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Back to school
University mentors explain latest research methods to high school teachers

Ten St. Louis-area high school biology teachers are at Washington University this summer as part of an innovative research transfer program. The program, sponsored by the American Society for Biochemistry and Molecular Biology (ASBMB), based in Bethesda, Md., involves high school teachers who work on cutting-edge research with university mentors. These clusters of university and high school teachers exist in several regions throughout the United States. The teachers, many of whom have been away from university laboratories since their undergraduate days, are provided a $5,000 stipend for the 12-week experience, as well as $500 to provide materials for new experiments in their high school laboratories during the upcoming school year. Their goals are to learn new techniques in biochemistry and molecular biology and to transfer some of their knowledge into high school laboratory experiments and lessons.

"The program seeks to make high school teachers aware of what's happening in modern biology," said Sarah C. R. Elgin, Ph.D., professor of biology and ASBMB mentor of Todd Conklin, a high school teacher at Whitfield School in St. Louis. "There's been a revolution in modern biology over the past 10 years, and many high school teachers who graduated in the '70s and early '80s, for instance, haven't had opportunities to keep current with these techniques and developments."

The National Science Foundation (NSF) has teamed up with ASBMB this year to sponsor 50 high school teachers nationwide in the summer programs. Washington University has a full 20 percent of the recipients practicing here. ASBMB is concentrating its program, now in its fifth year, on a "cluster" concept, which stresses interaction between the 10 high school teachers in weekly meetings where they share individual projects and expertise with their fellow teachers.

"This is our first funding of a cluster concept," said Jack Priess, Ph.D., professor of biochemistry at Michigan State University and chair of the ASBMB educational affairs subcommittee. "We hope that by clustering teachers, more of the information will be shared and better dispersed."

Elgin said there has been much debate among science institutions that grant summer research opportunities to high school teachers over the best way to impart and spread the knowledge.

"Everyone agrees that the research experience is good for the teachers, but the concern is whether the practice of granting individual fellowships effectively gets the knowledge into the high school class room," she said. "Personally, I like a model that lasts for two summers. So much is being packed into one 12-week session — including research, curriculum development, small group and whole group meetings — that it's hard to get an evaluation of the program's effectiveness. I think our cluster will be evaluated as a sort of benchmark, for the cluster concept."

Orientation connects new students to campus computer network

From showing students how to "Get Connected" to the campus-wide computer network, to acquainting them with South 40 activities, this year's orientation also will promote small-group interaction among students and their peers, faculty and administrators in an attempt, through informal settings, to make students feel comfortable with their new environment, said Hayes-Harris. Both the Task Force on Undergraduate Education and the University Management Team's Student Experience Cluster have made recommendations encouraging such emphasis during orientation.

The new orientation programs are "Get Connected," a series of hour-long sessions where students can try out a host of computer network options available at the University; " Forty Feet," which allows students to explore the South 40 with their newly arrived peers; and "Discovering Washington University," James E. McLeod, dean of the College of Arts and Sciences, will offer advice on beginning the transition to college during this event.

"Get Connected" is the brainchild of Kristen J. Mathews, a 1995 alumna of the College of Arts and Sciences. Mathews, who received a bachelor's degree in mathematics and political science, with a minor in philosophy from Washington University, said she felt new students could benefit greatly from learning about resources available on the campus-wide network and the Internet.
Nomads in the brain

Brain tumor treatment needs to shift gears, neurosurgeon says

Removing deadly brain tumors diffuses a bomb but leaves a minefield because the "normal" brain tissue remains riddled with migrating tumor cells. New research shows that these cells can generate new tumors and that the drug Taxol, an experimental treatment for brain cancer, speeds the movement of brain tumor cells.

The American Cancer Society estimates that primary brain tumors will appear in 17,200 Americans in 1995 and kill 13,300. The most common primary brain tumor of middle-aged adults is the malignant glioma, which usually kills patients within two years after diagnosis. Although glioma cells do not metastasize to other parts of the body, they wander through the brain, causing death from generalized brain dysfunction. "By the time the tumor is detected, the cat is out of the bag," said Daniel L. Silberfeld, M.D., assistant professor of neurological surgery and of anatomy and neurobiology.

