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Washington University enrolls strong, diverse Class of '98

Washington University's total daytime enrollment for the 1994-95 academic year is 10,169, a slight increase over last year's total of 10,164. This year's freshman class numbers 1,257. Washington University received 7,693 applications from prospective students.

"Overall, our enrollment remains strong," said Dennis Martin, assistant provost. "Recruitment efforts for new students were successful and retention of continuing students remains high."

Perhaps the most notable characteristic of the entering class is its diversity. Minority and international students comprise nearly 30 percent of this year's freshman class. The Class of 1998 includes 72 African Americans (up from 45 last year), 178 Asians (up from 174 last year), 24 Hispanics (the same number as last year) and three American Indians. A new multiracial category this year includes 29 first-year students. Sixty-five international students also are enrolled.

"We are very pleased with the progress we made this year with minority recruitment," said Harold Wingood, dean of undergraduate admission. "We know that the multicultural weekends last spring made significant differences in our efforts. Students, faculty and staff from around the University pulled together to make the weekends an unqualified success. Our goal is to achieve even greater success in this area in the upcoming admission cycle."

The next multicultural weekend, which brings prospective minority students from across the country to Washington University, will be Oct. 27-30.

The number of freshmen enrolled in the five schools with undergraduate programs is as follows: architecture, 52; arts and sciences, 782; business, 143; engineering, 191; and art, 71. In addition, there are 18 dual-degree candidates who will pursue bachelor's degrees from both the College of Arts and Sciences and the School of Engineering and Applied Science.

The Class of 1998 also is geographically diverse, with students hailing from 49 states and 25 foreign countries. A total of 585 are from the Midwest, while 242 are from Mid-Atlantic states.

Of the 1,257 freshmen, 512 ranked in the top 10 percent of their high school classes, while 698 ranked in the top 20 percent. The freshman class includes 66 students who ranked first in their high school class and 47 National Merit Scholars.

The middle 50 percent of freshmen scored between 510 and 610 on the verbal Scholastic Aptitude Test (SAT), between 590 and 700 on the math SAT, and between 26 and 30 on the American College Test Service composite score.

"We are very fortunate to enroll another strong class for Washington University," Wingood said. "This class is comprised of students who were not only successful academically, they were outstanding school and community citizens as well."

"Slightly more than half were members of their high schools' National Honor Society, 228 were yearbook or newspaper editors, 372 belonged to a service organization and almost all, 1,183, won a special award of some kind during their high school years," Wingood continued. "This is a class that will make a difference at Washington University both in and out of the classroom."

Undergraduate financial aid plays an important role in supporting talented students who need assistance in attending Washington University. Approximately 60 percent of the undergraduate students will receive financial aid during the 1994-95 school year.

"Financial aid, in the form of scholarships, student loans and work study, and financing programs for parents make it possible for talented students from all walks of life to enroll and contribute to what goes on in the classroom," Martin said.

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Senior Wendi Greenberg, Bethesda, Md., and Stanley Finger, Ph.D., professor of psychology, face off in a game of Scrabble. Finger, an expert on the early history and roots of brain sciences, may not be quite as proficient when it comes to Scrabble. He beckoned passers-by to "stick around and watch me suffer." The faculty-student board games were part of Greekfest '94.

Team streamlines complex research funding process

The Hilltop and medical campuses are working together to streamline the University's complex research contract and grant administration process, a process that involves several dozen separate offices and uncounted central and departmental administrators on both campuses.

Last spring and summer, a team of 40 employees met for nine full days to "process map" the grant administration process. Process mapping is a technique borrowed from business to streamline and improve essential processes and reduce inefficient steps. As the University strives to reduce costs while improving services, several process mapping projects are under way in a variety of departments, including a major effort in the Registrar's Office.

The research contract and grant administration process was targeted for process mapping for several reasons, including changing realities in government research funding, the pressure on administrative budgets that arises from efforts to hold down tuition, and from diminished healthcare cost recovery. About 80 percent of the applications and grants processed at the University involve the School of Medicine. In fiscal year 1993, the University was one of the top 25 funded research institutions in the country, receiving about \$190.8 million in research grants.

"Research money is harder to get. Government regulations are increasing and the government is simultaneously cutting overhead paid to us as it increases costs. Our financial status is also threatened by

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Campus landmark displayed in White House garden

"Five Rudders," the red-and-black outdoor sculpture that recently disappeared from its campus perch just north of Steinberg Hall, is one of a dozen sculptures unveiled last week for a special exhibit in the White House garden of first lady Hillary Rodham Clinton.

Fashioned from painted sheet metal and iron rods in 1964 by noted American sculptor Alexander Calder, "Five Rudders" is part of the Washington University Gallery of Art collection. It will be on display at the White House for about six months as part of an exhibit titled "Statues Into Sculpture: 20th-Century Selections From Midwestern American Art Museums."

"It is a pleasure to see Washington University represented in a special exhibit of American sculptures selected from

museums across the Midwest," said Joseph D. Ketner, Gallery of Art director.

The sculpture exhibit was conceived by Hillary Rodham Clinton as a means of drawing attention to modern art in America. Plans call for a series of White House sculpture exhibits featuring selections from museums in various regions of the nation.

"The exhibit is important," said Ketner, "because of the message it sends about the administration's interest in raising public awareness and appreciation of the arts. We are proud to be a part of that effort."

Both the first lady and President Bill Clinton planned to attend an Oct. 11 ceremony at the White House ceremony to open the exhibit and kick off national arts and humanities month.

Calder, who lived from 1898 until 1976, is recognized widely in both the United

States and abroad as one of the most important American sculptors of the 20th century. He is known for the creation of large outdoor sculptures that feature wind-driven mobile elements on sturdy tripod bases. His sculptures, often found in front of large corporations and in other prominent public places, have become something of a status symbol among patrons of the arts.

"Five Rudders" is described in a Gallery of Art catalog as "lively and energetic realization" of Calder's basic format for a standing mobile where "black rudders assume great visual prominence in the composition: they cut through space and rotate on structural supports of iron rods. The spectator finds this work engaging as it is activated by currents of air, and moves in varying directions, and at different velocities."

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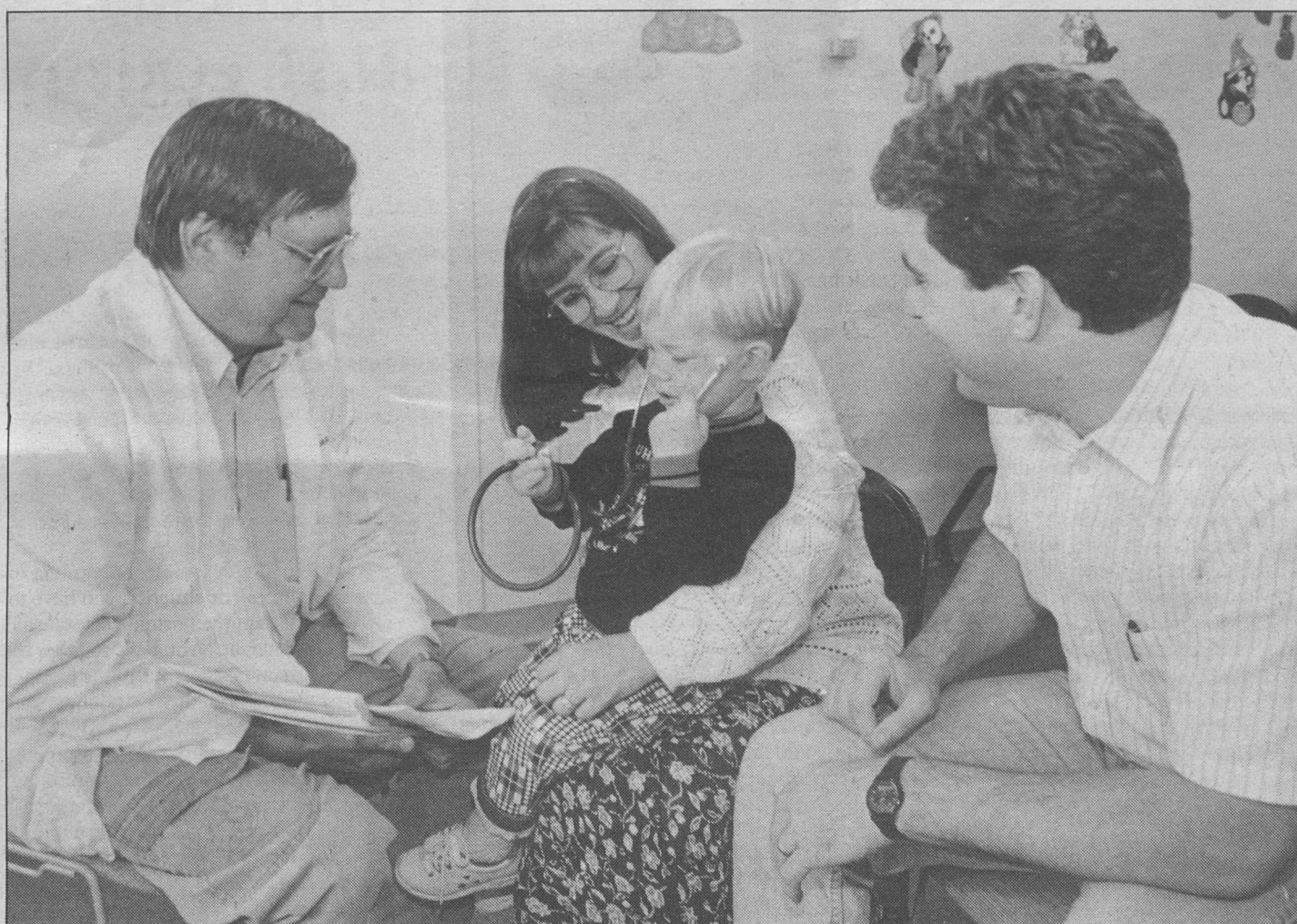
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International conference features readings, panel discussions and audience participation

Medical Update



Arnold Strauss, M.D., professor of pediatrics and molecular biology and pharmacology, meets with Sheryl and Michael Mulhall of Rochester, Ill., and their 19-month-old son, Tyler. Strauss' lab identified a form of Sudden Infant Death Syndrome that helped save Tyler's life.

