

# NOVA

science enables the art to dance

## IMSA Hosts Successful International Problem-Based Learning Symposium

*Problem-Based Learning (PBL) breaks the bonds that traditional education has placed on students. PBL enables them to re-learn the joy of discovery, the art of questioning, and the liberation of learning how to learn in integrative rather than compartmentalized ways.*

IMSA President Dr. Stephanie Pace Marshall

Educators from as far away as Mexico and Korea to as close as Simmons Middle School in Aurora all agree that

Problem-Based Learning (PBL) is a powerful tool to enhance student learning in the classroom.

These educators and more than 200 others came together to learn about the power of PBL during the Problem-Based Learning Symposium. In the

*Service of Learning: Getting to the Heart of Problem-Based Learning*, held February 14-15 on the IMSA campus.

Problem-Based Learning (PBL) is an educational approach that organizes curriculum and instruction around carefully crafted problematic situations adapted

from real-world issues. Learners gather and apply knowledge from multiple disciplines in their quest for solutions.

Long recognized as a leader in Problem-Based Learning, IMSA welcomed some of the best-known authors in the field during the symposium. Practitioners from across the country shared the many ways they use PBL in their daily classroom practice.

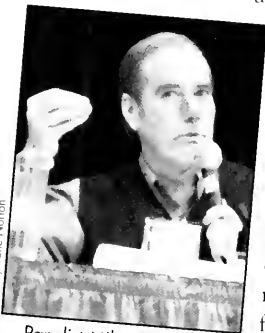


Photo by Irene Norton

Panelist Mike Flannery  
Political Analyst and Investigative  
Reporter, CBS Channel 2 News,  
Chicago

### Breakout Sessions

Following an inspiring opening from Dr. Marshall, five noted authors of Problem-Based Learning books participated in a panel discussion on current issues relating to PBL. Each author also facilitated a breakout session to model the PBL process and to share further insights, suggestions, and implementation strategies.

Other breakout sessions featured 20 classroom practitioners from eight states. Included in this select group were IMSA faculty members Michael DeHaven,

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Send comments or questions to:  
Editor and Writer  
Brenda Buschbacher  
brenda@imsa.edu

# IMSA Creates Service Learning Award Honoring McEachern

The Illinois Mathematics and Science Academy has created the John H. McEachern, Jr. Exemplary Service Learning Award to be presented annually to a deserving IMSA student. The award, which includes a \$2000 scholarship, is named in honor of founding IMSA Board of Trustees member John ("Jack") McEachern.



John H. McEachern, Jr.

McEachern, an Oswego resident, has been a member of IMSA's Board of Trustees since its creation in 1985 and served as its chairman from 1997 to 2001. He currently serves as chair and board member of Rush-Copley Medical Center and is the Retired President and CEO of Wayne Circuits Incorporated.

"The award was created to honor Mr. McEachern and those students

who, like Mr. McEachern, go above and beyond the call of duty and do all the little things that make great things happen," said Robert Hernandez, IMSA director of student leadership development. "He has always asked us 'what's in it for the students.' We want to recognize him through these students whom he truly cares about."

The inaugural award was presented to Class of 2003 graduate Frederick Hines of Naperville who, like Mr. McEachern, has demonstrated exemplary service to others. Requirements for the award include the completion of 175 or more hours of community service, demonstration of leadership roles within the IMSA community, letters of recommendation and written essays.



Frederick Hines

## A Grateful Graduate Donates \$100,000 to Honor IMSA Staff

A grateful graduate of the Illinois Mathematics and Science Academy donated \$100,000 to the IMSA Fund for Advancement of Education to honor the IMSA faculty, staff and administration.

Calling IMSA "a magical place,"

the graduate said: "[students] get to where they're going because of the efforts and talents of each of you. You are the ones who keep the gears turning, you are the ones who build the foundations inside each of the

(continued on page 3)

### About the Cover

The kaleidoscope is an instrument of wonder and transformation. It is a symbol and metaphor of IMSA's vision, "liberating goodness and genius for the world" and mission, "transformation through connections within and among mathematics, science, the arts and the humanities."

# Faculty Members Receive National Board Teaching Certification — Highest Standards for Excellence in the Teaching Profession

Four faculty members at the Illinois Mathematics and Science Academy received certification with the National Board of Professional Teaching Standards (NBPTS). This brings the total number of NBPTS-certified IMSA faculty to 11.

Josie Wallmuth of Somonauk, a science teacher for seven years at IMSA and an educator for 16 years, was certified in Adolescence and Young Adulthood/Science teaching. Diane Hinterlong of Aurora, a science teacher for 12 years at IMSA, formerly worked as an engineer for AT&T. Hinterlong also received NBPTS certification in Adolescence and Young Adulthood/Science.

Willa Shultz of Brookfield, an educator since 1973 who has taught French at IMSA for 14 years, received certification in World Languages/French. John Stark of Aurora, an educator for 33 years (17 of those



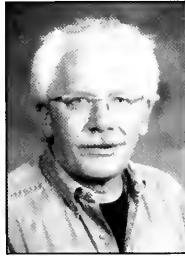
Josie Wallmuth



Diane Hinterlong



Willa Shultz



John Stark

teaching at IMSA) also was certified in World Languages/German.

The four IMSA faculty members were among 7,886 primary and secondary school teachers nationwide to complete the rigorous and competitive national certification

process that credentials successful candidates as Master Teachers. They join a group of only 569 other National Board Certified Teachers in the state of Illinois.

As part of the National Board Certification process, each teacher compiled and submitted a teaching portfolio which included videotapes of classroom teaching, lesson plans, student work samples and reflective written commentaries that detail what they, as teachers, were doing and why. They also had to complete an assessment involving a series of written exercises designed around challenging teacher issues such as curriculum design, content knowledge and student assessment.

The National Board for Professional Teaching Standards, founded in 1987, is an independent, nonprofit, nonpartisan and non-governmental organization dedicated to raising the level of teaching excellence in classrooms throughout America.

## **A Grateful Graduate** (continued from page 2)

students for a spectacular and rewarding career. There's nothing like it in the world."

At the suggestion of the graduate, who preferred to remain anonymous, an area where various staff meetings and activities are held was dedicated in honor of the past and present IMSA faculty, staff and administration. Employees also received a

special award from the IMSA Fund for Advancement of Education for their "steadfast service and generosity of spirit."

IMSA opened in 1986 and graduated its first class in 1989, making the age of its oldest graduates only in their early 30s.

IMSA President Dr. Stephanie Pace Marshall said the staff was

deeply touched and honored by the graduate's gift.

"For someone so young to be so grounded, appreciative and generous is very gratifying," she said. "Many IMSA graduates are already giving back to IMSA and Illinois in significant ways. The people of Illinois should feel very proud of the return on their investment," she said.



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# IMSA Book *Science Literacy for the Twenty-first Century* Honors Leon Lederman

By Brian Thornburg, Assistant Writer

What do you give a man as accomplished and celebrated as Nobel Laureate Dr. Leon Lederman for his 80th birthday?

Much to his surprise, IMSA founder and Resident Scholar Dr. Leon Lederman was presented *Science Literacy for the Twenty-first Century*, a book written

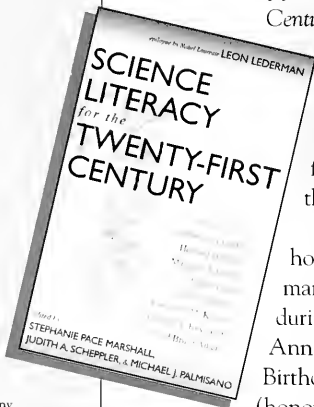


Dr. Leon Lederman

in his honor by eminent scientists and science educators from throughout the world.

