phylogenetic aspects of odontogenesis (3); Aspects of odontogenesis in mammalia (6); Aspects of ameloblast differentiation (2); Biochemical aspects of odontogenesis (6)

This international workshop was held near Strasbourg (France) in September 1978. Its publication in book form will be welcomed by all those interested in tooth development and by many other morphogeneticists as well. Some of the more theoretically oriented papers (particularly those by Butler, Osborn and Lumsden) are interesting because, despite certain controversies, they provide a good overview of the problems of pattern formation in a system that is not usually treated in books on that subject.

The 33 contributors are from France, various other European countries, Israel and North America. The 20 papers vary greatly in format; some are brief research reports, others longer review-like or theoretical accounts; all have summaries in three languages. A variety of animal forms are dealt with, and many sophisticated methods applied. The 15-page introductory paper on epithelial-mesenchymal interactions is by Slavkin.

The book is well produced and has beautiful illustrations.

CELLULAR DEVELOPMENTAL BIOLOGY (incl. cell culture, cytochemistry) (see also 8,28,29,32,38)

Monographs

34.
K.N.PRASAD. 1980. REGULATION OF DIFFERENTIATION IN MAMMALIAN NERVE CELLS Plenum, New York, etc. XIV,245 pp., 34 figs., 28 tabs., subject index. $ 24.50; countries outside USA ca. $ 29.50

Contents: 1. Definition and methodologies (28 pp.), 2. Neural induction (20), 3. Role of cyclic nucleotides in regulation of differentiation of nerve cells (104), 4. Role of agents other than cAMP in the regulation of differentiation of nerve cells (34), 5. Parent and hybrid neuroblastoma cells in culture as a model system for neuronal function (18), 6. Some aspects of development of nervous tissue (34)

This monograph is a useful summary of an important field. However, the fact that the chapter bibliographies very rarely go beyond 1976 means that several recent advances are missed out. A case in point is the recent work on the neuroblastoma plasma membrane and cell cycle.

Chapter 1 contains a useful description of the amphibian neural induction system and of the six major *in vitro* techniques in use for nerve cells. Ch.4 discusses, among other things, Nerve Growth Factor, serum requirement and various hormones. Some of the aspects dealt with in ch.6 are morphogenesis, cell recognition and adhesion, neuronal death, locus specificity (for some reason discussed under the previous heading!), and neuronal plasticity.

The book is illustrated almost exclusively with graphs and diagrams.

Symposium reports

35.
A.S.G.CURTIS and J.D.PITTS, eds. 1980. CELL ADHESION AND MOTILITY Cambridge Univ. Press, Cambridge, etc. 3rd Symp. Brit. Soc. for Cell Biol. XII,500 pp., 105 figs., 36 tabs., combined subject and taxonomic index. £ 40.00

Contributors: Barondes, Curtis, Dołowy, Doroszewski, Dunn, Edebo, Gerisch, Gingell, Gordon, Hughes, Koch, Lackie, Olden, Rajaraman, Rees, Rutter, Skerrow, Watt

Although this report of a symposium held in England (at an unspecified date) contains little that is directly relevant to developmental biology, the subject is obviously of eminent importance for this field of enquiry. Of the 18 papers 11 are by authors or groups from the U.K., three from North America, and four from Poland, Sweden and Switzerland. Most of them are longish reviews while a few are more restricted in scope. They deal with physico-chemical principles of cell adhesion and with adhesion and motility in a variety of cell types.

The two papers of most direct interest to our readers are that by Gerisch *et al.* on cell adhesion in slime moulds and that by Barondes on developmentally regulated lectins in slime moulds and chick embryos. Other papers deal with histocompatibility systems, cell surface glycoproteins such as fibronectin, and cytoskeleton-membrane interactions.

The book is very well produced and illustrated and has a very detailed index.

36.
S.HATANO, H.ISHIKAWA and H.SATO, eds. 1979. CELL MOTILITY: MOLECULES AND ORGANIZATION
Univ. Park Press, Baltimore. XII,696 pp., 344 figs., 28 tabs., subject index. £ 30.75

This truly international conference was held in Nagoya, Japan in September 1978. Although its chief concern is not developmental the subject is of obvious importance to developmental biologists. The original conference manuscripts were extended by review material and the results of the conference discussions were incorporated, so that the book is useful as a reference source.

The 43 chapters are arranged in five parts as follows: Actin, myosin and regulatory proteins (12 papers); Cinematographic demonstration of cell motility (6); Cell movement (7); Distribution and localization (8); Cell division (10). The six chapters of immediate embryological interest are confined to sea urchin eggs (cytokinesis and microvillus formation); their authors are Mabuchi, Spudich *et al.*, Kane, Hiramoto, Kojima and Nakashima, and Mohri.

The volume is beautifully produced and illustrated.