Saving babies' lives

Gene mutation discovery may prevent form of sudden infant death

A new Sudden Infant Death Syndrome (SIDS) finding has helped save the lives of two infants and has the potential to save more, according to School of Medicine researchers.

By identifying a genetic mutation, Arnold W. Strauss, M.D., and his colleagues have found a new form of SIDS that can kill babies only a few days old. This finding appears in the October 1994 issue of the *Journal of Clinical Investigation*.

Doctors have known for several years that some forms of SIDS are caused by faulty enzymes that arise from gene defects. Usually these forms strike children around their first birthday.

"We have found that a different mutation of the same enzyme can cause problems in newborns, including death," said Strauss, professor of pediatrics and molecular biology and pharmacology and principal investigator of the study.

Identifying this mutation may save numerous lives because it will enable doctors to screen for the same genetic defects in families who already have lost a newborn to unexplained death and possibly prevent death in siblings who also carry the mutation. This information also may aid parents in family planning.

Before this discovery, doctors might not have attributed a newborn's death to SIDS because it was rare for a child to die of SIDS at such a young age.

Confirming the link

In 1981, a group of Danish researchers recognized a deficient form of the enzyme Medium Chain Acyl-Coenzyme A Dehydrogenase (MCAD) in some SIDS cases. Strauss' lab later cloned the gene and confirmed its link to fatty acid metabolism.

When faulty, MCAD cannot complete its mission of converting fatty acids into energy. Strauss, who also is director of the Division of Pediatric Cardiology, explained that sugars provide a human's fuel for four or five hours and then the body begins using fatty acids as its main source of energy. But if MCAD isn't working, energy gradually gets cut off, which damages the heart and liver.

Most of the time, children with MCAD deficiency function normally because they can get their energy from food intake. But if an infant gets sick and misses meals, the

child begins to have problems. Not getting enough energy to the heart and liver is compounded by a toxic build-up of fats linked to an amino acid called carnitine. Children may begin to have low blood sugar, liver failure and vomiting. If the child does not receive a quick, intravenous dose of sugar, the result often is death.

Strauss and other SIDS researchers have identified numerous mutations on the enzyme MCAD and also have found other enzymes that cause SIDS. Their latest finding is the mutation named G583A.

Strauss said physicians now can screen for this specific mutation with a very effective test. And he emphasizes that it is a treatable genetic defect.

Collectively, Strauss said, these enzymes may cause about 5 percent of all SIDS deaths, which reached 7,000 last year.

Strauss said he and Robert Steiner, M.D., an instructor in pediatrics, found out about G583A in an unusual way. Strauss heard from a woman in Pennsylvania who had lost her first child to SIDS when he was three days old. When she became pregnant again, she called the national SIDS foundation and, eventually, samples of her and her husband's blood were sent to Strauss to study. As it turned out, the father was a carrier for the common mutation of this disease.

When the woman delivered her second child, the baby was tested immediately and found to have a form of MCAD deficiency. The newborn began receiving treatment and is doing well. Later, Strauss' lab discovered that the child had a previously unrecognized mutation for the disease, which turned out to be G583A. She had received this mutation from her mother. By studying DNA from her brother, who had died a few years

earlier, doctors discovered he also had the same mutation.

The same story

A week later, Steiner saw a family from Rochester, Ill., who had virtually the same story. Their baby died three days after birth. "He seemed healthy when he was born, but then he started not wanting to eat," said his mother, Sheryl Mulhall. "We brought him home the second day and the next morning, I found him dead in his crib."

The Mulhalls were told Nathaniel had SIDS, but the doctors were skeptical because he was only three days old. Two years later, Sheryl gave birth to Tyler, who appeared to be healthy.

"On the second day, they wanted to send us home, but I wanted to stay. I was very nervous. We stayed that night, and they didn't bring him in to me because he wasn't hungry. The next day, he was in the nursery and he started turning pale and was having trouble breathing," said Mulhall. "It was just like the other baby."

His doctors put Tyler in the high-risk nursery and administered glucose. After many tests, the Mulhalls were told they could not find what was wrong with their baby. As a last ditch effort, the Mulhalls were referred to Steiner, a pediatric geneticist.

Almost immediately, Steiner suspected MCAD deficiency and found that Tyler also had G583A.

Tyler now is a healthy 19-month-old. He has to eat often and is watched very carefully when he is sick with even a cold. He will take Carnitor, a medication that will help him break down fat, for the rest of his life.

But the Mulhalls are thankful. "If it weren't for this discovery, I'm sure he wouldn't have made it," said Mulhall.

Strauss said physicians now can screen for this specific mutation with a very effective test. And he emphasizes that it is a treatable genetic defect.

Although unraveling the various causes of SIDS appears slow and painstaking, Strauss said researchers have made great strides in the last 10 years. "We went from knowing nothing to knowing there are at least 10 different enzymes with at least 25 different mutations and knowledge there must be hundreds more," he said. "And we now have the methods to figure them out quickly."

—Diane Duke

New coordinators assist environmental and safety efforts

This is the first of a series of articles on environmental health and safety initiatives at Washington University.

Working with potentially hazardous microbial agents and chemicals is a necessary part of the research, clinical activities and education and training that occurs at a major biomedical research facility like the School of Medicine. With 1,700 laboratories and instrument rooms and more than 30 buildings, communicating safety awareness to all employees is a significant challenge, said Paul Hipps, Ph.D., director of the Environmental Safety Office (ESO).

To supplement the communications efforts that serve as the core of an effective safety program, the Executive Faculty of the School of Medicine this past summer decided that each medical department and division should identify an individual to serve as its safety coordinator. Safety coordinators will work with the ESO to ensure that employees are aware of and follow closely the standards of practice that maintain a safe work environment.

"Safety coordinators in each department and division will make it possible for the ESO to provide updated information regarding regulatory agency policies and inspections, safety alerts and equipment requirements. This information has to reach a large share of our 5,000-member workforce and the safety coordinators can help us communicate in a timely and effective manner," said Hipps.

Safety coordinators will receive environmental and safety alerts from the ESO, distribute them to faculty and staff and assist in implementation. Safety coordinators will help notify affected areas of the results of ESO and other regulatory safety audits and aid in arranging any retraining or remedial measures.

Hipps further explained that the advisory and communications roles served by the departmental safety coordinators will not be one-way. The coordinators' ongoing involvement in their own research and their constant contact with other investigators, clinicians and technicians will serve as a critical resource to the ESO.

Do you know who your safety coordinator is? For a list of coordinators, contact the ESO at 362-6816.

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Washington
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Washington People

Brain researcher maps mouse whisker system

When asked to describe the path that has led to his world renown in neuroscientific research, Thomas A. Woolsey, M.D., responds only half-jokingly. "I, being the eldest son, got into the family business," he said. Woolsey is professor of anatomy and neurobiology, cell biology and physiology, and neurology and neurological surgery at the School of Medicine.

Woolsey's father, the late Clinton N. Woolsey, M.D., was a pioneer in brain mapping. The elder Woolsey was on staff at The Johns Hopkins University in Baltimore when his first son was born in 1943. In 1948, Clinton Woolsey went to the University of Wisconsin in Madison to start a neurophysiology laboratory. His lab received requests from across the world for information about brain function.

Much later, he would ask his son — who worked in his lab the summers before and after he went to medical school — to respond to one of those requests. The writer wanted information about the mouse brain. Tom Woolsey would be the first person to map the sensory system in the mouse brain through electrophysiological techniques. He found that the mouse brain was occupied largely with the processing of information from the animal's whiskers and that the brain site involved in processing this information had a unique structure, making it a convenient marker for study.

"The general idea is to find mechanisms or processes by which all nervous systems work," said Woolsey, who also is director of the University's James L. O'Leary Division of Experimental Neurology and Neurological Surgery. "If we're trying to get at those mechanisms, we want to find a model that is fairly representative of the goal, which is understanding the human brain and disease. A model that is convenient to study is whisker barrels in mice."

Woolsey said that if he sticks an electrode in the mouse brain, he can see what nerve cells respond to whisker stimulus. According to Woolsey, this reaction is very similar to the part of the monkey brain or human brain that responds to a visual stimulus. "I think the human brain, other than being about 2,000 times bigger (than a mouse brain) is not all that different in how it works," he said.

"We found quite early on that the brain is plastic. Either through environmental or surgical manipulation, you can change the form the brain will take. You can take off some whiskers and change the pattern of response in the brain. The mouse brain provides a simple model of neuroplasticity."

Geneticists have determined that mice provide the best model for mammalian genetics, making Woolsey's findings even more important in the study of human brain function and development.

"His most famous discovery and the one for which he is regarded as the continuing expert is whisker barrel cortex function," said Carl M. Rovainen, Ph.D., professor of cell biology and physiology at the School of Medicine and one of Woolsey's research collaborators. "The goal in neuroscience is to understand in detail how higher parts of the brain work. His work serves as a model for how other parts of the cortex work."

Woolsey had no idea that this discovery early on in his academic career would result in a lifelong research topic. "As a child, I was aware of what my father was doing," said Woolsey. "He didn't drag me into the lab, but it was attractive to me because he was so interested in what he was doing, and he worked with so many interesting people."

While curious about his father's work, Woolsey had no intention of following his career path. He did, however, work in several scientific labs during his undergraduate years at the University of Wisconsin as a source of income. He majored in history — and remains a Civil War buff — while also developing a strong interest in law and politics.

Before his graduation in 1965 he applied, almost halfheartedly, to three medical schools, thinking he'd pursue a law degree if rejected as a medical student.

Instead, he was accepted into Johns Hopkins' medical program. "It turned out to be a fabulous experience," said Woolsey. "I'm involved here (at Washington University) in persuading our medical and graduate students that student life should be a growing experience in every respect. If it's not fun, why do it?"

Woolsey graduated from Johns Hopkins in 1969 with

interests in both clinical medicine and medical research. He had continued to analyze his findings of the mouse brain during medical school and studied the organization of the brain of spiny anteaters during two summers at the University of Colorado Medical School. He also had pursued a cardiology research project at Johns Hopkins.