The book honoring Dr. Lederman was unveiled during IMSA's 15th Anniversary Gala and Birthday Celebration (honoring Lederman), and officially published in the Fall 2002.

The book includes a collection of essays by noted scientists and science educators, who also happen to be Lederman's friends and admirers. Contributors to the book included Bruce Alberts, Howard Gardner, Margaret J. Geller, Stephen Jay Gould, George A. Keyworth, Lawrence M. Krauss, Sheila Tobias, James Trefil, and many others.



The aim of the book is to provide suggestions for transforming science education in the United States and improving the standards of scientific literacy around the world.

The book's editors are IMSA President Dr. Stephanie Pace Marshall, Dr. Michael Palmisano, former IMSA vice president

for research and design and IMSA Coordinator of Student Inquiry Dr. Judith Schepler. NOVA recently spoke with Drs. Lederman, Marshall, and Schepler about the book:



Dr. Stephanie Pace Marshall



Dr. Judith Schepler

NOVA: Why was a book selected as a tribute to Leon? Dr. Judith Schepler (hereafter referred to as JS): I saw a Festschrift (a collection of scholarly articles by colleagues and admirers, serving as a tribute) assembled in honor of laser inventor Charles Townes' 80th birthday, and thought that a book in honor of Leon's 80th birthday would be a great gift to him from IMSA. Dr. Marshall and I talked about the idea and she

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# Fry Foundation Grant to Aid Expansion of IMSA Excellence 2000+ in Chicago

By Brian Thornburg, Assistant Writer

A \$63,000 grant from The Lloyd A. Fry Foundation of Chicago will help to support and expand programming for the IMSA Excellence 2000+ (E2K+) Program from Spring 2003-Spring 2004. Specifically, the grant will enable the E2K+ program to expand its service to Chicago schools this fall.

"This is wonderful news," said Dr. Susan Bisinger, Excellence 2000+ program director. "This grant will help us support additional schools that need this type of innovative program to pursue mathematics and science excellence."

Launched at the request of the Illinois General Assembly and coor-

mathematics and science. The E2K+ program also provides ongoing professional development for participating Illinois middle school teachers.

Modeled after the highly successful after school Mitchell Excellence 2000 enrichment program in Israel for junior high school students, IMSA Excellence 2000+ began during the 2000-2001 academic year with seven pilot sites and has since grown to serve 23 schools throughout Illinois. Each site serves 30 to 40 students and two teachers.

The IMSA E2K+ curriculum is integrative, problem-centered and inquiry-based. The program's learning experiences focus on helping students "learn how to learn" and emphasize logic, mathematical thinking and experimental scientific thinking. Topics relate to the students' lives, arouse their curiosity and increase their motivation to learn in mathematics and science.

Developing problem solving strategies and new ways of thinking are emphasized.

"Our program is not just about solving problems and doing neat experiments," Bisinger said. "It's about helping students learn to ask questions and how to find answers." The Lloyd A. Fry Foundation is a private grantmaking foundation

whose mission is to assist organizations located in Chicago which serve an urban population of financial need. "The Fry Foundation is pleased to be supporting



Evergreen Middle Academy, Chicago

IMSA's middle-school math and science programs which serve Chicago public school students as well as their classroom teachers," Jill Darrow Seltzer, executive director of the Fry Foundation, said.



E2K+ site at Evergreen Middle Academy, Chicago

ordinated by the Center @IMSA, the IMSA Excellence 2000+ Program is an after school enrichment program for Illinois middle school students who are talented, interested and motivated in mathematics and science, with special emphasis on students who are historically under-represented and underserved in

## IMSA Excellence 2000+ Illinois School Sites

- Belleville
- Bellwood
- Champaign
- Chicago
- Danville
- Des Plaines
- Elgin
- Hillsboro
- Kankakee
- Lansing
- Maple Park
- Marion
- Oswego
- Plano
- Quincy
- Rockford
- Springfield
- West Chicago
- Yorkville
- Central Junior High School
- Roosevelt Junior High School
- Franklin Middle School
- Ames Middle School, Evergreen Middle Academy, Michelle Clark Middle School, Arnold Mireles Academy, Pasteur Elementary School
- North Ridge Middle School
- Chippewa Middle School
- Ellis Middle School
- Hillsboro Junior High School
- Kankakee Junior High School
- Heritage Middle School
- Kaneland Middle School
- Marion Junior High School
- Bednarcik Junior High School
- Plano Middle School
- Quincy Junior High School
- West Middle School
- Grant Middle School
- West Chicago Middle School
- Yorkville Middle School

# IMSA on Wheels Program Rolls into Illinois Schools; New Enrichment Workshops Unveiled

By Britta Wilk McKenna, IMSA Kids Institute® Coordinator

The makeshift sign across the back of the IMSA van read *Honk if you love science*. Hundreds of honks and 21 shows later, the new IMSA Kids Institute® program *IMSA on Wheels* is a huge success.

*IMSA on Wheels* is an IMSA student/staff developed mobile education program that hit the road in January 2003. Since then, the *IMSA on Wheels* program has visited 21 elementary and middle schools throughout Illinois (see chart).

In March, IMSA student volunteers in the IMSA Kids Institute®

(KI) spent three days of their spring break presenting the *IMSA on Wheels* program at central Illinois middle schools. A 90-minute *Eco-systems* hands-on lab was designed specifically for the spring tour by IMSA student Linda Pinto '03 of Chicago.

Another *IMSA on Wheels* show, the 45-minute *States of Matter and Chemical Reactions* show, was developed by IMSA students Kevin Bock '04 of Geneva and Katie Linder '04 of Hampshire and targets students in grades 2-4.



Photo by Britta McKenna

*rious Forensics*, a Wednesday after school program for students in grades 4-5.

The Saturday enrichment programs, held throughout the year on the IMSA campus in Aurora, included the following program topics: *Rocket Science*, *Howl-o-ween Science*, *Field Trip to Mars*, *Amusement Park Physics*, *Minds on Math*, *Project READ-IN*, *Color Lab* and *KidzArt*.

## New Saturday Workshops and After School Program

Now in its fourth full year of operation, KI continues to create new and exciting programs for students in grades 2-8 throughout Illinois to help spark their interest in science, mathematics and the humanities. Kids Institute currently works with more than 150 IMSA students who help to design and deliver KI programs. Through their involvement, they learn the benefits of student inquiry, teaching, community service and leadership.

This year, the IMSA Kids Institute® unveiled new Saturday afternoon enrichment workshops for students in grades 2-8 from the Fox Valley and Chicagoland areas. In addition, KI also piloted *Myste-*

## New Summer 2003 Programs

Two new summer camps debut in summer 2003. *Art a la Carte* will nurture the creativity of 6th and 7th graders with a variety of art mediums while *Science@IMSA* provides residential science camps; one for boys and another for girls entering 8th and 9th grades. Other summer camps for 2003 include: *Science Explorers, Jr.* (grades 3-4),



Photo by Britta McKenna

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### IMSA on Wheels 2003 Illinois Schools Tour

Aurora	Krug Elementary School Gates Elementary School Bardwell Elementary School Beaupre Elementary School Archbishop Romero School Hermes Elementary School St. Peter School
Batavia	Batavia Kids Club
Champaign	Franklin Middle School
Chicago	Arnold Mireles Academy Michelle Clark Middle School
Danville	North Ridge Middle School
Elgin	DaVinci Academy Ellis Middle School
Hillsboro	Hillsboro Junior High School
Lansing	Heritage Middle School
Oswego	Fox Chase Elementary School
Plano	Plano Middle School
Rockport	Schilling Elementary School
Springfield	Grant Middle School
West Chicago	West Chicago Middle School

For information about the IMSA Kids Institute® or to be placed on the Kids Institute mailing list, please visit the program's web site at [www.imsa.edu/kidsinstitute](http://www.imsa.edu/kidsinstitute) or call 630/907-5987.