Silberfeld has devised ways to monitor the amoeba-like cells as they creep over the surfaces of plastic dishes. He was surprised to find that the cells traveled 3 centimeters in four days—600 times their length. The most active came from patients with the most malignant brain tumors. This supports the idea that the degree of malignancy of a brain tumor relates to the ability of its cells to migrate into other parts of the brain, Silberfeld said.

Silberfeld and his team (Michael Chicoine, M.D., and research technician Cynthia Madsen) knew that the anti-cancer drug Taxol "locks up" the cellular skeleton, which assembles and disassembles as a cell moves. "We thought that giving Taxol to the cells would prevent them from moving and present a double whammy to these tumors," he said.

Just the opposite happened. Although Taxol killed many of the cultured glioma cells, it made the survivors migrate faster than ever, in a dose-dependent fashion. "We thought that giving Taxol to the cells would prevent them from moving and present a double whammy to these tumors," he said.

By exploiting differences between the invasive cells and the cells in the tumor, we may be able to devise better therapies.

These studies were supported by grants from the National Institutes of Health and Washington University's McDonnell Center for Molecular and Cellular Biology. They were published in the April issues of the Journal of Neurosurgery and Anti-Cancer Drugs.

Alan Schwartz named head of pediatrics department

Alan L. Schwartz, also professor of molecular biology and pharmacology, was named Teacher of the Year at the School of Medicine in 1988. He developed and heads a graduate education program called the Markey Pathway, which teaches doctoral and postdoctoral fellows about human biology.

Schwartz is renowned for his pioneering research in the field of receptor-mediated endocytosis, an area of receptor biology. Receptor-mediated endocytosis is the process by which large protein molecules from outside a cell gain entrance. Once inside, they provide that cell with growth control information, nutrients or signals that instruct it to develop or differentiate.

His research addresses the biology of nutrient transport to the fetus as well as the molecular regulation of the turnover of proteins involved in blood clotting and clot dissolution. He has extensively studied tissue plasminogen activator, a drug used to treat blood clots.

Schwartz received the Young Investigator Award from the Society of Pediatric Research in 1983 and an American Heart Association Established Investigator Award from 1985-1990. He serves on many national and regional committees related to child health and oncology and also serves on numerous editorial boards.

In addition, he is Distinguished Visiting Professor of Cell Biology at the University of Utrecht in the Netherlands.
Joel Cooper, M.D., left, and his son, Josh, a fourth-year medical student, consult with pulmonary patient John Laire.

"You don't allow yourself to imagine that the transplant is going to be successful because you want to be too disappointed.”

Cooper broke lung transplant barrier

Cooper's extensive experience with lung transplants recently has led to the early success of a new surgery for patients with severe emphysema. The procedure, called volume reduction surgery, involves removing the most damaged portions of emphysema patients' lungs. Reducing the size of the lungs dramatically improves lung function and helps patients breathe easier.

Cooper performed the first procedure in January 1993. Since then, more than 100 patients have undergone the surgery at Barnes Hospital. The overall improvement in patients' breathing capacity is 65 percent. "For these severely disabled patients, this translates into a marked improvement in the quality of their lives," Cooper said.

"Emphysema, most often caused by cigarette smoking, afflicts an estimated 1.6 million Americans. The irreversible disease causes the lungs to lose their elasticity, damaging their ability to expand and relax as a person breathes. Over time, less oxygen gets into the bloodstream, and, to compensate, the lungs enlarge until they fill the chest cavity."

"Emphysema is like breathing in as far as you can and living with your chest in that position for the rest of your life," Cooper said. "That's what happens to these patients — their lungs are fully expanded and they can barely breathe."