Woolsey came to Washington University to combine his interest in the brain with clinical work as part of the medical school's training program in neurosurgery. He spent a year interning in surgery at Barnes Hospital but soon found

"He never fails to be interested in anyone in his lab," said Henegar. "I've watched him interact with undergraduate students and medical students. I've seen him be very aware of where they are. He doesn't intimidate them with his knowledge. To be so successful and good at what he does at his level and to be able to interact with undergraduate students is extraordinary. It proves that he hasn't forgotten what it's like to be an undergraduate or medical student — to be introduced to this vast field of knowledge and to feel overwhelmed."

Henegar is part of a neurosurgery team that is working to transfer optical imaging techniques developed in Woolsey's lab to the operating room. The cortical function of rats' brains has been examined through optical imaging.

"In the surgical treatment of tumors or epilepsy, you have to disrupt the normal cortex," said Henegar. "You have to tailor the operation to control the damage to critical cortex functions, such as speech and vision. We know anatomically where these functions should be in the brain, but there are individual variations that we can identify through electrical stimulation. If we can take optical imaging into the operating room, we will be able to look at the active cortex rather than stimulating the brain to find these areas."

Woolsey, who also is the University's George H. and Ethel R. Bishop Scholar in Neuroscience and senior McDonnell neuroscientist in the McDonnell Center for Studies of Higher Brain Function, has pioneered a number of innovative techniques to study the mouse brain, which is approximately the size of a peanut. When he started his research at Washington University in 1970, techniques to study the brain

were cumbersome, he said.

"There was no way anatomically to tell what part of the brain was connected with another except by producing a lesion — damaging part of the brain — and waiting for a period of time," said Woolsey. "We looked for new ways to determine the connections from one part of the brain to another." Woolsey worked with several University collaborators to develop a method of labeling proteins in the brain with a radioactive substance.

"Using normal nerve cells, we could detect the radioactive material wherever it went," said Woolsey. "We could depend on the physiological process of the cell rather than pathology. It was more accurate and less capricious."

"Our major contribution was to get people to take advantage of normal cell biology to determine brain connections. This technique has been superseded by other techniques. But, at the time, it was very different."

Today, Woolsey's lab analyzes animal brain function, particularly activity-related changes in blood flow. The results are valuable models for interpreting Positron Emission Tomography and Magnetic Resonance Imaging to study the human mind. His collaborative work is funded by a number of public agencies, including the NINDS, the National Heart and Lung Institute and the Dental Institute — all parts of the NIH. He also receives funding from the Illinois-Eastern Iowa District of the Kiwanis International Spastic Paralysis Research Foundation.

Woolsey's interest in politics contribute to his success in generating grant monies. "He's a superb neuropolitician, in the best sense," said Rovainen, who has collaborated with Woolsey during the past six years in imaging of brain blood vessels during cortical activity. "He's an expert at style and rewriting papers and grant proposals. He has a broad view of the issues and the ability to focus, illustrate and present results well."

Those assets will help Woolsey continue the basic research that has occupied most of his adult life. He wants to continue his study of the chemical linkage between nerve cells and blood vessels in the brain. He's also interested in the signals that cause nerve cells to make the appropriate connections in brain development — findings that will have a significant impact on brain genetic studies and in the treatment of brain diseases such as strokes.

Looking back on his decision to follow his father's footsteps into scientific research, Woolsey has no regrets. "In my own defense, I actively tried to avoid going into the family business," he said. "But I'm glad I did."

"Ideally, in basic research you can enjoy the kind of experience Columbus had. You can literally tread where people have not gone before. It doesn't happen often. But when it does, it's a unique thrill."

— Brenda Murphy



Greg Foltz, fourth-year medical student, and Thomas A. Woolsey, M.D., right, examine a human brain.

"You can literally tread where people have not gone before. It doesn't happen often. But when it does, it's a unique thrill."

his two interests conflicting.

"The problems I found in neurosurgery seemed distant from my scientific interest," said Woolsey. "I didn't see how I could be successful pursuing a career in intense clinical care, and do it well, and do first-rate research."

He became a postdoctoral fellow, funded by the National Institute for Neurological Diseases and Stroke (NINDS) at the National Institutes of Health (NIH), in the University's Department of Anatomy. The move would cement his career in neuroscientific research and lay the groundwork for another academic avenue in which to leave his mark. In his role as teacher and mentor, Woolsey is held in the highest regard by countless numbers of medical students. In 1992, he received both the Washington University School of Medicine Distinguished Teaching Award from the Class of 1995 and the Senior Class Award-Teacher of the Year.

He began his teaching career with gross anatomy courses. From 1988 to 1993, he served as the University's medical neuroscience coursemaster. And today, he serves on the University's Medical Scientist Training Program Committee.

"He is genuinely interested in students," said Greg Foltz, a senior medical student in the University's M.A., M.D. program. "When you run a course as difficult as neuroscience, it's easy for students to get lost. There's so much complex information, it can be daunting. But he's at every lecture and at every lab. He takes a real interest, and his door is always open to you." Foltz added that he thought Woolsey's neuroscience course was the best he had taken in the medical school.

Woolsey encourages all levels of students — from undergraduate to graduate students, medical students, neurosurgery residents and visiting fellows — to work in his lab. "The mix is tremendously important in generating ideas," he said.

Martin Henegar, M.D., a fifth-year resident in neurosurgery, worked in Woolsey's lab for six months and observed his interactions there.

Calendar

Oct. 13-22



Exhibitions

"A Gallery of Modern Art." Features 85 19th- and 20th-century masterpieces from the Gallery of Art's permanent collection. Through Oct. 16. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. 935-5490.

"Orpheus on the Mississippi: 19th-Century Music Publishing in St. Louis." Through Oct. 14. Olin Library, Special Collections, Level 5. Hours: 8:30 a.m.-5 p.m. weekdays.



Films

Thursday, Oct. 13

7 and 9 p.m. Filmboard Foreign Series. "Carnival in Flanders" (1935, B&W). Room 100 Brown Hall. Cost: \$3. **For 24-hour Filmboard hotline, call 935-5983.**

Friday, Oct. 14

6:30 and 9:15 p.m. Filmboard Feature Series. "Farewell My Concubine" (1993), in Chinese with English subtitles. Sponsored by Gay Lesbian Bisexual Alliance/Pride. (Also Oct. 15, same times, and Oct. 16 at 6:30 p.m.) Room 100 Brown Hall. Cost: \$3.

Midnight. Filmboard Midnight Series. "Big Trouble in Little China" (1986). (Also Oct. 15, same time, and Oct. 16 at 9:30 p.m.) Room 100 Brown Hall. Cost: \$3.

Monday, Oct. 17

7 p.m. Balkan Film Series. "When Father Was Away on Business," in Greek with English subtitles. Sponsored by the Dept. of History. Room 100 Busch Hall. 935-5450.

Tuesday, Oct. 18

7 p.m. Chinese Film Series. "Farewell My Concubine" (1993), with English subtitles. Sponsored by Gay Lesbian Bisexual Alliance/Pride and the Dept. of Asian and Near Eastern Languages and Literatures. Room 219 South Ridgley Hall. 935-5156.

Wednesday, Oct. 19

7 and 9 p.m. Filmboard Foreign Series. "Los Olvidados" (1950). (Also Oct. 20, same times.) Room 100 Brown Hall. Cost: \$3.

Friday, Oct. 21

7 and 9:30 p.m. Filmboard Feature Series. "Blue" (1993). (Also Oct. 22, same times.) Room 100 Brown Hall. Cost: \$3.

Midnight. Filmboard Midnight Series. "Ghostbusters" (1984). (Also Oct. 22, same time.) Room 100 Brown Hall. Cost: \$3.



Lectures

Thursday, Oct. 13

Noon. Genetics seminar. "Definition of an Immunodominant Peptide in T Cell Recognition of Class I MHC." Janet Connolly, research asst. prof., Dept. of Genetics. Room 816 McDonnell Medical Sciences Bldg.

1:10 p.m. Social work lecture. "Legislative Advocacy for Children and Families: What Can We Do?" Nancy Amidei, senior lecturer and assoc. director, Center for Policy and Practice Research, School of Social Work, U. of Washington, Seattle. Brown Hall Lounge.

2:30 p.m. Mechanical engineering seminar. "Studies in High-angle-of-attack Forebody Vortex Flow Asymmetry and Its Management." Frederick W. Roos, senior principal technical specialist, Experimental Fluid Dynamics, McDonnell Douglas Aerospace Center, St. Louis. Room 100 Cupples II Hall. 935-6055.

4 p.m. Earth and planetary sciences colloquium. "Compositional Variation in Apollo 16 Impact-melt Breccias and Inferences for the Geology and Bombardment History of the Central Highlands of the Moon." Randy Korotev, research assoc. prof., Dept. of Earth and Planetary Sciences. Room 362 McDonnell Hall. 935-5610.

4 p.m. Molecular oncology seminar. "Phosphate Regulation and Cell Cycle Control in Yeast." Erin O'Shea, asst. prof., Dept. of Biochemistry and Biophysics, U. of California, San Francisco. Third Floor Aud., St. Louis Children's Hospital. 362-9035.

4:15 p.m. Philosophy lecture and discussion. "On Skeptical Inferences From the History of Science: Rebutting the Pessimistic Induction." Robert Barrett, prof., Dept. of Philosophy. Room 109 Simon Hall. 935-7148.

4:30 p.m. Math colloquium. "Linearity of the Nearest Point Cross Section Operators on Holomorphic Function Spaces." Joseph China, prof. of mathematics, U. of North Carolina. Room 199 Cupples I Hall. (Tea: 4 p.m. in Room 200.) 935-6726.

Friday, Oct. 14

9:15 a.m. Pediatric Grand Rounds. "HIV Assembly: Molecular Biology and Future Clinical Applications." Paul Spearman, instructor, depts. of Internal Medicine and Pediatrics. Clopton Aud., 4950 Children's Place. 454-2706.

Noon. Cell biology and physiology seminar. "Palmitoylation of src Family Kinases and Interaction With GPI-anchored Membrane Proteins." Douglas M. Lublin, prof. of pathology and adjunct prof. of medicine. Cori Aud., 4565 McKinley Ave. 362-6950.