# Math Teacher Receives Life Achievement Award

Illinois Mathematics and Science Academy mathematics teacher and Oswego resident Ronald Vavrinek was honored by the Illinois Council of Teachers of Mathematics (ICTM) with its Distinguished Life Achievement in Mathematics Award.

This award is presented each year to one mathematics educator who has demonstrated distinguished and honorable service to mathematics education for an entire career. Vavrinek, who received the award at the ICTM conference in Peoria, is the second IMSA mathematics

teacher honored with the award. Charles Hamburg of Libertyville was honored in 1999.

"It's always an honor to be thanked by your peers," Vavrinek said. "It's a thank-you for putting in the time to make students successful."

Vavrinek is in his 16th year at IMSA. In addition to coaching students in state and national competitions,



Photo courtesy of ICTM

Ronald Vavrinek

he teaches a variety of advanced level mathematics courses at IMSA including Mathematical Investigations and Advanced Placement Computer Science. He also advises students in a national mathematics honor society as well as participating in many other state and local professional activities.

## Students Make National Math History

IMSA placed first in the nation on this year's American Mathematics Contest 12 Exam (AMC-12) with four students recording perfect scores. This is the first time in the 53-year history of the contest that a school has produced more than three perfect scores on the same test.

IMSA students who received perfect scores were Yoshi Cormier of Palatine, Dan Gulotta of Homewood, Joe Jia of Aurora, and Albert Ni of Naperville. More than 500,000 students from more than 5,100 high schools took part in AMC exams this year.

"This is one of the biggest and most important contests in which we participate nationally during the year," said Dr. Michael Keyton, an advisor to the IMSA team. "This top group pushed themselves to higher levels this year."

IMSA's team score was 450 out of a possible 450 points, which is only the third time in contest history that a school has produced a perfect team score. This is the second time IMSA has accomplished this feat, the last time in 1994.

In the AMC-12 Exam, students are given 75 minutes to answer 25 difficult mathematics problems. Students who score 100 or better on the test, which is about 3% of participants nationally, earn National Honor Roll status and are eligible to take the American Invitational Math Exam (AIME). IMSA had 121 students qualify for this exam.

### IMSA Students Receive "Outstanding" Rank Among Worldwide Competitors

In other IMSA math news, a team of three IMSA students received the

highest ranking possible in the fifth annual High School Mathematical Contest in Modeling (HiMCM).

IMSA team members Jeffery Chang of Glenview, Alex Garivaltis of Hinsdale, and David Xu of Naperville received the rank of "National Outstanding." Only 10 teams out of 350 that competed worldwide received this ranking.

The High School Mathematical Contest in Modeling is a 36-hour contest where each team is expected to solve a mathematical modeling problem. IMSA team members' paper focused on the velocity of a falling ladder. Their paper was published this spring in a special issue of COMAP (Consortium for Mathematics and Its Applications) bulletin.

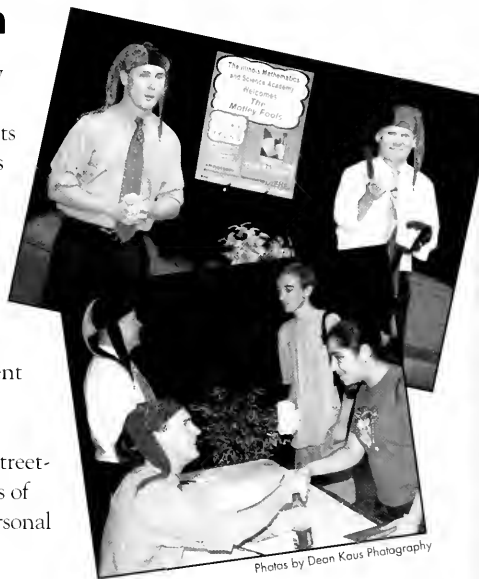
# The Motley Fools Teach IMSA Students Investing Tips; IMSA Students Featured on National Radio Program

Best-selling authors and brothers David and Tom Gardner, also known as the Motley Fools, held an interactive investment seminar for IMSA students in October. In addition, the brothers shared advice from their newest book *The Motley Fool Investment Guide for Teens: 8 Steps to Having More Money Than Your Parents Ever Dreamed Of*.

Topics covered during a question-and-answer session with students included mutual funds, banking practices, IRAs and drip investing. The authors also talked about other subjects including the epidemic of credit card debt.

In a unique opportunity immediately following the lecture, some IMSA students also were invited to serve as student panelists during a taping of *The Motley Fools* nationally-syndicated radio show.

David and Tom Gardner are the founders of the multimedia investment company **The Motley Fool** and are famous for helping millions of less than Wall Street-savvy adults learn the basics of investing and managing personal finances.



Photos by Dean Kous Photography

## Science Literacy for the Twenty-first Century (continued from page 4)

focused the concept into a book on science literacy. There were many other gifts given to him, but this is one that is shared on a national and international scale on a topic that Leon is passionate about — science literacy.

**NOVA:** Was Leon surprised to learn of the project?

**Dr. Stephanie Pace Marshall** (hereafter referred to as **SPM**): All of the contributors were sworn to secrecy! This wasn't trivial, as we would frequently hear from a contributor that they had just been to a meeting or sat on a committee with Leon. But yes, Leon was surprised at IMSA's gala with a galley of the book. Then the surprise

became even bigger when we informed him that he had to write the epilogue — on a tight deadline! **Dr. Leon Lederman** (hereafter referred to as **LL**): Yes, (I was) completely surprised and overwhelmed by the distinction of the authors.

**NOVA:** Who are the contributors and how were they selected?

**JS:** The contributors are international leaders in science, education and policy. They were selected because of their expertise and their reputations. Their voices are heard and heeded.

**NOVA:** How willing were the contributors to participate?

**SPM:** Contributors were universally willing to write a chapter for us because the topic is important, because this was an IMSA project, and because it is in honor of Leon. They were all delighted to be asked and welcomed an opportunity to surprise and honor Leon. Most knew him personally and were tickled that they might "pull one over on him!"

**NOVA:** What is unique about the book?

**JS:** To my knowledge, there isn't another volume like this that pulls information about science literacy together, written by such a prestigious and diverse group of contributors. And to top it off, the volume is

(continued on page 9)



## **Science Literacy for the Twenty-first Century** (continued from page 8)

illustrated by Leon's own drawings, taken from overheads used during his many talks on science education. Each sketch portrays a theme in science literacy and helps to organize the book.

**NOVA:** The book mentions the "Lederman Legacy." What is that?

**JS:** Leon is influencing science education on an international level. This has occurred through IMSA, Fermi National Accelerator Laboratory, the creation of Project ARISE (American Renaissance in Science Education) and the Teachers Academy for Mathematics and Science in Chicago. In addition, his winsome advocacy for education and his wisdom are often sought after from U.S. presidents and policymakers.

Science curriculum has been developed and disseminated, tens of thousands of students have been given unique opportunities, educators have received state-of-the-art professional development, and bench

scientists to Nobel Laureates have been inspired by him to get involved in improving education for our children.

**NOVA:** What impact do you hope the book will have?

**LL:** The title tells it all. All the articles are relevant to public science literacy, but from numerous diverse directions. This book should be viewed as one of many approaches; this one being at a deeper level than many, but still very readable.