37.
N.LE DOUARIN, ed. 1979. CELL LINEAGE, STEM CELLS AND CELL DETERMINATION
North-Holland, Amsterdam, etc. INSERM Symposium No.10. XVI,378 pp., 147 figs., 31 tabs., index to contributors. Dfl.115.00, $ 56.00

This international workshop was held in Seillac (France) in May 1979 and publication has thus been very rapid. The resulting volume is somewhat heterogeneous and some contributions seem out of place. The format of the papers varies widely and very few have summaries or conclusions. Nevertheless, there is much of value in the book since all papers deal with very recent work either in review form or as research reports. No discussions are recorded.

Almost all papers in the sections on Segregation of cell lines (8), Mouse teratocarcinoma(6), and Stability of the determined state (9) are of (sometimes considerable) interest to embryologists. The remaining section on Blood-forming cell systems (10 papers) is somewhat difficult to assess for the non-specialist.

The book is well produced and illustrated but has no subject index.

DEVELOPMENTAL BIOCHEMISTRY, MOLECULAR BIOLOGY (see also 26,40,43)

Symposium reports

38.
G.STAMATOYANNOPOULOS and A.W.NIENHUIS, eds. 1979. CELLULAR AND MOLECULAR REGULATION OF HEMOGLOBIN SWITCHING
Grune & Stratton, New York, etc. XXIII,792 pp., 224 figs., 71 tabs., subject index. $ 68.50

Contents (abridged): A. Human fetal hemoglobin (8 papers); B. Physiology of hemoglobin switching (4); C. Hemoglobins in early development (5); D. Regulation of erythropoiesis (4); E. Hemoglobin switching in culture (6); F. Commitment and biochemical differentiation of erythroid cells (4); G. Organization of globin genes (5); H. Globin mRNA structure (4); I. Metabolism of globin mRNA (4); J. Control of globin gene expression (4)

The large majority of participants and contributors in this conference, held in Seattle, Wash. in June 1978, were North-Americans. Most of the 48 papers are brief to medium-length mixtures of review and recent research

material, and most are followed by group discussions (without references or illustrations). Most of the material relates to man, various mammals, and the chick.

The table of contents above speaks for itself. The book is printed on art paper and adequately illustrated. The subject index is rather short and an index to contributors is lacking.

DEVELOPMENTAL GENETICS, EVOLUTION (see also 5,6,23)

Monographs

39.
N.S.LEBEDKINA. 1979. THE EVOLUTION OF THE AMPHIBIAN SKULL; problems of morphological integration (in Russian)
Publ. House Nauka, Moscow. 284 pp., 100 figs., 11 tabs.

Study based on original work; skull development in urodeles; homology of skull bones in urodeles; structural development of bony skull types in amphibians; monophyletic origin of comtemporary amphibia; phylogenesis of correlating systems; numerous line drawings, both original and from other sources; 20-page bibliography (4 pp. Russian)

40.
J.G.SCANDALIOS, ed. 1979. PHYSIOLOGICAL GENETICS
Academic Press, New York, etc. Physiological Ecology Series. XII,280 pp., 62 figs., 21 tabs., subject index. $ 24.00

Contributors: Carlson, Ho, Johnson, Levings, Paigen, Parke, Pring, Scandalios, Scott

The chapters in this book were not intended as comprehensive reviews but represent personal accounts of developments best known to each writer. The chapters average some 40 pages in length and are well organised. All authors are Americans.

The chapter that appears of most general interest to our readers is the first, by Paigen, entitled Genetic factors in developmental regulation. It devotes much attention to the intriguing class of genes called temporal, and assumed to be involved in the developmental programming of the activity of other genes. In a separate section on homeotic mutants it suggests a speculative model for imaginal disc differentiation based on hypothetical intradisc differentiation hormones and receptors.

Other chapters worth mentioning here are that by Scandalios on the control of gene expression and enzyme differentiation, that by Ho on the hormonal control of gene expression, and that by Scott on biochemical-genetic control of morphogenesis in fungi and cellular slime moulds.

Symposium reports

41.
L.B.RUSSELL, ed. 1978. GENETIC MOSAICS AND CHIMERAS IN MAMMALS
Plenum, New York, etc. Basic Life Sciences vol.12. XIV,485 pp., 149 figs., 69 tabs., subject index. $ 39.50; countries outside USA ca. $ 47.50

This book is the outcome of an international symposium held in Gatlinburg, Tenn., in April 1978. The format of the 31 papers varies widely and there has been minimal editing; many papers lack summaries. Most papers report on results that were new in 1978.

Mammalian embryologists and general developmental biologists will find much of interest in the book. Most of this is to be found in the first two sections, which deal respectively with Developmental potency, gene expression, control of phenotype and tumour origin (9 papers), and with Gamete

differentiation, sexual development and origin of the germ line (7 papers). The remaining sections deal with X-chromosome inactivation and repression (7), X-chromosome non-randomness (5), and Mathematical and statistical analyses of mosaic patterns (3).

The volume is well produced and adequately illustrated.