4 p.m. Hematology seminar. "Early Mutations in Leukemia." Gary Gilliland, Harvard Medical School, Cambridge, Mass. Moore Aud., 660 S. Euclid Ave.

4 p.m. Molecular microbiology seminar. "mRNA Destabilization by the Virion Host Shutoff Protein of Herpes Simplex Virus." Sullivan Read, asst. prof., School of Biological Science, U. of Missouri, Kansas City. Room 775 McDonnell Medical Sciences Bldg. 362-7059.

Saturday, Oct. 15

10 a.m. Science lecture series. This four-week program will explore "The Bizarre Legacy of Dr. Einstein," with lecturers Leonid P. Grishchuk, the Clark Way Harrison Distinguished Visiting Professor of Physics; Wai-Mo Suen, assoc. prof. of physics; Matt Visser, research asst. prof. of physics; and Clifford M. Will, prof. and chair, Dept. of Physics. Through Nov. 5. Co-sponsored by University College and the Dept. of Physics. Room 201 Crow Hall. 935-6788.

Monday, Oct. 17

3 p.m. Math analysis seminar. "Examples in Local Spectral Theory." Robert Smith, prof. of mathematics, Purdue U., West Lafayette, Ind., and Mississippi State U., Starkville. Room 199 Cupples I Hall. 935-6726.

4 p.m. Biology seminar. "Regulation of the Mannitol Operon of *Streptococcus Mutans*." Allen Honeyman, research assoc., Dept. of Biology. Room 322 Rebstock Hall. 935-6287.

4 p.m. Geology lecture. "Paleoclimatic Conditions in Ancient Egypt." Ray Arvidson, prof. and chair, Dept. of Earth and Planetary Sciences. Moore Aud., 660 S. Euclid Ave.

8 p.m. Architecture lecture. "Five Projects." Luis Vives, visiting prof. of architecture, Barcelona, Spain. Steinberg Hall Aud.

Tuesday, Oct. 18

12:10 p.m. Physical Therapy Brown Bag Research Seminar. "Control of Interaction Torques During Reaching in Subjects With Cerebellar Damage." Amy Bastian, doctoral candidate in movement sciences, Program in Physical Therapy. Classroom C Forest Park Bldg., 4444 Forest Park Blvd. 286-1427.

3:45 p.m. Physics seminar. "NMR on Intermetallics." Joe Ross, prof. of physics, Texas A & M U., College Station, Texas. Room 241 Compton Hall. 935-6276.

4 p.m. Pathology seminar. "PHAS-I: A New Player in the Regulation of Protein Synthesis by Insulin and Growth Factors." John Lawrence, assoc. prof., Dept. of Molecular Biology and Pharmacology. Pathology Library, Room 3723 West Bldg. 362-7433.

6 p.m. Social work seminar. "High Risk Parenting: How Do Parents Get There and What Do They Need?" Ellen Burkemper, lecturer, George Warren Brown School of Social Work; Kathleen Fagan, director of client services, Child Haven, St. Louis; Relda Owens-Matthews, family preservation specialist supervisor, Family Resource Center, St. Louis; and Claire Eldridge, director, Evenstart Program, Ferguson-Florissant School District, and partner, North County Service Coalition. Brown Hall Lounge. For more info. and to register, call 935-6678.

6:15 p.m. German lecture. "Die Menschen sind nur durch Trennungen zu vereinigen." Arno Schilson, prof. of history, religious studies and literature, U. of Mainz, Germany. Hurst Lounge, Room 201 Duncker Hall. 935-5106.

Wednesday, Oct. 19

8 a.m. Obstetrics and Gynecology Grand Rounds. "Case Conference." Supreeti Khurana, chief resident, Dept. of Obstetrics and Gynecology. Clopton Aud., 4950 Children's Place.

4 p.m. Biochemistry and molecular biophysics seminar. "Molecular Control Mechanisms Studied With Single Amino Acid Substitutions in Allosteric Threonine Deaminase and GroES/GroEL Molecular Chaperones." Edward Eisenstein, Center for Advanced Research Biotechnology, U. of Maryland, Rockville. Cori Aud., 4565 McKinley Ave. 362-0261.

4 p.m. Physics colloquium. "Searching for Dark Matter With Gravitational Lensing, a Report From the MACHO Collaboration." Christopher Stubbs, prof. of physics, U. of Washington, Seattle, and U. of California, Santa Barbara. Room 204 Crow Hall. 935-6276.

Thursday, Oct. 20

4 p.m. Assembly Series lecture. The 20th Annual Mr. and Mrs. Spencer T. Olin Conference lecture. "Mightier Than the Sword: The Power of the Written Word," author Nadine Gordimer. Graham Chapel. (Continues at 10 a.m. Oct. 21 with a panel and group discussion in the Women's Bldg. Lounge.)

4 p.m. Earth and planetary sciences colloquium. "How (and Why) Volcanoes Move." John Dvorak, geophysicist, Cascades Volcano Observatory, U.S. Geological Survey, Vancouver, British Columbia. Room 362 McDonnell Medical Sciences Bldg. 935-5610.

4 p.m. History talk. "Eastern Europe and the Near East: Processes and Tensions of Change in the Shadow of the West." Max J. Okenfuss and Engin D. Akarli, assoc. profs. of history. Room 113 Busch Hall. 935-5450.

4:30 p.m. Math colloquium. "Some Maximal and Integral Operators Related to Starlike Sets." Richard Wheeden, prof. of mathematics, Rutgers U., New Brunswick, N.J. Room 199 Cupples I Hall. (Tea: 4 p.m. in Room 200.) 935-6726.

Friday, Oct. 21

9:15 a.m. Pediatric Grand Rounds. "The Fable of Aesop: Common Ground Between Achondroplasia and Crouzon Syndrome." S. Bruce Dowton, assoc. prof., depts. of Pediatrics and Genetics and director, Division of Medical Genetics, St. Louis Children's Hospital. Clopton Aud., 4950 Children's Place. 454-2706.

Noon. Cell biology seminar. "Molecular Mechanisms of Viral Envelope Glycoprotein-mediated Membrane Fusion." Robert P. Blumenthal, lab chief, National Cancer Institute, National Institutes of Health, Bethesda, Md. Cori Aud., 4565 McKinley Ave. 362-6950.

Noon. Environmental engineering seminar. "Case Study: Alton, Ill. Privatization of Public Works, Including Streets, Sewers, Wastewater Treatment Plants and Parks." Paul McKee, chair and CEO, Paric Corp., St. Louis. Room 226 Urbauer Hall. 935-8590.

1 p.m. Solid state engineering and applied physics seminar. "Working in the Real World at Hughes Aircraft Company." Rich Livingston, graduate student, Dept. of Electrical Engineering. Room 305 Bryan Hall. 935-5565.

4 p.m. Music lecture. "Liszt's 'Angelus'—Revisions and Reflections." Dolores Pesce,

assoc. prof. of musicology. Room B-8 Blewett Hall. 935-5581.

4:15 p.m. Philosophy lecture. "Normative Objectivity." Ernest Sosa, prof. of philosophy, Brown U., Providence, R.I. Room 218 Brown Hall. 935-5119.



Music

Saturday, Oct. 15

8 p.m. Gabrielli Trio concert. Features violinist James Buswell, teacher at The New England Conservatory of Music, Boston; cellist Michael Haber, former member of The Cleveland Orchestra, Casals Festival Orchestra and Mostly Mozart Festival Orchestra; and pianist Seth Carlin, prof. of music and soloist with the St. Louis Symphony Orchestra. Steinberg Hall Aud. 935-5581.

Sunday, Oct. 16

8 p.m. New Music Circle concert. Performance features Leroy Jenkins, violinist and composer. Steinberg Hall Aud. Cost: \$10 for the general public; and \$6 for senior citizens and students. 995-4963.

Monday, Oct. 17

8 p.m. WU Chamber Orchestra concert. Performance, under the direction of Beth Macdonald, visiting artist in music, features harpsichord soloist Charles Metz and includes Arcangelo Corelli's "Concerto Grosso, Op. 6, No. 6," George Frideric Handel's "Concerto a due cori, No. 3," and J.S. Bach's Concerto in D Minor for Harpsichord and Orchestra." Umrath Hall Lounge. 935-5581.



Performances

Friday, Oct. 14

8 p.m. Performing Arts Dept. presents "The Endless Adventures of M.C. Kat or How They Got From A to B," a story about a small furry stuffed animal who gets lost after falling out of a car window. Directed by Melanie Dreyer, artist-in-residence. (Also Oct. 15, same time, and Oct. 16 at 2 p.m.) Drama Studio, Room 208 Mallinckrodt Center. Cost: \$8 for the general public; and \$6 for faculty, staff and students. 935-6543.

Thursday, Oct. 20

8 p.m. Stage Left productions presents Richard Selzer's "The Black Swan," directed by Henry Schvey, prof. of drama. (Also Oct. 21 and 22, same time.) Edison Theatre. Cost: \$12 for the general public and faculty and staff; and \$10 for students. 935-6543.

Calendar guidelines

Events sponsored by the University — its departments, schools, centers, organizations and its recognized student organizations — are published in the Calendar. All events are free and open to the public, unless otherwise noted.

Calendar submissions should state time, date, place, sponsor, title of event, name of speaker(s) and affiliation, and admission cost. Quality promotional photographs with descriptions are welcome. Send items to Judy Ruhland at Box 1070 (or via fax: 935-4259). Submission forms are available by calling 935-4926.

The deadline for all entries is noon Tuesday one week prior to publication. Late entries will not be printed. The Record is printed every Thursday during the school year, except holidays, and monthly during the summer. If you are uncertain about a deadline, holiday schedule, or any other information, please call 935-4926.



Miscellany

Friday, Oct. 14

9 a.m.-3 p.m. Continuing education social work conference. "Making the Leap: Providing Services for Gay, Lesbian and Bisexual Youth," a day of workshops and discussion groups for human service professionals. Co-sponsored by The George Warren Brown School of Social Work, Office of Continuing Education; The Center; Parents and Friends of Lesbians and Gays; and Pride. Keynote speech, "Gay, Lesbian and Bisexual Youth as a Professional Challenge: It's Time to Act," Stefan Wade, clinical social worker, Minneapolis, and a national speaker on gay and lesbian issues. Brown Hall. For cost and registration info., call 935-4909.