**NOVA:** Do you hope the book will influence educational/policy leaders?

**SPM:** The essays contained in the book address key issues in science education, yet are presented in an informative and understandable way. We hope that educators will read it to gain insights and confirmation of exemplary practice. We hope parents will read it to become better informed and to be able to be more knowledgeable advocates for

their children's education. We hope that the policy leaders in education will read it to realize that our educational status quo in math and science must be turned on its head and shaken up with changes at all levels and at all fronts — from time for professional development to developing specific curricular assessment and pedagogical reforms that deepen mathematics and science understanding. These essays present a unique context and perspective on science literacy from some of the most thoughtful science minds in the nation; it will inform the national agenda as we go forward.

**LL:** Of course, we always hope to give these leaders ammunition and ideas in advancing the excitement and the revealed beauty of science.

**NOVA:** Is there anything you would like to add?

**LL:** IMSA's steady efforts at science education, from kids to parents and the general public, will surely pay off.

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## **IMSA on Wheels** (continued from page 6)

*Science Explorers* (grades 5-6), *Explorations in Science* (grades 7-8) and *Math Explorers* (grades 8-9).

Kids Institute summer *Science Explorers* camps are taught by IMSA students. Middle school camps are taught by IMSA faculty with assistance from IMSA student leaders.

### **Investors Support KI Programming**

Thanks to the generous contributions of our investors, the IMSA Kids

Institute<sup>®</sup> is able to continue "growing" its programs for students throughout Illinois. This year, four major investors supported Kids Institute programming.

The City of Aurora awarded a grant of \$30,000 to KI for annual operations. In addition, BP awarded a second year grant of \$15,000 to KI to support *Science Explorers* and *Real Science 2003 CD-ROM*.

Other investments were secured by The William G. McGowan

Charitable Fund for Project READ and the pilot of *IMSA on Wheels*. Contributions from McGowan also will provide support for summer camp scholarships. Finally, we would also like to thank 3M for their contributions, which provide for general support of the KI program.

# Service to Illinois

## Professional Contributions

Recent examples include:

IMSA president Dr. Stephanie Pace Marshall served on the transition advisory board for Illinois Governor Rod Blagojevich. The 26-member board, comprised of representatives from education, business, government, the clergy and other backgrounds, advised the governor on policy issues.

IMSA Chief of Security James Bondi (pictured), who also serves as chairman of the Aurora Police and Schools Committee, helped to spearhead the Tipline program for area high schools. The Tipline enables middle and high school students at public and private schools in the Aurora area to anonymously call the Tipline to report a potentially violent situation. Tipline is staffed 24 hours a day by trained staff and volunteers.



James Bondi

Mathematics Teacher Susan Eddins participated on the national panel Next Steps in Mathematics Teacher Development, Grades 9-10 for the Mathematical, Sciences Education Board (MSEB) of the National Academy of Sciences.

IMSA Director of Business and Finance William Fritz was appointed to the Illinois CPA Committee.

Wellness teacher, Barbara Baber (pictured), received the Quarter Century Award from the Illinois Association for Health, Physical Education, Recreation and Dance at their annual state convention. This

award is presented each year to physical education/health educators who have contributed to the advancement of the profession for 25 years or more.



Barbara Baber

Drs. Don Dosch, Judith Scheppler and Susan Styer presented a workshop on IMSA Student Inquiry at the National Science Teachers Association annual conference.

Mathematics teachers Steve Condie, Ruth Dover, Micah Fogel, Michael Keyton, Janice Krouse, George Milauskas, Donald Porzio and Ronald Vavrinek gave presentations at the annual meeting of the Illinois Council of Teachers of Mathematics.

## Student Achievements

Recent examples include:

IMSA students Kathryn Dirks of Bloomington and Bobby Xu of Naperville presented their research at the NATO Network of Excellence conference in Budapest. IMSA was a founding member of this organization, sponsored by NATO and UNESCO to encourage international scientific cooperation among research students. Dirks presented *Inhibiting the Long Terminal Repeat of HIV-1: A Possible Solution to AIDS* and Xu presented *A New Model for EEG Dipole Localization*.

IMSA's Class of 2002 received a mean ACT composite score of 30.1, which ranks in the top 1% of high schools nationwide.

A total of 40 IMSA seniors qualified as semifinalists in this

year's National Merit Scholarship Corporation competition. National semifinalists include less than one percent of each state's seniors.

Five IMSA seniors have qualified as semifinalists in the 2003 National Achievement Scholarship Program, an academic competition for Black American high school students. These five are among nearly 115,000 African-American students nationwide who took the qualifying test used in the competition.

More than 200 IMSA students presented the results of their research during the 15th Annual IMSA Presentation Day. Students conducted research through IMSA's Student Inquiry and Research (SIR) Program.

Students making presentations have written science fiction novels, developed original mathematic proofs, composed original musical scores, carbon-dated archaeological discoveries and tutored children living in Chicago's Cabrini Green Public Housing Development. Some also delivered their presentations to national and international science and math conferences.

## Alumni Achievements

Recent examples include:

Class of 1999 graduate Rena Patel, a senior at the University of Illinois-Chicago, was chosen as one of the Top 10 College Women in America for 2002 by *Glamour Magazine*. Patel also was selected to receive the prestigious Truman Scholarship from the university. Patel has spent her college summers traveling to India and Tanzania to teach HIV/AIDS education.

Class of 1999 graduate Janessa Stream wrote *Putting the Field in Field Trip* for the *Catalyst*, a publication of the Rose Hillman Institute. Her article reflected on the importance of her learning experiences

as a student in IMSA's Ecology class and how her research field trips at IMSA exposed her to the work done by real world ecologists.

Class of 2002 graduate Emma Goodman was the recipient of the

2002 Girl Scout Gold Award, the highest honor that the Girl Scouts bestow to its members. Goodman attends the Franklin W. Olin College of Engineering where she studies aeronautical engineering.

## **IMSA Hosts Symposium** (continued from cover)

John Thompson, and Drs. Richard Dods, Christian Nokkentved and David Workman who presented the history of PBL at IMSA. Other IMSA staff involved in panel discussions were Dr. Connie Hatcher, vice president for teaching and learning, Principal Eric McLaren and faculty members Barbara Baber, Brenda Crosby, Sue Eddins, Dr. Mark Horrell and Audrey Wells.

### **Teaches with Wolves**

IMSA science teacher John Thompson's (pictured) session showed how wolves became the focus for an ongoing series of PBL integrated problems.

For 10 years at IMSA, Thompson has developed a series of ongoing problems that focus on ecology using field trips, technology, interviews, simulations and classroom interactions.

IMSA students used mathematics, social science, literature, writing, fine arts and foreign language skills in their quest to find solutions to the problem.



IMSA Science teacher John Thompson

### **Technology Showcases**

Two technology showcases featured programs from NASA. Dr. Robert Myers from The Center for Educational Technologies, home of NASA's Classroom of the Future, shared the website [www.cet.edu](http://www.cet.edu) which offers PBL science modules for grades 5-12.

"Questions are the most important thing [about PBL]. Student questioning drives the inquiry process," Dr. Myers told the audience. Further, "teachers can't really teach inquiry until they've experienced it," he said, articulating the value of learning in a PBL format.

From the NASA Langley Research Center in Virginia, conference presenter Shannon Ricles showed how PBL has become a valuable tool in the nationally-televised NASA Science Files™ series for younger students.