Until now, the only hope for patients with end-stage emphysema was a lung transplant. "Hadd it not been for the surgery, their lungs were fully expanded and they could barely breathe."

Cooper concluded, "Emphysema surgery may be beneficial," Cooper said. During lung transplantation, Cooper found that an emphysema patient's overexpanded rib cage and flattened diaphragm immediately returned to a more normal configuration following surgery. He also noticed that the severity of emphysema damage often varied from one portion of the lung to another.

But Cooper is quick to caution that the surgery is not a cure for emphysema. "These patients may continue to experience deterioration from emphysema, but if we can reverse the cycle by two, three, four years, that is better and more, then we think it will be very worthwhile."

Cooper recently conducted follow-up studies on patients who have undergone the surgery. "The bottom line is we're enthusiastic," Cooper said. So far, four patients have died following the surgery, all over the age of 70, which has caused Cooper to re-evaluate the criteria for surgery in this age group.

Since Cooper first presented results of the new surgery at a meeting of the American Association for Thoracic Surgery in April 1994, his office has fielded more than 1,000 phone calls from patients interested in learning more about the procedure. Only patients who have quit smoking and are willing for the surgery, Cooper said, have been considered for the procedure.

Cooper trained in Boston and London before settling in Toronto in 1972. After building a successful lung transplant program at the University of Toronto, Cooper said he was ready to move on. He and his wife, Janet, wanted their four sons to be educated in the United States, and the Canadian government's cutbacks in medical research funding were beginning to hurt the university's research program. "And, too, I think I was beginning to coast a little bit and I'm not a coaster. I like a challenge," he said.

"As it turns out, I was able to have my cake and eat it, too," Cooper said. "I've found an extremely supportive environment here. And we have a stronger program here than I ever could have had in Toronto."

Cooper's love for his work appears to have had at least some influence on his oldest son, Josh, who is a fourth-year medical student at Washington University. The younger Cooper, who is trying to decide between a career in internal medicine or surgery, said his father has taught him a lot about caring for patients and the need to care for patients never ends, said Josh Cooper. "You don't punch out at the end of the day and leave the care of your patients. "Your involvement and care for patients never ends," said Josh Cooper. "You don't have too much hands-on time, but you have to really think about the patient who will be your patient tomorrow."

Cooper generously credits his wife for playing a leading role in raising their children and providing stability in their household while he spent long hours at the hospital. Even today, he rarely arrives home from work before 9 p.m., which is a problem for someone who also is an avid gardener.

Cooper and Janet have installed floodlights in their backyard, which enable them to enjoy their hobby even at night. "We sometimes plant flowers at two o'clock in the morning. The neighbors think we're a little strange." — Caroline Decker
Inauguration schedule of events

The following events will take place on Oct 6 and 7:

**Inaugural Symposium on**

**“Learning and Discovery: Gateways to the 21st Century”**

May Auditorium, John E. Simon Hall
8:30 a.m. — Continental Breakfast
9:00 a.m. — 10:15 a.m. — Break
10:30 a.m. — 11:45 a.m. — Closing Remarks by Chancellor Wrighton and Mark S. Wrighton

**Inaugural Festival (Student event)**

Bowles Plaza
(Rain Location: Mallinckrodt Center)

Now-2:30 p.m.

**Inaugural Luncheon for Invited Guest**

Women’s Building Lawn
(Rain Location: Francis Gymnasium)
12:30 p.m.-1:30 p.m.

For more information, contact the Inauguration Office, University Campus Box 1246, One Brookings Drive, St. Louis, MO 63136-4899, 935-8616.

Students plan Inauguration events — from page 1

Inauguration events require no registration. "We're going to make a point of encouraging students to attend the symposium," said Atnip. "If I were a student, I would be listening to appreciate the University community to be up to the work of the 21st century.

"Showing the Inaugural Symposium will be two events, one for students and one for visiting dignitaries representing other universities, colleges, civic organizations, and other special guests. For students, the Inaugural Festival will begin at noon in Bowles Plaza. The other event, for invited guests, is the Inaugural Luncheon. It will begin at 12:30 p.m. in a tent on the Women’s Building lawn.