Saturday, Oct. 15

10 a.m.-4 p.m. 1994 International Folkfest. A volunteer recruitment event for

Community Connections. Queeny Park. 935-4787.

Wednesday, Oct. 19

7:30 a.m. Office of Continuing Medical Education seminar. "Contemporary Cardiothoracic Surgery." Ritz Carlton Hotel, 100 Carondelet Plaza, St. Louis. Co-sponsored by the Division of Cardiothoracic Surgery. For cost, credit and registration info., call 362-6893.

8 p.m. Poetry reading. Alfred Corn, visiting prof., Dept. of English, and author of *Autobiographies* and *The West Door*, will read from his works. Hurst Lounge, Room 201 Duncker Hall. 935-5187.

Friday, Oct. 21

7 p.m. Woman's Club social gathering. "University Night: Prefixes and Suffixes," a social gathering for members of the faculty and administration. Piper Lounge, Simon Hall. For more info. or reservations, call Mary Kay Cerza at 849-2730 by Oct. 17.

Saturday, Oct. 22

9 a.m.-noon. University College Skill Development Workshop. "Search and Research." Learn strategies for college-level paper writing. Room 103 Eads Hall. Cost: \$20. To register, call 935-6788.

1991 Nobel prize-winner Nadine Gordimer to examine power of the written word Oct. 20

Nobel Laureate Nadine Gordimer will lecture as part of the Assembly Series at 4 p.m. Thursday, Oct. 20, in Graham Chapel. Gordimer's talk is titled "Mightier Than the Sword: The Power of the Written Word." The lecture keynotes this year's Mr. and Mrs. Spencer T. Olin Conference.

A panel discussion will follow at 10 a.m. Oct. 21 in the Women's Building



Nadine Gordimer

Lounge. Besides Gordimer, panel members will be: Nancy L. Grant, Ph.D., associate professor of history, children's author Carol Greene, and writer Martha Shirk of the St. Louis Post-Dispatch. Janese Williams, Olin Fellow in the Ph.D. program in business, will moderate. Both the lecture and the panel discussion are free and open to the public.

Gordimer won the 1991 Nobel Prize for literature. The Swedish Academy conferring the award described her work

as "of very great benefit to humanity." Her many politically oriented novels include *A World of Strangers* published in 1958, *Burger's Daughter* in 1979, *July's People* in 1981 and *My Son's Story* in 1990. She is also a prolific short story writer. Published collections include *Six Feet of the Country* in 1956, *Something Out There* in 1984 and *Jump and Other Stories* in 1991.

A persistent proponent of freedom of expression and an anti-apartheid activist, she has written many works that originally were banned in her native South Africa. Gordimer holds 11 honorary degrees and is the recipient of numerous literary awards internationally.

Gordimer lives and works in South Africa. She is vice president of PEN International and an executive member of the Congress of South African writers. She is also a member of the African National Congress.

The annual Olin Conference is a joint enterprise of The Monticello College Foundation and Washington University. Since 1975 the foundation has, in partnership with Washington University, operated a fellowship program named for Spencer T. and Ann W. Olin.

For more information, call 935-5297.

Science Saturdays explore Einstein's legacy

Washington University faculty will discuss black holes, the "Big Bang," wormholes and other physics phenomena in a lecture series beginning Saturday, Oct. 15. The new four-week Science Saturdays program will explore "The Bizarre Legacy of Dr. Einstein" from several perspectives.

The series, which will be held from 10 to 11:30 a.m. on Saturdays through Nov. 5, is free and open to the public. It enables the public to explore the "frontiers" of science with noted faculty from the Department of Physics.

Sponsored by University College and the Department of Physics, the seminars will explore Einstein's general theory of relativity as the accepted description of gravity and spacetime. Beyond that, faculty will address some of the more bizarre consequences of the theory that defy understanding and easy acceptance. Some of these concepts include: black holes, collapsed objects from which nothing, not even light, can escape; the "Big Bang," the mysterious event that supposedly originated the expansion of the universe; gravity waves, ripples of spacetime curvature that are emitted by violent stellar catastrophes; and wormholes, strange spacetime warps that may, or may not, permit time travel.

"Einstein's general relativity has revolutionized the way we think about space and time," said Clifford M. Will, Ph.D., professor and chair of physics, and one of the world's leading experts on the experimental verifications of Einstein's theory. "We hope these lectures will bring

some of the excitement of that revolution to the general audience."

In addition to Will, the lecturers include Leonid P. Grishchuk, Ph.D., the Clark Way Harrison Distinguished Visiting Professor of Physics and one of the leading astrophysicists of the former Soviet Union; Wai-Mo Suen, Ph.D., associate professor of physics and a leading expert in the study of black holes using supercomputers; and Matt Visser, Ph.D., research assistant professor of physics and a leading expert on wormholes and time travel.

All lectures will be held in Room 201 Crow Hall. For more information, call 935-6788.

Isserman Prize nominations sought

The Office of Student Affairs is requesting nominations for the Rabbi Ferdinand M. Isserman Prize. The honor will be awarded to an undergraduate for significant contributions to ecumenical or interfaith activities at Washington University. Isserman, who was rabbi at Temple Israel in St. Louis from 1929 to 1968, was actively involved in interfaith issues, locally, nationally and internationally. Nomination forms are available from the Office of Student Affairs, Box 1136, and should be returned by Oct. 28. The prize will be awarded at this year's Holocaust Memorial Lecture/Isserman Memorial Lecture Nov. 9. For more information, call 935-5040.

Novelist William Gaddis keynotes 'Writer and Religion' conference

"The Writer and Religion" will be the topic of an international conference Oct. 23-26 at Washington University. Presented by the University's International Writers Center, the conference will feature readings, panel discussions and audience participation.

Featured writers come from across the globe — Ireland, South Africa, India, Lebanon and America — and include Eavan Boland, J. M. Coetzee, William Gaddis, Amitav Ghosh, A. G. Mojtabei and Hanan al-Shaykh.

American novelist William Gaddis, author of *J.R.*, which won the National Book Award in 1976, *The Recognitions* and *A Frolic of His Own*, will give the keynote address at 4 p.m. Oct. 23 in Edison Theatre. His talk, which is sponsored by Student Union and the International Writers Center, also is part of the Assembly Series.

William H. Gass, Ph.D., David May Distinguished University Professor in the Humanities and director of the center, and members of the center's international advisory board will serve as moderators and panelists. Panel discussions will be held at 10 a.m. and 2 p.m. Oct. 24-26 at the West Campus Conference Center, 7425 Forsyth Blvd. The writers will read from their works in the evenings.

The discussions will explore religion as a subject for literature, as an influence on a writer, and as an instrument of censorship or of community.

"The case of Salman Rushdie is the most

prominent, but only one of many examples of state-sponsored censorship of writers," said Gass. "Regarding religious faith, ignorance, intolerance, fanaticism and fear have become epidemic."

"It is with a sense of moral urgency that the topic of The Writer and Religion is being explored," he added.

The Oct. 24 reading will begin at 8 p.m. at Duff's Restaurant, 392 N. Euclid Ave. This collaboration with the literary organization River Styx will feature Indian writer Amitav Ghosh and Lebanese writer Hanan al-Shaykh. They will be introduced by Palestine Israeli writer Anton Shammas. Tickets are \$5 for the general public, and \$4 for students and senior citizens. American novelist A. G. Mojtabei and South African novelist J. M. Coetzee will read from their works at 8 p.m. Oct. 25 in the West Campus Conference Center. The conference will conclude with a reading by Irish poet Eavan Boland at 4 p.m. Oct. 27.

All campus events are free and open to the public with seating on a first-come basis; however, for a \$25 registration fee seating will be reserved and a conference packet with additional information will be provided.

"The Writer and Religion" is underwritten in part by the Arts and Education Council of Greater St. Louis, the Harry Edison Foundation, the Missouri Arts Council and the Regional Arts Commission.

Additional support is provided by many University departments.

For more information, call 935-5576.

Sports

The following is compiled by Mike Wolf, director of sports information, and David Moessner, assistant director.

Football

Last Week: Washington 13, Chicago 7

This Week: 1:30 p.m. Saturday, Oct. 15, vs. Carnegie Mellon University, Francis Field

Season Record: 4-2 (1-0 UAA)

After losing to the University of Chicago the past two years, the Bears regained the Founder's Trophy with a 13-7 win. The Founder's Trophy is a cup that commemorates the first football game played between two UAA schools.

Senior linebacker Matt Gomric, Belleville, Ill., turned the game's first turnover — an interception — into a 24-yard return for a touchdown. Sophomore Josh Haza, Lebanon, Mo., scored Washington's other touchdown on a 52-yard screen play.

Women's Volleyball

Last Week: Washington 3 (15, 16, 15), Columbia 0 (7, 14, 12)

This Week: 8 p.m. (HDT) Thursday, Oct. 13, at Brigham Young University-Hawaii, Laie, Hawaii; 7:30 p.m. (HDT) Friday, Oct. 14, at Hawaii Pacific University, Honolulu, Hawaii; 7:15 p.m. (HDT) Saturday, Oct. 15, at University of Hawaii-Hilo

Season Record: 25-0 (7-0 UAA)

Standout sophomore setter Stephanie Habif, Tenafly, N.J., distributed a career-best 53 assists while orchestrating a three-game sweep over the 18th-ranked team in the NAIA.

Men's Soccer

Last Week: Washington 5, Webster 0; Washington 6, MacMurray 0

This Week: 7:30 p.m. Friday, Oct. 14, vs. Wheaton College, Francis Field; 8 p.m. Saturday, Oct. 15, vs. University of Chicago, Francis Field.

Season Record: 8-3-2 (2-0-1 UAA)

Behind a pair of goals from first-year student Darrell Zechman, Madison, Wis., the Bears defeated Webster. In Jacksonville, Ill., the Bears notched their fourth shutout of the season with a 6-0 win over region rival MacMurray. Senior Kevin Neebes, Cleveland, scored the game's first two goals, giving him 38 for his career.