In the series, "tree house detectives" solve real-world problems in their community by integrating mathematics, science and technology through the use of Problem-Based Learning and other teaching methods. In their quest for a solution, the "detectives" enlist the help of community experts, NASA and others including students from throughout the country who are members of the NASA SCI Files™ Kids Club.

An exhibitor fair also featured publishers and distributors of products to help enhance learning in a PBL classroom.

In the closing session on Saturday, author Linda Torp summarized the two-day event with Mike Flannery, political analyst and investigative reporter for CBS Channel 2 News (WBBM-TV), Chicago.

### **Conference Feedback**

Verbal and written feedback from the participants and presenters indicate that the symposium was a thought-provoking event.

Participants appreciated "the opportunity to hear the top professionals in the country on PBL" and wrote, "it opened the realm of possibilities," and "this was a great symposium for people with all levels of PBL knowledge and experience."

One participant wrote that the best part of the symposium was "making connections with other teachers in the same field as well as different fields. The sharing of knowledge and experiences was great," while another felt "the opportunities of networking with other practitioners" was the highlight. For more information contact [dgerdes@imsa.edu](mailto:dgerdes@imsa.edu)

# Worth Magazine and Chicago Sun-Times Rank IMSA Among the Very Best

...a powerhouse of a public high school rising out of an Aurora cornfield...truly in a league of its own

Chicago Sun-Times  
March 16, 2003

IMSA was recognized in the September 2002 issue of *Worth Magazine* as one of the top 50 public schools in the United States to place its graduates in Harvard, Yale or Princeton. In addition, the March 16, 2003 edition of the *Chicago Sun-Times* rated IMSA as one of the top 10 high schools in the Chicago area.

In the *Worth Magazine* ranking, schools were chosen based on the percentage of their students in the Classes of 1998-2001 who matricu-

lated at Harvard, Yale or Princeton. Chosen from nearly 32,000 high schools nationwide (21,000 public and 10,700 private), 930 had at least four students from their 1998-2001 graduating classes who matriculated at Harvard, Yale or Princeton.

Out of those 930 schools, the top public and private schools were chosen.

Calling IMSA "a powerhouse...in a league of its own," the *Chicago Sun-Times* ranked the Academy as one of its Top 10 High Schools.

The *Chicago Sun-Times* top schools were chosen based on a

variety of factors including ACT or SAT scores, scores on Advanced Placement exams and graduate enrollment rates at four-year colleges.

IMSA students and staff were interviewed for the article, which also featured student photos and profiles of "famous alums" Robert and Mike McCool (Class of 1991), Andrea Holmes (Class of 1990) and Scott Gaudi (Class of 1991).

To see the article in its entirety, log onto [www.imsa.edu](http://www.imsa.edu) and click on the *Chicago Sun-Times* masthead under the Features section on the homepage.



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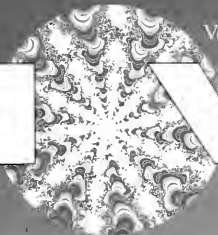
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# NIVA



science enables the art to dance

## IMSA's Online Internet Skills Program Delivers Benefits to Illinois Schools

By Jane St. Pierre, Director of Marketing and Communications

Have you ever done an Internet search that results in 200,000 hits? Do you wonder about the validity and authenticity of information you find on the Web? Are you distracted by the bombardment of Internet commercial advertising? With 168 million Americans having access to the Internet, knowing how to effectively use the Web has become a priority for the classroom, on the job and at home.

Certainly millions of students, teachers and librarians are already using the Internet for learning and communicating. But do they have the skills and expertise to locate information with precision and evaluate the credibility of their findings? From this question, a new IMSA project emerged – 21st Century Information Fluency (21CIF) – which prepares school librarians, teachers and students to locate, evaluate and integrate

Internet information resources productively.

### Learning by Doing

This year, trailblazing librarians, technology specialists and teachers from more than 89 schools throughout Illinois took part in 21CIF online courses. Participants “learned by doing” in these skills-based interactive online courses.

An integral part of the courses featured IMSA's Internet Search Wizard, a unique search tool

created by “educators for educators.” The tool enables the user to operate multiple search engines simultaneously without displaying commercial advertising. Other features help the user to fine-tune a search by narrowing domains, time periods and by

*(continued on page 9)*



Photo courtesy of J. St. Pierre

Patti Fleser, 21CIF course participant and librarian at Gemini Junior High School in Niles, joins Bob Houston, IMSA 21CIF project coordinator at IMSA's exhibit booth at the 2003 Illinois Technology Conference for Educators.

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Send comments or questions to:  
Editor and Writer  
Brenda Buschbacher  
brenda@imsa.edu

# IMSA Graduate Gives \$100,000 to Benefit Illinois Students and Teachers

For the second time this year, the Illinois Mathematics and Science Academy (IMSA) Fund for Advancement of Education has received a gift of \$100,000 from an IMSA graduate.

1991 IMSA alumnus Mike McCool designated half of his gift to support programs and services for IMSA students and the other half to support The Center@IMSA's professional development programs for Illinois teachers and enrichment programs for other Illinois students.

Catherine C. Veal, IMSA vice president for advancement, said McCool did this to demonstrate his belief in the value and importance of both of IMSA's legislative charges – to provide an exemplary education for some of the state's most talented math and science students and to stimulate excellence in math and science for other Illinois schools. "On campus and throughout the state, IMSA provides valuable and needed services that position Illinois for the future," McCool said.

McCool made the gift to thank IMSA, Illinois taxpayers and elected officials, and donors to the IMSA

Fund for providing the IMSA experience for him and others, Veal said.

"Giving back to one of the places that got me to where I am today is a good thing to do, I am fortunate I can do it, and I want to do it," McCool said.

A software engineer now living in California and a former resident of Westchester, Illinois, McCool was on the team at the University of Illinois at Urbana-



1991 IMSA Alumnus  
Mike McCool

---

*"Giving back to one of the places that got me to where I am today is a good thing to do, I am fortunate I can do it, and I want to do it," McCool said.*

---

Champaign that created Mosaic, the Internet browser used to start Netscape. He now works for Vicarious Visions, a creator of video and computer games.

This is the third six-figure gift IMSA has received from its young graduates. In the other two cases, the donors were not identified because they preferred to remain anonymous.

Located in Aurora, Illinois, the Illinois Mathematics and Science Academy is an internationally-recognized pioneering educational institution created by the State to develop talent and stimulate excellence in teaching and learning in mathematics, science and technology. IMSA's advanced residential college preparatory program enrolls 650 academically talented Illinois students in grades 10-12. More than 16,000 teachers and 23,000 students in Illinois and beyond have benefited from IMSA's professional development and enrichment programs. IMSA serves the people of Illinois through innovative instructional programs, public and private partnerships, policy leadership and action research.

### About the Cover

The kaleidoscope is an instrument of wonder and transformation. It is a symbol and metaphor of IMSA's vision, "liberating goodness and genius for the world" and mission, "transformation through connections within and among mathematics, science, the arts and the humanities."

# 15th IMSA Senior Class Graduates with Distinction

By Brian Thornburg, Assistant Writer

When she graduated from kindergarten, IMSA senior Ayodele Gomih was presented with a pine tree sapling. Now with that tree reaching the second-story window of her Olympia Fields home, Gomih shared

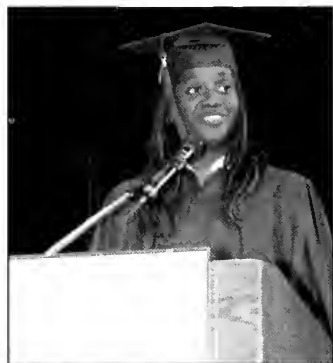


Photo by Deem Kaus Photography

IMSA Class of 2003 Student Speaker Ayodele Gomih of Olympia Fields

her remembrances of IMSA with her fellow Class of 2003 graduates as they completed their IMSA student experience.