Beginning at 2:45 p.m., a procession of visiting dignitaries and Washington University faculty will make its way to Brookens Quadrangle for the Installation Ceremony, which begins at 3 p.m. The ceremony will feature brief remarks by representatives of the Board of Trustees, the faculty, the student body, the administration.

Orientation promotes interaction between faculty, new students — from page 1

Orientation programs are designed to introduce students to campus resources and helping them get to know each other, according to Atnip, who said the “first 50 days” of school will be a “time of increased introduction to everyone.”

In keeping with such orientation themes as introducing students to campus resources and helping them get to know each other, “Get Connected” will show students how to communicate with facilities and friends through email and learn about campus resources via the World Wide Web — the interlinked digital space for thousands of Internet users. The sessions will be “as short and simple introduction to everything,” noted Atnip, adding that students will receive “Get Connected” buttons and a pamphlet containing computer tips.

Among the offerings on the World Wide Web will be a link to the School of Medicine’s Career Center and Campus Bookstore services, along with the Washington University home page — introductory screens with photos and a list of links describing the institution. By using the home page, individuals can find more information about topics ranging from student services to the online calendar to the Washington University Libraries. WorldWide on the Internet enables students to access material in libraries and other resources around the globe.

To introduce students to their new home, “Forty Fest” will be held on Friday, Aug. 18, at various locations on the South 40. Representatives from KWUR, the student-run radio station, will provide music as the newcomers discover social outlets and affiliated organizations. As part of the fun, the Congress of the South Forty will be showing movies in Ike’s Place, Wolf Hall. Representatives from the University Police Department, who have a subdivision housed in Ike’s Place, will distribute student ID cards. Student Union leaders will congregate in IKE Plaza to welcome new students, and resident advisers will meet them from the duty lounge at Umrath Hall. Orientation leaders will be available to help.

During “Discovering Washington University,” which will be held on Sunday, Aug. 20, students will learn about the University and its resources, their career future, Sophomore Amber G. Chinpin and seniors Jeremy D. Ackerman and Elisa L. Wentling will reflect on what they would do the same or differently if they were beginning college now.

“We’re really excited about all the new programs because they offer members of the University community a chance to connect with students and their families — both individually and collectively,” said Hayes-Harris.

Besides the new festivities, the orientation committee is also sponsoring a St. Louis Live in Brookens Quadrangle, a picnic featuring food from popular local eateries and a variety of entertainment. New students will attend St. Louis Live on Sunday, Aug. 20, immediately after meeting with their faculty advisors. In order to provide more opportunity for faculty-student interaction outside the classroom, faculty advisors and their families have been invited to St. Louis Live this year.

"St. Louis Live is designed to create a more understanding relationship between faculty and students," said junior Eve L. Landman, who, as a programming assistant for the orientation committee, is helping to coordinate St. Louis Live. "If students see their advisors in a setting other than the office, students then see them as real people," added the biology and business major from Bellmore, N.Y.

"Among the fun activities are " vcennis with music director Dan Presgrave in the St. Louis area. Call 935-7405 to schedule specific times.

CALENDAR

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"Among the fun activities are "vcennis with music director Dan Presgrave in the St. Louis area. Call 935-7405 to schedule specific times.
Richard Leakey, Amy Tan headline fall Assembly Series

The 36th Assembly Series opens on Aug. 30 with a lecture by Stephen Jay Gould, Alexander Agassiz Professor of Zoology at Harvard University. His lecture, titled "Evolution and Human Equality," is scheduled at 11 a.m. in Graham Chapel.

Gould has received numerous awards and honors, among them a National Book Award in 1981 for "The Mismeasure of Man." He teaches geology, biology and the history of science at Harvard. He is a senior/faculty committee plans Assembly Series lectures, which are free and open to the public. Some lectures may have limited public seating. Unless otherwise noted, lectures take place at 11 a.m. in Graham Chapel.