Women's Soccer

Last Week: Southern Illinois University-Edwardsville 5, Washington 1; Washington 4, Fontbonne 0

This Week: 5:30 p.m. Friday, Oct. 14, vs. Maryville University, Francis Field; 6 p.m. Saturday, Oct. 15, vs. University of Chicago, Francis Field

Season Record: 4-7-1 (0-3-0 UAA)

The sole highlight in last week's 5-1 loss at Division II Southern Illinois University-Edwardsville was a late goal by first-year student Kate Wienrieb, Eggerstville, N.Y. The net-denter was the first of Wienrieb's career.

In the contest against Fontbonne, senior Laura Miller, Florissant, Mo., the Bears' career leader, scored one goal and recorded two assists.

Men and Women's Cross Country

Last Week: At University of Missouri-Rolla Miner Invitational — Men: 2nd of 7; Women: 2nd of 11

This Week: Idle (Next meet: UAA Championships on Oct. 22 in Baltimore.)

At the University of Missouri-Rolla Miner Invitational, sophomore Jerylin Jordan, Kaneohe, Hawaii, placed third in the field of 84 finishers. Jordan's five-kilometer time of 18:59.6 chopped 40 seconds off her previous best. On the men's side, senior captain Ryan Thomas, Orefield, Pa., was the Bears' top finisher, placing ninth in the field of 64.

Women's Tennis

Last Week: Washington 5, St. Louis University 4

This Week: 3 p.m. Friday, Oct. 14, at University of Chicago; 9 a.m. Saturday, Oct. 15, at Wheaton College, Wheaton, Ill.; 2 p.m. Saturday, Oct. 15, vs. Augustana, Wheaton, Ill.

Current Record: 1-0

Senior Tara Salamone, Greenlawn, N.Y., Washington's top player, triggered the victory over St. Louis University with wins at first singles and first doubles.

Future social workers, architects learn professional codes of ethics in classroom

As part of an ongoing series on the teaching of ethics at Washington University, this article focuses on the George Warren Brown School of Social Work and the School of Architecture.

George Warren Brown School of Social Work

Because of the many difficult situations with which social workers must deal — child neglect, marital discord, mental illness and drug abuse, to name a few — ethics must be an integral component of not only social work education, but also social work practice, said Shanti Khinduka, Ph.D., dean of the George Warren Brown School of Social Work.

Khinduka points out that ethics always has been an important consideration in the way social workers deal with the sensitive problems of individual clients, agencies and organizations. But he adds that ethics in the profession is taking on a new dimension as social workers increasingly claim top management roles in non-profit organizations and agencies.

"Ethics is very critical in non-profit administration," Khinduka said. "Non-profit organizations depend on public support and adhering to a very scrupulous code of ethics is absolutely essential if these organizations are to retain the public trust."

Ethical considerations are an important element of many courses within the school's master of social work curriculum, and several courses tackle the issue head-on. William Butterfield, Ph.D., associate professor of social work, covers formal ethical standards and codes of conduct for the social work profession in a required course broadly designed to acquaint students with management theories in the context of non-profit organizations.

"Social workers really have more than just one code of conduct to follow because of all the specialties in the field," Butterfield said. "There are different ethical considerations and different codes of conduct depending on the specific area of social work practice."

The National Association of Social Workers, the field's largest professional group, has a formal code of conduct that the school includes in every student handbook. But students in Butterfield's course also learn about other specialized codes of conduct, such as those published by the National Association of Black Social Workers and the American Association of Marriage and Family Therapists.

"The strategy I generally use is to pose a problem and let the students work on it

awhile before I tell them what the code of ethics says about the issue," Butterfield said. "I want to help them understand where codes of ethics come from and how they differ from personal values."

Social workers, because of their roles as caregivers, counselors and arbitrators, often must build intimate, personal relationships with those whom they serve. Codes of conduct generally are designed to prevent social workers from abusing or exploiting the trust of client communities and individuals. For instance, social workers generally are prohibited from dating or doing business with current social work clients, Butterfield said.

"The common thread running through most of these codes is that a social worker's first responsibility is to the client," Butterfield said. "The whole code of ethics is built around protecting the rights of clients."

School of Architecture

As both an art and a science, architecture embraces aesthetic, ethical, social, as well as technical responsibilities. Ethically, architects are entrusted with the task of designing safe buildings that are accessible to all and do not negatively affect the surrounding environment.

Although the School of Architecture does not have a required course in ethics, students

are exposed to the subject informally throughout the curriculum. A required professional practice course introduces students to the code of ethics of the American Institute of Architects (AIA). Alleged violations of this code are subject to review by a judicial board. Proven violations can result in suspension from the AIA.

In addition to

AIA requirements, practicing architects are subject to a variety of other codes, including local, state and federal zoning and building codes and other licensing laws that leave little room for ethical laxness, explained Cynthia Weese, dean of the School of Architecture.

"For example, the Americans With Disabilities Act requires that buildings be accessible to the handicapped. Violating this and other codes is the same as violating the law," Weese said. "Ethical violations heard by the AIA board are most likely to involve presenting oneself improperly, taking undue credit for something you didn't do."

After graduation, prospective architects are required to serve a two- to three-year apprenticeship. To be licensed by the state, they then must take a test that, among other things, tests knowledge of these codes.

"The strategy I generally use is to pose a problem and let the students work on it awhile before I tell them what the code of ethics says about the issue."

— William Butterfield

Campus Watch

The following criminal incidents were reported to the Hilltop Campus Police Department Oct. 3-10. Readers with information that could assist the investigation of these incidents are urged to call 935-5555. This release is provided as a public service to promote safety awareness on campus.

Oct. 3

10:04 a.m. — A tool (band sander) belonging to the Department of Biology was reported stolen from the maintenance zone office on the west side of the Goldfarb Plant Growth Facility sometime between Sept. 23 and 9 a.m. Sept. 26.

Oct. 5

11:23 a.m. — A student's back pack and calculator were reported stolen from the Center Court, Wohl Center, sometime between 7:45 and 8 p.m. Oct. 2.

Oct. 6

2:56 p.m. — A staff member's camera was reported stolen from Room 303 of the Goldfarb Plant Growth Facility sometime between 2 and 6 p.m. Oct. 2.

4:15 p.m. — A student's bicycle was reported stolen from the rack on the west side of Mallinckrodt Center sometime between 6 p.m. Oct. 4 and 2 a.m. Oct. 5.

Oct. 7

2:47 p.m. — A cellular telephone, compact discs and concert tickets were reported stolen

from a student's room in Millbrook Apartments No. 4 sometime between 5:15 p.m. Oct. 6 and 1:30 p.m. Oct. 7.

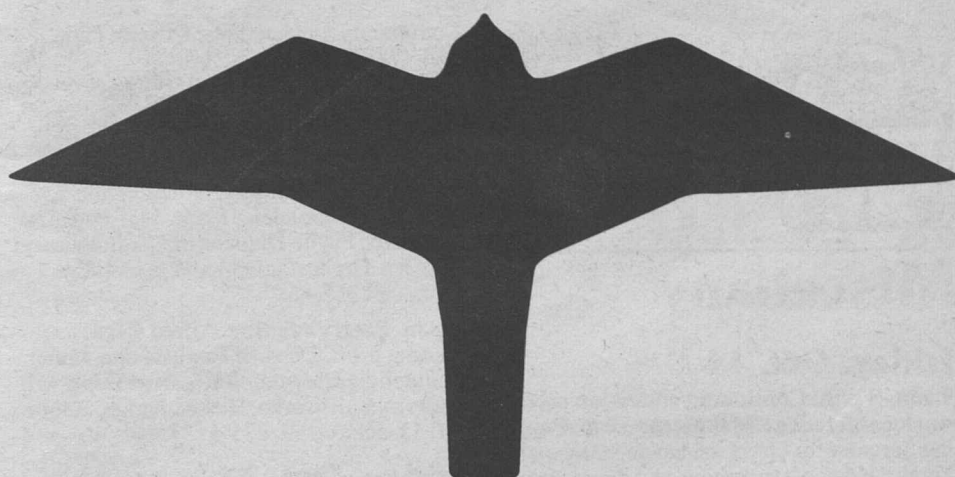
6:37 p.m. — A student's ring was reported stolen from a suite in Dauten Residence Hall sometime between 9 and 9:30 a.m.

8:32 p.m. — A student's tape player, currency and credit cards were reported stolen from the men's locker room in the Athletic Complex sometime between 4 and 5:30 p.m.

Oct. 8

11:07 p.m. — A radio/cassette player and clothing were reported stolen from a student's vehicle parked in the Bixby lot sometime between 10:30 and 11 p.m.

In addition to the incidents listed, Hilltop police responded to three reports of institutional vandalism, including damage to a window of the Mudd law building and to a security gate latch at Simon Hall, as well as a report of graffiti on the east wall of Sigma Alpha Epsilon.



The University community is encouraged to help save migrating birds by attaching this falcon replica to windows. This falcon silhouette should be enlarged so that the wingspan measures 12 inches across.

Fake falcons may save migrating birds

Each year at this time a number of migrating birds flies smack-dab into University buildings. Richard Coles, Ph.D., director of the Tyson Research Center, and Friends of Tyson have a plan to help save the confused creatures, despite their sometimes misguided judgment.

Resident birds seem to know their way around. But migrating birds, on their way to the neotropics, often "make the wrong choice" and fly directly into windows of University buildings, Coles said.

Birds migrate to the neotropics from late August to mid-October and in mid-April to the end of May. "Every year two to three dozen birds bite the dust on campus," Coles explains. Some estimate that 976 million birds of all species are killed each year because of their fatal attraction to lights and windows.

The birds, while flying around or escaping a predator, might see the reflection of the blue sky or a tree branch in the window glass. "They get a good view of the sky and they appear to think it's an escape route, and they collide with the buildings. It's enough to lure them to their death."

Coles, also an adjunct professor of biology, said these migrating birds are "some of the prettiest birds" in existence, and include the ruby-throated hummingbird and Canada Warbler.