"The beginning of that Australian Pine indicated the end of just one chapter in my life," Gomih said. "After reflecting upon my IMSA career, I realize that I have come to the beginning of the next chapter," she said. "We, the Class of 2003, like that tree in my backyard, have endured, experienced and lived. The tree is there to stay, and we will spread throughout the world, but I'm sure we will remember where our roots are."

On May 31, family members and friends assembled at the

Paramount Arts Centre in Aurora to honor the 189-member Class of 2003, IMSA's 15th graduating class. IMSA senior Vaibhav Upadhyay of Lake Forest also spoke at the ceremony.

Dr. Wendy Freedman, director of The Observatories of the Carnegie Institution and one of the world's leading astronomers, gave the commencement address. "If you have a passion for something, now is the time to find it. Do what you love to do," Freedman told the graduates.

All members of the Class of 2003 contributed at least 100 hours of community service to the citizens of Illinois. However, the Class' cumulative hours totaled nearly 25,000 with 27 students contributing more than 150 hours each, nine students contributing 200 hours each, four students contributing over 300 hours each, and one student, Erik Volkman of Antioch, completed more than 400 hours.

Other accomplishments of the Class of 2003 included:

- Fred Hines of Naperville was the first recipient of the McEachern Exemplary Service Learning Award, which honors founding IMSA Board of Trustees member John ("Jack") McEachern.

- Dan Gulotta of Naperville qualified as a member of the U.S.

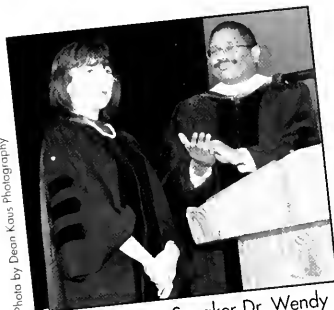


Photo by Deem Kaus Photography

Commencement Speaker Dr. Wendy Laurel Freedman and Dr. Luis Nuñez, vice chairman of the Board of Trustees

Physics Olympiad Team for a second consecutive year, one of only 24 students nationally chosen for this team.

- Elaine Khoong of

Downers Grove was named to the Chicago Tribune All-Academic Team.

- 38 seniors were chosen as National Merit Finalists.

- Four seniors were named finalists in the National Achievement Scholarship Program for African-American Students.

"The members of the Class of 2003 have uniquely distinguished themselves," said IMSA President Dr. Stephanie Pace Marshall, "but equally as important this class has demonstrated the ethical leadership and integrity of character that we believe will have a profound impact on the quality of life for others."



Photo by Deem Kaus Photography

IMSA Class of 2003 graduate Oyinlolu Adeyanju of Oak Park celebrates his special day with his family.



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# IMSA Math Teacher Is Fifth To Receive Prestigious Award

IMSA mathematics teacher Dr. Michael Keyton of Aurora recently received the Edyth May Sliffe Award for Distinguished High School

Mathematics Teaching, sponsored by the Mathematical Association of America (MAA) and the American Mathematics Competitions (AMC). He is one of only 25 high school teachers in the U.S. and Canada to receive the award.

The Edyth May Sliffe Award is designed to recognize and reward outstanding teachers for their efforts in the development of mathematical talents of high school students. Nominations for the award were made by students from the 60 highest scoring American Mathematics Contest 12 (AMC12) teams in the U.S., Canada and U.S. schools abroad.

Keyton is the fifth IMSA mathematics teacher to receive the honor in the fifteen-year history of the award. Past IMSA recipients were Titu Andreescu (1994), Ron Vavrinek (1995), Dr. Micah Fogel (2001), and Dr. Steve Condie (2002).

"I am pleased to be recognized in the company of other IMSA teachers who have produced such high caliber students over the

years," Keyton said. "I am also pleased that there is recognition of the school that is carried with this and that I was nominated by our students. That's what brings this about."

Dr. Keyton began teaching at IMSA in 2000. In addition to coaching students

in state and national competitions, he teaches a variety of mathematics courses at IMSA including Geometry, Differential Equations and Mathematical Investigations. He advises advanced students in inde-

---

*"I am...pleased that there is recognition of the school that is carried with this and that I was nominated by our students."*

---

pendent study and is active in the National Council of Teachers of Mathematics, the Metropolitan Mathematics Club of Chicago and other state and local professional organizations.



Dr. Michael Keyton



# Grand Victoria Foundation Grant to Support Professional Development for Teachers

Teachers from four school districts in the Fox Valley region will benefit from the Fox Valley Problem-Based Learning Initiative thanks to a \$100,000 grant from the Grand Victoria Foundation in Elgin.

The grant was awarded to the IMSA Fund for Advancement of Education to support professional development in Problem-Based Learning for 36 teachers from Batavia School District #101, Burlington School District #301, East Aurora School District #131, St. Charles School District #303 and Marmion Academy in Aurora.

Nancy Fishman, executive director of the Grand Victoria Foundation, said the Foundation is proud to partner with IMSA in providing exceptional professional development opportunities for Fox Valley teachers.

"IMSA has a proven track record in encouraging both teachers and students to engage complex ideas in an innovative and relevant way," Fishman said. "By investing in this program, the Foundation hopes to increase student achievement



levels as well as improve the quality, content, and process of learning and teaching in Fox Valley schools."

Program support for the Fox Valley Problem-Based Learning Initiative will go toward a variety of professional development activities including:

- Scholarships for the Harris Problem-Based Learning (PBL) Design Institute (July 21-24, 2003)
- Scholarships for the Summer Sleuths PBL Coaching Institute (July 21-August 1, 2003)

- PBL study group sessions in the fall 2003

- Continuing education credit

- One-year membership in the Association for Supervision and Curriculum Development (ASCD) PBLNet for all teachers

Other recent IMSA Fund highlights include:

- \$20,000 from the Motorola Foundation to support the Summer Enrichment for Academics in Mathematics and Science program for underrepresented students.



- \$5,000 from 3M to support the Kids Institute IMSA on Wheels initiative for the fall 2003 semester.



- \$2,000 from Target Stores to support the Kids Institute Project READ initiative.



## 2002-03 IMSA Great Mind



Photo by Dean Kaus Photography

IMSA Resident Scholar and Nobel Laureate Dr. Leon Lederman kicks off the 2002-03 Great Minds Program fall lecture series on December 3, 2003.



Photo by Dean Kaus Photography

Dr. Jack Horner speaks to a sold-out crowd in the IMSA auditorium during the IMSA Great Minds lecture held January 22, 2003.



Photo by Dean Kaus Photography

The IMSA Great Minds Program® dialogue *Science Technology and Society: Ethical Awareness for Tomorrow's Leaders* featured the following: (left to right) Dr. Chris Quigg, Gretchen Helfrich, Dr. Drummond Rennie, Dr. M.R.C. Greenwood, Dr. Stephanie Pace Marshall, Dr. Paul Grobstein, Dr. Lawrence Krauss and Dr. Leon Lederman.



Photo by Dean Kaus Photography

Dr. Freeman Dyson (third from right) meets with IMSA students following his seminar on October 3, 2002. Also visiting IMSA was Dr. Herman White, Fermilab physicist (third from left).

IMSA Great Minds Program® events in 2002-03 brought thought leaders from around the world to the IMSA campus to share their wisdom with more than 3,200 students and educators from throughout Illinois.