42.
R.SIEWING. 1979. ONTOGENESE UND PHYLOGENESE; Erlanger Symposium für Strukturanalyse und Evolutionsforschung. 3-6 Okt.1977
Parey, Hamburg. Fortschr. Zool. Syst. und Evol.forsch.1. 193 pp., 63 figs., 5 tabs. DM 56.00

This interesting volume is the outcome of a symposium held in Erlangen (W.Germany) in October 1977. The original discussion papers by 13 German, one English and one Danish author have been enriched with the results of the discussions. The papers vary greatly in lenght and are in English (11) or German (4), but all have summaries in the other language.

The purpose of the symposium was to confront the thinking of morphologists and developmental physiologists on a common evolutionary basis. The range of subjects covered is extraordinarily broad, covering such subjects as cleavage, cell lineage, mesoderm formation, induction and metamorphosis, all in various animal forms.

The volume is well printed and illustrated.

DEVELOPMENTAL PHYSIOLOGY (incl. endocrinology, immunology, behaviour, etc.)
(see also 22,26)

Monographs

43.
H.PARVEZ AND S.PARVEZ, eds. 1980. BIOGENIC AMINES IN DEVELOPMENT
Elsevier/North-Holland Biomed. Press, Amsterdam, etc. XX,735 pp., 144 figs., 66 tabs., subject index. Dfl.198.00, $ 96.50

This collection of papers by an international group of specialists deals with the biogenic amines in their function of neurotransmitters, not with their role in processes such as cytoplasmic movement. The 28 chapters are partly reviews and partly research reports, while some are mixtures of the two. They deal primarily with fetal and postnatal mammals but several chapters consider non-mammalian vertebrates as well.

Chapters of potential interest to mammalian developmental physiologists are found mainly in section I (Physiology of biogenic amine development, 9 chapters). The other sections deal with endocrine factors and neurotransmitter development (6 chs.), with environmental and genetic factors (5 chs.), and with studies relevant to the development of behaviour (8 chs.).

The book was produced direct from typescripts and is well illustrated.

Symposium reports

44.
G.W.SISKIND, S.D.LITWIN and M.E.WEKSLER, eds. 1979. DEVELOPMENTAL IMMUNOBIOLOGY, Proceedings of the fifth Irwin Strasburger memorial seminar on immunology
Grune & Stratton, New York, etc. X,260 pp., 39 figs., 29 tabs., $ 15.50, £ 10.05

Contributors: Adler, Cudkowicz, D'Eustachio, Goidl, Hämmerling, Kincade, Klinman, Mosier, Nordin, Sidman, Siskind, Vitetta, Weksler

This all-American symposium was held at Cornell University on March 6, 1978. Of the 13 papers the majority focus on the B-cell system. Further-

more there are three papers on ageing as related to immune phenomena, as well as one each on the regulation of Natural Killer Activity, on induction of antibody formation in the newborn, and on alpha-fetoprotein induction of immune-suppressive activity. Most papers are followed by discussions transcribed from tape. The illustrations are confined to diagrams and graphs.

METHODS

Monographs

45.
J.C.DANIEL, Jr., ed. 1978. METHODS IN MAMMALIAN REPRODUCTION
Acdemic Press, New York, etc. XVIII,566 pp., 145 figs., 43 tabs., subject index. $ 39.50, £ 25.65

Contents: 1. *In vitro* oocyte maturation, 2. The experimental production of mammalian parthenogenetic embryos, 3. Manipulation of ploidy in the mouse, 4. Methods for the high-resolution analysis of protein synthesis: applications to studies of early mammalian development, 5. Microtechniques with preimplantation embryos, 6. Production of chimeras by injecting cells or tissue into the blastocyst, 7. Techniques for separating early embryonic tissues, 8. Methods for the preservation of mammalian embryos by freezing, 9. Immunologic inhibition of development, 10. *In vitro* development of whole mouse embryos beyond the implantation stage, 11. Implantation of mouse blastocysts *in vitro*, 12. Advances in rabbit embryo culture, 13. Advances in large mammal embryo culture, 14. Embryo transfer in large domestic mammals, 15. Manipulation of marsupial embryos and pouch young, 16. Experimentation involving primate embryos, 17. Transplanting and explanting organ primordia, 18. The regeneration of mammalian limbs and limb tissues, 19. Pheromones, estrus, ovulation, and mating, 20. Experimentally delayed implantation, 21. Laparoscopic research techniques in mammalian embryology, 22. The use of amniocentesis in prenatal diagnosis, 23. Collection and analysis of female genital tract secretions, 24. Experimental approaches for elucidating the antifertility action of intrauterine devices in monkeys and rodents, 25. Surgical induction of endometriosis

Since this notice appears long after lengthy reviews have appeared in other journals (Nature *276*, 5685, 1978; Amer. Sci. *67*, 3, 1979) we contend ourselves with giving the complete table of contents and a few additional remarks.

It is obvious that this is one of those books that no mammalian embryologist or experimental morphologist can do without. All chapters are written by outstanding specialists and the book is a mine of information, and well illustrated into the bargain. It is only marred by the fact that most bibliographies were already somewhat dated at the time of publication, and by an inadequate index.

HISTORY, BIOGRAPHIES, etc. (no entries)

MISCELLANEOUS ITEMS (no entries)

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