Coles knows of their demise because every migration season people present him with bird carcasses. He is grateful for the carcasses, which he freeze-dries and uses for teaching. However, he says, he would "be even more grateful if they remained alive."

Members of the University community could try to save the birds, he said, by attaching a silhouette replica of a falcon to the upper half of University windows for the next week or so. Readers are encouraged to cut out the accompanying falcon replica and enlarge it so that the wingspan measures 12 inches across.

An image of a predatory falcon is enough to make the birds go another direction. The falcon replicas should be put back on the window around April 15, a taxing time for migrating birds.

The migrating birds may get a little frazzled by all the hovering falcons on campus, but at least they will continue their journey unharmed.

— Deborah Parker

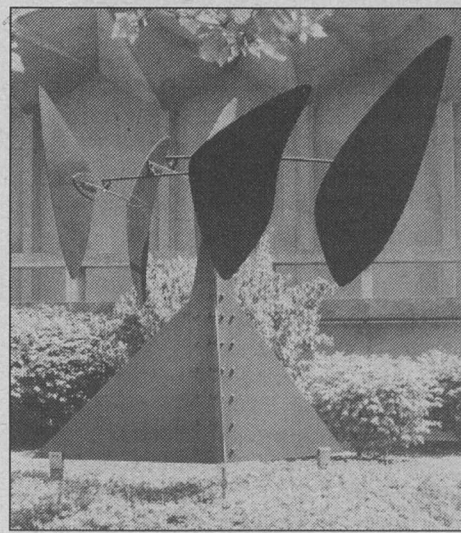
Mobile sculpture considered 'engaging' — from page 1

Shortly after its creation in 1964, the "Five Rudders" sculpture was purchased and donated to Washington University by Etta E. Steinberg, the wife of Mark C. Steinberg for whom the hall housing the Gallery of Art is named. The Steinberg family, which has long been a generous supporter of Washington University, has donated many important artworks to the gallery's collection.

The White House exhibit of art from the Midwest was organized by George W. Neubert, director of the Sheldon Memorial Art Gallery and Sculpture Garden of the University of Nebraska at Lincoln. Other sculptures in the exhibit include works from the Sheldon; the Akron (Ohio) Art Museum; the Columbus (Ohio) Museum of Art; the Milwaukee Art Museum; the Art Institute and the Museum of Contemporary Art (both in Chicago); and the Minnesota Museum of

Art and the Walker Museum of Art (both in Minneapolis).

— Gerry Everding



"Five Rudders"

Good 'citizens' comprise freshman class — from page 1

Total fall 1994 enrollments for the University's daytime undergraduate, graduate and professional schools are: **architecture**, 194 undergraduates and 127 graduates; **art**, 300 undergraduates and 39 graduates; **arts and sciences**, 2,974 undergraduates and 1,250 graduates; **business**, 577 undergraduates, 629 graduates and 97 executive master's of business administration; **engineering**, 464 undergraduates, 506 Sever undergraduates and 837 graduates.

The **School of Medicine's** fall 1994 enrollment is as follows: 67 undergraduates in occupational therapy, 197 graduates in occupational therapy, 225 graduates in physical therapy, 63 graduates in health administration, 481 graduates in medicine, and four graduates in psychiatric epidemiology. At the **School of Law**, 637 undergraduates and 33 graduates are enrolled and the **George Warren Brown School of Social Work** has 468 students.

University College's enrollment totals 863 undergraduates and 398 graduates for fall 1994. In addition, the **Engineer-**

ing Technology program has 182 undergraduates, the **Architecture Technology** program has 49 students and the **Fine Arts Institute** has 21 students.

— Susannah Webb

Woman's Club plans faculty social gathering

The Woman's Club of Washington University is hosting "University Night — Prefixes and Suffixes," a gathering for University faculty and administrators at 7 p.m. Oct. 21 in Piper Lounge, Simon Hall.

The annual event provides an opportunity for members of the faculty and administration to socialize. Guests are welcome. Attendees can bring either an appetizer or dessert and wine, if desired. Punch, coffee and tea will be provided.

For reservations and more information, call Mary Kay Cerza at 849-2730 by Thursday, Oct. 17.

Faculty members receive tenure

At the Oct. 7 meeting of the Board of Trustees, the following faculty were promoted with tenure, granted tenure or appointed with tenure on the Hilltop and Medical School campuses, effective Oct. 7.

Hilltop Campus

Appointment with tenure

Marcus C. Berliant as professor of economics.

Medical Campus

Appointment with tenure

David R. Piwnica-Worms as associate professor of radiology at the School of Medicine's Mallinckrodt Institute of Radiology, and Helen Piwnica-Worms as associate professor of cell biology and physiology.

Promotion with tenure

Paul G. Anderson to associate professor of biomedical communications.

Granting of tenure

Alison M. Goate as associate professor of genetics in psychiatry, and Michael A. Province as associate professor of biostatistics.

Introducing new faculty members

Hilltop Campus:

Vladimir Masek, Ph.D., assistant professor of mathematics, comes from the University of California, Los Angeles, where he received a doctorate in mathematics earlier this year. Among his research interests are algebraic geometry. He received bachelor's and master's degrees in mathematics from the University of Bucharest in Romania in 1983 and 1984.

Rajdeep Singh, assistant professor of finance, researches market-microstructure. He received a bachelor's degree in mechanical engineering in 1985 from Regional Engineering College, Kurukshetra (India) University. He received a master's degree in finance from Carnegie-Mellon University in Pittsburgh in 1991 and an MBA in information systems in 1989 from Baruch College, City University of New York. He plans to complete requirements for a doctorate in finance from Carnegie-Mellon this year.

Medical Campus:

Michael L. Nonet, Ph.D., assistant professor of neurobiology, comes from the University of California, Berkeley, where he was a postdoctoral fellow in molecular and cell biology. His research focuses on molecular regulation of synaptic vesicle fusion and neuromuscular junction development. Nonet received a bachelor's degree in biochemistry from the University of California, Davis, in 1984 and a doctorate in biology from the Massachusetts Institute of Technology in Cambridge, Mass., in 1989.

For The Record

For The Record contains news about a wide variety of faculty, staff and student scholarly and professional activities.

Of note

Lynn H. O'Connor, Ph.D., research assistant professor of neuroendocrinology in psychiatry, received a \$414,372 three-year grant from the National Institute on Drug Abuse for a project titled "Anabolic Steroid Misuse: Neuropsychological Aspects." ...

David G. Russell, Ph.D., associate professor of molecular microbiology, received a \$350,000 five-year Scholar Award in molecular parasitology from The Burroughs Wellcome Fund. ...

Celette Sugg Skinner, Ph.D., an instructor of radiology at the School of Medicine's Mallinckrodt Institute of Radiology, received a \$380,723 three-year grant from the National Institutes of Health for a project on "Breast Cancer Education for Older, Urban, Minority Women." ...

Kenneth Winters, M.D., assistant professor of medicine, received a \$27,094 grant from the American Heart Association for a project on "Suppression of Procoagulant Activity Across the Coronary Circulation During Coronary Angioplasty and Atherectomy."

Speaking of

Thomas A. Browdy, Ph.D., affiliate professor of information management in the School of Engineering and Applied Science, presented a paper on "Technology Transfer in Organizations: A Parametric Approach" during the Society for Descriptive Psychology's national meeting in Denver. The paper will be published in the *Advances in Descriptive Psychology* journal. ...

John W. Clark, Ph.D., professor of physics, presented a seminar on "Nucleonic Superfluids" while serving as a consultant at the Argonne National Laboratory near Chicago. He also visited the University of Minnesota's Theoretical Physics Institute in Minneapolis, where he delivered a talk titled "Scientific Applications of Neural Networks." He presented the talk during the Fourth Workshop on Neural Networks for Physicists at the university. He helped organize the workshop. Other faculty presenters were **Charles H. Anderson**, Ph.D., research professor of anatomy and neurobiology; **Barry L. Kalman**, Ph.D., senior research associate in computer science, and **Marcus E. Raichle**, M.D., professor of neurology and of radiology at the School of Medicine's Mallinckrodt Institute of Radiology. ...

Ghislaine Crozaz, Ph.D., professor of earth and planetary sciences and a member of the McDonnell Center for the Space Sciences, presented a talk on "A Re-evaluation of the ²⁴⁴Pu Chronometer" at the V.M. Goldschmidt Conference in Edinburgh, Scotland. She also delivered

a talk on "Pyroxene, the Indicator of Pervasive Trace Element Mobilization in Antarctic Meteorites" at the Workshop on Meteorites From Hot and Cold Deserts in Nördlingen, Germany. ...

Bruce H. Haughey, M.B.Ch.B., assistant professor of otolaryngology, spoke on "New Wraps for Old Flaps: The Radial Forearm Donor Site for Head, Neck and Facial Reconstruction" during the American Academy of Facial Plastic and Reconstructive Surgery's annual fall meeting in San Diego. ...

Richard Lazarus, J.D., professor of law, spoke on environmental justice at the Environmental Protection Agency's National Environmental Justice Advisory Council meeting in Albuquerque, N.M. He also spoke on environmental justice at the University of Texas School of Law in Austin. ...

Larry R. Nittler, a graduate student in physics and a member of the McDonnell Center for the Space Sciences, presented a paper on "Oxygen-rich Stardust in Meteorites" at the Third International Symposium on Nuclear Astrophysics in Gran Sasso, Italy. He also presented his paper on "Secondary Ion Imaging of Interstellar Dust" at the Seventh Annual Workshop on Secondary Ion Mass Spectrometry in Research Triangle Park, N.C. ...

Samuel I. Weissman, Ph.D., professor emeritus of chemistry, delivered a

talk on "Adiabatic Passage Through an Avoided Crossing" during the Third International Symposium on Magnetic Field and Spin Effects in Chemistry and Related Phenomena in Chicago. ...

Karen L. Wooley, Ph.D., assistant professor of chemistry, spoke on "Design, Synthesis and Characterization of Dendritic Macromolecules" at Monsanto Co. in St. Louis.