The 2002-03 Great Minds Program was made possible in part by a grant from the Tellabs Foundation and other gifts from the private sector. Speakers included:

- Dr. Freeman Dyson, professor emeritus of physics at the Institute for Advanced Study in Princeton.
- Dr. George Zweig, founder and president of Signition, Inc. in Los Alamos.
- Claudia Dreifus, journalist, *New York Times* writer & interviewer.
- Nobel Laureate and IMSA Resident Scholar Dr. Leon Lederman.
- Dinosaur Paleontologist Jack Horner.



Photo by Dean Kaus Photography

Dr. Marcia McNutt takes time out following her Great Minds Program lecture, *Engineering Our Oceans*, to sign copies of her latest book for an admiring fan.

# Program® Highlights

- Dr. Marcia McNutt, geophysicist, president and chief executive officer of the Monterey Bay Aquarium and Research Institute.

- Senior Theoretical Physicist (Fermi National Accelerator Laboratory) Dr. Chris Quigg; Dr. Paul Knappenberger, president of the Adler Planetarium; Gretchen Helfrich, host of *Odyssey* of WBEZ Chicago Public Radio; Dr. M.R.C. Greenwood, chancellor, UC Santa Cruz; Neurobiologist Dr. Paul Grobstein (Bryn Mawr College); Physicist Dr. Lawrence Krauss (Case-Western Reserve University); and the Deputy Editor (West) of JAMA, Dr. Drummond Rennie.

- Mathematician and world-renowned Mathematica expert Dr. Stan Wagon of Macalester College.



Photo by Deann Kaus Photography

IMSA Resident Scholar Dr. Leon Lederman, IMSA Great Minds Program Speaker Dr. Marcia McNutt and IMSA President Dr. Stephanie Pace Marshall.



New York Times Writer and Interviewer Claudia Dreifus.



Photo by Deann Kaus Photography

Mathematician Dr. Stan Wagon presents a Great Minds seminar to IMSA students on April 24, 2003.



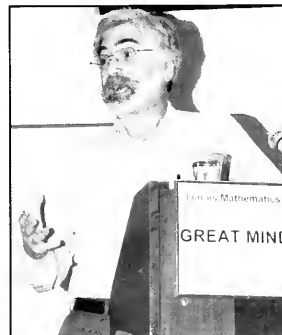
Photo by Deann Kaus Photography

IMSA junior Amanda Adeleye of West Chicago poses questions to panelists during the April Great Minds Program Dialogue.



Photo by Deann Kaus Photography

IMSA students listen carefully as Dr. Stan Wagon answers their mathematical questions.



Dr. George Zweig, founder and president of Signition, Inc.

## Save the Dates for Fall 2003 GMP Events!!

October 1 . . . Author, Engineer and the last man to walk on the moon Capt. Gene Cernan

October 9 . . . Attorney, Professor and Author Robert F. Kennedy, Jr., "Our Environment Destiny"

More details to come on [www.imsa.edu](http://www.imsa.edu) under News at IMSA!!

# Distinguished Graduates Named to Inaugural IMSA President's Alumni Advisory Council

Twelve graduates of the Illinois Mathematics and Science Academy have been named to the newly created IMSA President's Alumni Advisory Council.

The Council will assist IMSA President Dr. Stephanie Pace Marshall and other IMSA leaders in envisioning possibilities for IMSA's future and strengthening IMSA's programs, services and impact in Illinois and beyond.

"Many IMSA graduates possess a deeply felt desire and commitment to help ensure IMSA's vitality, influence, impact and sustainability," Marshall said. "I look forward to the contributions this council will make to help advance and position IMSA for the future."

The members were selected because they have distinguished themselves in graduate or post-graduate work or in the workforce, have taken their educational experiences and turned them into successful outcomes and have demonstrated innovative, "big picture" thinking. The members, their hometowns as IMSA students and their current positions include:

- Michael Brody '96, Highland Park, law student, University of Illinois College of Law

- Elizabeth Chilton '92, Joliet, data manager, The University of Chicago

- Jesse Hsu '93, Olympia Fields, director, corporate development, Perlegen Sciences, Inc.

- David Kung '89, Carbondale, marketing executive, Creative Artists Agency

- Jason Ribando '90, Peoria, assistant professor, mathematics, University of Northern Iowa

- Alvia Romious '89, East St. Louis, realtor, Evanston, IL marketplace

- Terri Willard '89, Palatine, project manager, International Institute for Sustainable Development

- Sam Yagan '95, Bourbonnais, president, MetaMachine, Inc.

- Kara Yokley '94, Chicago, research manager, IDC - Life Sciences and Health Care Division

At its first meeting in April, the Council discussed ideas for "next generation IMSA," including how to define, recruit and develop talent in math and science, the

most essential things to preserve about the IMSA experience, new learning experiences both in and out of the classroom, and the role of alumni in articulating IMSA's value and return on investment to Illinois.



Photo courtesy of Aimee Chong

Aimee Chong



Photo courtesy of John Hoesley

John Hoesley



Photo courtesy of David Kung

David Kung



Photo courtesy of Terri Willard

Terri Willard

- Aimee Chong '94, Carbondale, transportation analyst, Cambridge Systematics, Inc.

- Scott Gaudi '91, Staunton, Hubble Postdoctoral Fellow, Institute for Advanced Study

- John Hoesley '89, Chicago, investment manager, Prism Capital

## **IMSA's Online Internet Skills Program Delivers Benefits** *(continued from page 1)*

using special methods to display search results.

Participant Suzanne Zweig, reading specialist and English teacher from Sullivan High School in Chicago said, "The most important aspect of Internet technology that I have learned is how much I didn't know and what I should know and share with my students."

Teacher Kelly Mulcahy of Woodrow Wilson Middle School in Moline said the course has saved her valuable time.

"Before I just felt like I would search for hours and get little accomplished," Mulcahy said. "Now I have more confidence surfing and maximizing my time spent online... it is something we as teachers need to become more in tune with."

### **Evaluating Internet Resources**

When conducting academic research, the ability to evaluate the validity and reliability of Internet resources is critical. 21CIF participants learned how to do just that. They examined the validity of the host Web site and related links, the expertise of the author and whether the author is also cited in other reliable publications.

An evaluation process is essential because Web pages do not undergo the same rigorous selection process that is typically applied to information that appears in print publications.

"Students no longer have access to pre-approved information. This is both the scary and exciting part," said Learning Resource Center Director Daniel Russo, of Batavia High School. "In life outside of school, students will have to face

a whirlwind of good and bad information and we need to help them learn the skills to deal with it."

### **Lifelong Learning**

Learning doesn't stop for the participants when the course ends. They go on to work with other teachers in their schools to create classroom

ment of Education is providing another \$400,000 grant for the FY 03-04 academic year. Program partners include the Illinois School Library Association, Illinois Virtual High School, Illinois Digital Academic Library and Illinois Century Network.

The program, led by Dr. David Barr, director of Online Learning at

---

*"It is up to all educators and most importantly school librarians to become competent users of technology...the IMSA 21CIF Project is one way for school librarians to become updated on new technologies and the newer ways to search for information."*

*Katherine Oberhardt*

*2003 President of the Illinois School Library Media Association*

---

lesson plans that include online resources. "Technology works best when the teacher and librarian are planning together," says Janice Lewis, teacher/librarian of Sullivan High School, Chicago. "It is going to take the learning community working together to make students lifetime learners."

Though located throughout the state, the IMSA course graduates stay connected to each other by becoming members of an online network offered through the 21CIF portal (<http://wizard.imsa.edu>). The portal features online discussions, model lesson plans and additional online learning modules.