On Sept. 6, the fall series continues with the Women's Club/Morton Board Lecture that will feature a reading with commentary by feminist and cultural critic Katha Pollitt. In her pieces for The Nation, The New Yorker and The New Republic, Pollitt has addressed topics such as date rape and the abortion debate.

Economist and philosopher Amartya Sen will give the Benjamin E. Youngdahl Lecture on Oct. 11. His lecture, titled "The Widening of Inequality," will feature a reading with commentary by economist Michael Artz, professor of economics at Washington University. Sen's areas of interest include collective decision-making, international development, women's welfare and welfare economics. He also is renowned for developing theories of transactions and freedom. Sen's lecture is titled "Social Development: National and International Dilemmas." Sen holds joint appointments in the departments of philosophy and economics at Harvard University.

Richard Leakey, chairman of the National Geographic Society and former director of the Kenya Wildlife Service, also will be in Graham Chapel. Leakey has written a number of books on paleoanthropology and conservation, including "Eating the Enemy," which describes his work at the Olduvai Gorge in Tanzania.

On Sept. 27, the annual Thomas Hall Lecture will be given by Eliot Smith, professor of zoology at Harvard University. His lecture, titled "Evolution and Human Equality," is scheduled at 11 a.m. in Graham Chapel.

On Oct. 4, the Assembly Series will present a reading and commentary by author Amy Tan, whose first novel, "The Joy Luck Club," is a vivid account of life in China and Chinatown and a compelling study of the generational and cultural gap between Chinese-born mothers and their American-born offspring.

Fall 1995 Assembly Series lineup

Aug. 30 Stephen Jay Gould, "Evolution and Human Equality"

Sept. 6 Katha Pollitt, Reading and Commentary

Sept. 13 Henry Louis Gates, "Multiculturalism and Cultural Diversity"

Sept. 20 Amartya Sen, "Social Development: National and International Dilemmas"

Sept. 27 Richard Leakey, "The Sixth Extinction"


Oct. 18 Michelle Citron, "The Widening Frame: Women in Film"

Oct. 25 Nomsa Shange, Black Arts and Sciences Festival

Nov. 1 TBA

Nov. 2 John T. Noonan Jr., "Conscience Against Commonwealth and Church"

Nov. 8 Steven Katz, "The Holocaust and Mass Death: Variations and Differences"

Nov. 15 Amy Tan, Reading and Commentary

In Graham Chapel.

Fall Football Preview: Bears hope offensive commitment leads to playoffs

The payoff is the playoff season. Washington University's football season isn't over, but the Bears hope to build on the momentum they've generated so far this year as they prepare to face the Bearcats of Kenyon College in the playoffs.

"The goals that we set for each player last season must be met before we can even begin to think about the next step," said head coach Larry Kindlbom. "But the team is good enough to go without any type of offseason commitment and expect to reach the goals of our program."

The goals that we set for each player last season must be met before we can even begin to think about the next step, that has certainly helped us keep our focus for the season."

After earning a share of their first conference title last year, the Bears sit in the new position of trying to repeat as league champions.

On paper, the Bears have the talent to contend for another conference crown. Defensively, four all-conference players return, led by junior defensive end Aaron Bonewit, who was a first-team selection in 1994. Bonewit led the Bears in tackles last year with 108 stops and all defensive linemen with five pass deflections.

Two other first-team players, junior linebacker Jeremy Bellinghausen (Colorado Springs, Colo.) and junior corner-
Engineering school appoints vice deans

William P. Darby, Ph.D., professor of engineering and decision science and chair of the engineering and policy department at the School of Engineering and Applied Science, has been named the dean of business affairs for the school. Michael D. Moll, formerly associate dean for business affairs at the school, has been named vice dean for business affairs for the school.

The appointments were announced by Christopher I. Byrnes, Ph.D., dean of the School of Engineering and Applied Science. They became effective as of June 1.