### **Using Technology to Benefit Illinois Schools**

The first year of the 21st Century Information Fluency program was made possible through a \$900,000 grant from the U.S. Department of Education, covering 89 percent of costs. The balance of funding was provided by IMSA. The U.S. Depart-

ment of Education is providing another \$400,000 grant for the FY 03-04 academic year. Program partners include the Illinois School Library Association, Illinois Virtual High School, Illinois Digital Academic Library and Illinois Century Network.

The program, led by Dr. David Barr, director of Online Learning at

IMSA states, "By offering 21CIF courses, learning materials and tools online, we are able to make them available to schools throughout the state at no cost to participants. Teachers, librarians and students can take advantage of these learning opportunities whenever and wherever they need them." Katherine Oberhardt, 2003 president of the Illinois School Library Media Association states, "It is up to all educators and most importantly school librarians to become competent users of technology in order to teach students, teachers, and our school community how to access, evaluate and effectively use information. The IMSA 21st Century Information Fluency Project is one way for school librarians to become updated on new technologies and the newer ways to search for information."

Information about the IMSA's 21st Century Information Fluency project and about registration for free online courses is available at <http://wizard.imsa.edu>.

# Service to Illinois

## Professional Contributions

Recent examples include:

IMSA President Dr. Stephanie Pace Marshall was appointed to the Board of Directors of the Illinois Coalition. The Illinois Coalition is a state-wide public-private partnership established to drive Illinois' economic growth through science and technology.

Physics teacher and Class of 1992 graduate Laura Nickerson received

the prestigious Harald Jensen Award sponsored by Physics West, Physics Northwest and the Illinois State Physics Project. The award is presented annually to an outstanding young (under 10 years of service) physics teacher in the Chicago area. In addition, a paper written by Nickerson, *Search for the Lepton-Family-Number Nonconserving Decay of a Muon into a Positron and a Gamma Ray* was published in the *Physical Review D: Particles, Fields, Gravitation and Cosmology*.

Dr. Bob Brazzle, science, curriculum and professional development specialist for IMSA Excellence 2000+, presented *Major Concepts from Our Solar System's Formation* at the 2002 Illinois Science Teachers Association annual conference.

Russian teacher Paavo Husen was selected to serve on the Russian Content Advisory Committee for the Illinois State Board of Education.

Director of Virtual Learning Mathew Wicks has been named to the board of directors of the newly-formed North American Council for Online Learning (NACOL).



Photo by Brenda Buschbacher

IMSA physics teacher Laura Nickerson (IMSA '92) proudly displays her most recent teaching award from fellow physics educators.

The mission of the NACOL is to increase educational opportunities and enhance learning by providing collegial expertise and leadership in K12 online teaching and learning. The board of directors represents thought leaders and individual considered pioneers in K12 online learning and teaching.

## Student Achievements

Recent examples include:

Senior Daniel Gulotta of Naperville was one of five students nationwide selected to be a member of the United States Physics Traveling Team. In addition, Gulotta was one of only 24 students nationally chosen for the 2003 team from a pool of 1,500 nominees. IMSA students Jeffrey Chang of Glenview, Elaine Khoong of Downers Grove, and Bobby Xu of Naperville were named semi-finalists. Gulotta also placed fifth in the nation in the

PhysicsBowl exam for the Division II level.

IMSA students Joe Jia of Aurora and Albert Ni of Naperville were among only 30 students nationwide who qualified for training for the 2003 Mathematical Olympiad (U.S.A.M.O) Summer Program.

Jia and Ni trained for the USA International Mathematical Olympiad team at the University of Nebraska at Lincoln, June 15-July 5, 2003.

Elaine Khoong of Downers Grove was named to the *Chicago Tribune* All-Academic team.

IMSA junior Stephanie Dold of Decatur received a gold medal in the National Russian Essay Contest of America.

A paper co-authored by student Amanda Adeleye of West Chicago and several cardiologists from Northwestern University Medical School was accepted for presentation at the American Society for Echocardiography professional conference.

Andriana Matos of Marengo and Alexandra Surasky-Ysasi of River Forest were named scholars in the National Hispanic Recognition Program.

Sasha Rahlin of Morton Grove and Mark Hoadley of Libertyville were selected to present their research papers at the American Academy for the Advancement of Science (AAAS) international conference. Rahlin presented *Efficiency in Computer Programming* and Hoadley presented *A New Approach to Increasing the Signal-to-Noise Ratio of Nuclear Magnetic*

*Resonance (NMR) Signals for Microfluidic Samples.*

Vivas Kaul of Macomb presented *Partial Purification of Secondary Alcohol Dehydrogenase and Genomic DNA Isolation from Micrococcus Luteus Wüjrh-20* at the 14th Illinois Student Research Conference.

Shravani Pasupneti of Bensenville and Jeanie Paik of Naperville received Best in Category for Biological and Health Science at the Illinois Junior Academy of Science Regional Science Fair for their research, *Development of a Whole Blood Flow Cytometry Method for Functional Assessment of Pneumococcal Phagocytosis.*

143 IMSA seniors qualified as Illinois State Scholars by placing in the top 10% of graduating seniors statewide based on academic and test performance.

Nine IMSA students received Illinois Music Educators Association (IMEA) All-State honors at the IMEA All-State Music Festival. Honors were received in the following categories: All-State Honors Choir, All-State Choir and All-State Honors Orchestra. In addition, one student, Martin McCrory of Aurora received 1st Prize in the Chamber Music category for student composers.

Lana Muniz of Mt. Zion had

two ceramic art projects accepted in the Sixth Annual National K-12 Ceramic Exhibition Foundation Show. Her work was selected through a juried process.

## **Alumni Achievements**

Recent Examples include:

IMSA Class of 2001 graduate Mary Sullivan of Marengo is a participant in the SuperNOVA program at Drexel University. SuperNOVA is the first six-year B.S./Ph.D. program for engineers that allows students to perform graduate research in an accelerated program while taking undergraduate classes.

Photo by Steve Rosenberg, courtesy of The Beacon News, Aurora



Retired Navy Commander Scott Waddle presents the 11th Annual Richard L. Horwitz Lecture on Ethics March 17 at IMSA. The lecture series is held in memory of Auroran Richard Horwitz, IMSA's first legal counsel, who died in August 1990.

# **IMSA Invites Fairgoers to "Take a Closer Look"**

## **IMSA To Visit TechTown at 2003 Illinois State Fair**

Visitors to the TechTown building at the Illinois State Fair will once again be treated to hands-on science demonstrations and technology wizardry compliments of IMSA staff and alumni.

IMSA looks forward to interacting with fairgoers this summer in the IMSA booth at the 2003 Illinois State Fair August 8-17.

The theme for the IMSA booth this year is "IMSA, Take a Closer Look" and those visiting it can look forward to fun, engaging, hands-on activities geared toward children and adults of all ages. Booth activities will provide an understanding of how technology enhances the

learning process as well as information on the ways IMSA serves the people of Illinois.

Highlights include:

- The "Create Your Look" activity invites fair patrons to create (to take with them) a wearable button by superimposing a digital photo of themselves on an IMSA photo background of their choice.
- The "Look Out...Media Streaming Ahead" activity features online interactive sessions from the IMSA student project "Real Science 2003."
- The "Take A Closer Look" activity allows fairgoers to examine

pond water, Elodea and other microscopic materials that visitors prepare and project via a dissection microscope onto a big screen within the exhibit.

"Our participation in the State Fair is one way we reach out to prospective students in Central and Southern Illinois," Amy Conyers, coordinator of admission said. "This is also an opportunity for teachers from these areas to learn about professional development activities IMSA offers for them. IMSA serves the whole state, not just the Chicagoland area."



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