Christopher I. Byrnes, Ph.D., dean of the engineering school, has been named vice dean for business affairs for the school.

Moll becomes the chief financial officer and administrative matters and physical facilities. Moll is a certified public accountant, and received a master's degree in business administration from Washington University in 1986. He began working for the school as business manager in 1986. One year later he was appointed assistant dean of business affairs. He was named dean of business affairs in 1989.

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Teachers plan to share lessons with others in area — from page 1

Teachers and their mentors are working on everything from gene therapy for hemophilia to sequencing deoxyribonucleic acid (DNA) as a way to map gene functions and cellular conditions. Romona Hawkins-Moll, M.D., professor of pediatrics at Kirkwood High School for four years, and is excited about showing new techniques to her classes of students. Hawkins-Moll is working with Arnold Strauss, M.D., professor of pediatrics, on deficient thiolase genes, which are common themes in Hall's designs, ranging from sentimentality in Victorian culture to national parks management.

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Arnold Strauss, M.D., professor of pediatrics and molecular biology and pharmacology, and Romona Hawkins-Miller, a Kirkwood High School biology teacher, run DNA samples through a polymerase chain reaction unit at the School of Medicine. She is one of 16 local high school teachers who are learning new research techniques at Washington University this summer.

Faculty receive summer research grants

James McGarrell receives Jimmy Ernst Award in Art

James McGarrell, professor emeritus of art, has received the 1995 Jimmy Ernst Award for his contributions to the American Academy of Arts and Letters. The award, which carries a $5,000 price, is given annually to a "painter or sculptor whose lifetime contribution to his or her art has been both consistent and significant," according to the academy.

James McGarrell's award was one of 19 given this year. 

John R. Carpenter, vice dean for the School of Medicine, was named chairman of the Academy of Arts and Letters, which will be held at Stanford University. The award is given to a "painter or sculptor whose lifetime contribution to his or her art has been both consistent and significant," according to the academy.

The Academy of Arts and Letters, which is the oldest of the American Academy of Arts and Letters, was established 97 years ago to encourage interest in literature, music and the arts. The academy is divided into sections and organizes awards to artists, architects, writers and composers totaling more than $66,000,000.

Works by the 1995 award recipients were featured in the "Exhibition of Work by Newly Elected Members and Recipients of Honors and Awards" at the academy's galleries in New York City. McGarrell's paintings are in the permanent collections of numerous national and international museums, including Metropolitan Museum of Art, Art Institute of Chicago, Los Angeles County Museum of Art, Hirshhorn Museum and Sculpture Garden in Washington, D.C., and at the universities of Arizona, Massachusetts and Oregon.

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**Campus Authors**

The following is a recent release available at the Campus Bookstore in Multidisciplinary Center at the Hilley Campus. Each book is available for $15.00 (Hilley Campus) or $16.00 (School of Medicine).

*Guidelines for submitting copy:*

Send your full name, complete title, department, phone number and highest earned degree, along with a typed description of your noteworthy activity to For The Record, c/o Cynthia Sanford, Campus Box 1079, 711245@uwvmd.wustl.edu. Items must be submitted two weeks in advance. For information, call Sanford at 935-529.
The following is a list of positions available at the University of Missouri. Information regarding these positions may be obtained in the Office of Human Resources, Washington University Plaza, Room 500, North Brookings Hall, or by calling 359-5500.

**Campus Security**

Humility of Campus.

**Positions Available**

- Data Assistant 96009-R
- Accountant 96010-R
- Campus Security
- Help Desk Associate
- Environmental Research Technician
- Maintenance Support Specialist
- Computer Network Technician
- Network Support Specialist
- Network Administrator
- Systems Administrator
- Software Engineer
- Web Developer
- Help Desk Support Specialist
- Help Desk Support Specialist II
- Help Desk Support Specialist III
- Help Desk Support Specialist IV
- Help Desk Support Specialist V
- Help Desk Support Specialist VI
- Help Desk Support Specialist VII
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