To press

A booklet by **Peter Mutharika**, J.S.D., professor of law, titled *Malawi: Reflections on the Democratization Process, the Constitution and the Rule of Law*, has been circulated widely in Malawi, Southeast Africa, and was serialized in Malawi's two national newspapers. A supplement to the booklet is being serialized as well. Mutharika also gave a talk on "Constitution Making in Malawi" at a Human Rights Workshop at Ottawa University in Canada.

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 Carolyn Sanford, Campus Box 1070, or p72245cs@wuvmd.wustl.edu. Items must not exceed 75 words. For information, call Sanford at 935-5293.

Cornelia Homburg brings expertise in European art to curator position

Cornelia Homburg has been named curator of the Gallery of Art, Joseph D. Ketner, gallery director, has announced.

"The gallery is fortunate to have attracted someone of Connie's caliber to



Cornelia Homburg

work with the University art collection," Ketner said. "She brings experience and expertise in 19th- and 20th-century European art that will make a valuable contribution to future gallery collections, exhibitions and programming."

As gallery curator, Homburg will focus on collection research and management and on the planning and coordination of special exhibits and education programs. She cites Washington University's fine art

collection and the opportunity to work in an academic setting as major reasons for her interest in the curator's position.

"The University's outstanding collection of artworks will enable me to produce a range of exciting exhibitions," Homburg said. "Being in a university setting appeals to me very much and I look forward to working with both the campus and St. Louis communities."

Homburg, a native of Germany, received a master's degree in art history from the University of Chicago and a doctorate in art history from the University of Amsterdam. While completing her doctoral dissertation on the work of Vincent van Gogh, Homburg worked as a curatorial assistant at the world-renowned Vincent van Gogh Museum in Amsterdam.

Homburg also was a lecturer at the University of Amsterdam, where she taught courses on modern art and van Gogh. Since 1991 she has been a co-editor of *Simiolus*, an art historical journal. She is fluent in Dutch, French and German, as well as English.

Jasper named assistant vice chancellor

Judith M. Jasper has been named assistant vice chancellor of Washington University, in addition to her current title of executive director of university communications, M. Fredric Volkmann, vice chancellor for public affairs, has announced. The promotion is effective immediately.

Jasper is responsible for the planning and implementation of strategies for the national and international news initiatives for all Hilltop Campus programs, including the College of Arts and Sciences, Graduate School of Arts and Sciences, and the schools of architecture, art, business, engineering, law and social work. She also is responsible for the University's internal communications programs, including the Record.

"Judy has brought strong, result-based leadership to our public awareness and communications programs at Washington University. We are indeed fortunate to have a professional of her skill and talent on our team," Volkmann said.

Prior to joining Washington University in 1989, Jasper was public relations and marketing director for the St. Louis Science Center, where she served in a

key role on the capital campaign to build the new center. From 1976-1987, she



Judith M. Jasper

held various positions at Webster University and American Investment Co. Jasper recently was elected a trustee-at-large of the board of trustees for the Council for the Advancement and Support of Education (CASE) and is chair of the 1995 CASE Annual Assembly Committee. She previously was the CASE District VI chair and district conference chair. She also serves on the Association of American Universities' Public Affairs Network and on the boards of directors of several professional organizations.

Jasper, who has won numerous professional awards, received a bachelor's degree in psychology from Manhattanville College in Purchase, N.Y.

Campus Authors

The following is a recent release available at the Campus Bookstore in Mallinckrodt Center on the Hilltop Campus or at the Washington University Medical Bookstore in the Olin Residence Hall. For more information, call 935-5500 (Hilltop Campus) or 362-3240 (School of Medicine).

The Culture of Bruising: Essays on Prizefighting, Literature and Modern American Culture is the title of a new book by **Gerald Early**, Ph.D., professor of English and director of the African and Afro-American Studies Program. "An essay must do more than say something," writes Early. "It must be something in its own right." *The Culture of Bruising* is Early's long-awaited sequel to his award-winning first volume of essays titled *Tuxedo Junction* and, in the same spirit, he explores not only a variety of subjects but the form of the essay itself. His cultural ruminations on the sport of prizefighting form the intellectual core and central metaphor of the book. That is to say, his subject, when writing about boxing, is not just the culture of bruising or the world of the prizefighter, but rather the culture as bruising — as a structure of opposition against the individual. Early's subjects range far and wide, essays in which he shares his insights and expertise on such subjects as multiculturalism and Black History Month, racist memorabilia and Malcolm X. (The Ecco Press, Hopewell, N.J.)



Gerald Early

Opportunities & personnel news

Hilltop Campus

The following is a list of positions available on the Hilltop Campus. Information regarding these and other positions may be obtained in the Office of Human Resources, Room 126 North Brookings Hall, or by calling 935-5990. Note: All positions require three letters of recommendation.

Librarian, Part time

950013. *George Warren Brown School of Social Work*. Requirements: Master's degree; experience with social work reference sources; knowledge of on-line searching, preferably RRS and Psylit on Silverplatter. Resume required.

Word Processing Operator, Part time

950020. *George Warren Brown School of Social Work*. Requirements: High school graduate, some college preferred; typing 50 wpm with accuracy; ability to proofread own work; transcription experience; above average knowledge of English grammar and spelling; ability to train personnel; pleasant telephone manner; ability to work with students, faculty, administrators and staff under minimal supervision. Clerical tests required.

Library Technical Assistant

950075. *Olin Library*. Requirements: Ability to work with the public in a helpful and cooperative manner; two years of college or equivalent experience, degree preferred; knowledge of serial publications through library experience or course work desired; ability to work with details in an organized way; ability to work with material and information in various languages; study of a Western foreign language desired; ability to train and supervise student assistants, following procedures; typing 30 wpm with accuracy; good communication skills; legible handwriting; physical stamina; ability to work irregular hours — some evenings and weekends. Clerical tests required.

Receptionist/Secretary

950092. *Department of English*. Requirements: High school graduate; cheerful and courteous disposition; flexibility; attentiveness to detail; ability to set priorities and work on numerous tasks with constant interruption; working knowledge of University procedures preferred; general office experience; typing 50 wpm with accuracy. Clerical tests required.

Cashier, Part time

950094. *Accounting Services*. Requirements: High school graduate; one year cashiering or comparable cash handling experience; ability to organize and account for a heavy, steady volume of checks and cash with a high degree of accuracy; demonstrated customer-service skills, including the ability to be courteous under all circumstances; capable of learning two complex computer systems; flexibility to work additional hours; flexibility to work at Hilltop or medical school locations. Clerical tests required.

Assistant to the Dean

950095. *School of Architecture*. Requirements: Bachelor's degree; typing 50 wpm with accuracy. Duties: Open and sort dean's mail; prepare drafts for standard letters (job inquiries, visiting lecturers, etc.); format and correct errors in dean's draft letters; prepare final copy for signature; do all filing for dean; keep dean's calendar; make all travel arrangements for dean. Clerical tests required.

Technical Associate/Programmer, Part time

950097. *Student Educational Service*. Requirements: Certificate or associate's degree; ability to investigate student information to enter, edit and correct in data systems, generate statistical data and reports. Duties: Personal computer data base management; develop and maintain data base file systems. Resume required.

Writing Skills Specialist, Part time

950098. *Student Educational Service*. Requirements: Master's degree; teaching experience at the secondary or post-secondary level; knowledge of the problems of the academically underprepared student. Resume required.

Library Technical Assistant

950099. *Olin Library*. Requirements: Two years of college-level study or equivalent experience; knowledge of accounting through experience or course work; experience with University's Financial Information System preferred; ability to work with details in an organized way; valid driver's license and ability to obtain chauffeur's license; physical stamina; ability to move and lift heavy equipment, supply items and filled mail sacks, and to make delivery trips in bad weather; mail handling and/or shipping receiving experience helpful. Employment is contingent upon successfully passing physical exam. Clerical tests required.

Analyst

950102. *Financial Planning*. Requirements: Bachelor's degree; strong conceptual, analytical, quantitative and written skills; ability to work independently and creatively with minimal supervision. Resume required.

Medical Campus

The following is a partial list of positions available at the School of Medicine. Employees who are interested in submitting a transfer request should contact the Human Resources Department of the medical school at 362-4920 to request an application. External candidates may call 362-7195 for information regarding application procedures or may submit a resume to the Human Resources office located at 4480 Clayton Ave., Campus Box 8002, St. Louis, Mo., 63110. Please note that the medical school does not disclose salary information for vacancies, and the office strongly discourages inquiries to departments other than Human Resources.

Medical Secretary I

950131-R. *Psychiatry*. Schedule: Part time, 20 hours per week, flexible hours. Requirements: High school graduate or equivalent; secretarial experience or college course work; knowledge of medical terminology; experience with Macintosh and Microsoft Word; typing 60 wpm.

Medical Secretary II

950149-R. *Metabolism*. Requirements: High school graduate or equivalent, supervisory experience preferred; knowledge of IBM and Lotus/Excel preferred; background in purchasing or accounting helpful; typing 60 wpm.

Medical Secretary I

950204-R. *Surgery*. Requirements: High school graduate or equivalent, medical secretary experience preferred; experience with grants application; typing 60 wpm. Will be dealing with patients and handling several projects at one time.

Medical Secretary II

950207-R. *Neurology*. Requirements: Two years of college; two years related experience preferred; knowledge of WordPerfect; typing 60 wpm. Will have frequent contact with Alzheimer's disease patients and their families.

Data Assistant

950229-R. *Psychiatry*. Schedule: Part time, 20 hours per week, Mondays through Fridays, flexible hours. Requirements: High school graduate or equivalent, some college preferred; experience with DOS, WordPerfect and data management; experience with research preferred; typing 50 wpm.

Departmental Accounting Assistant

950247-R. *Biochemistry*. Requirements: High school graduate or equivalent; three years related experience; knowledge of general office procedures; typing 40 wpm; experience with Macintosh; knowledge of university procedures and usage of forms highly desired.

Team seeks to reduce bottlenecks, while preserving good stewardship in research funding — from page 1

healthcare reform. It is an extremely competitive business," said Denise McCartney, assistant dean for management services at the medical school. "We wondered what we could do to cut costs and improve services."

Although time-consuming, process mapping was embraced by employees involved in research administration.

"I was one of the people pushing for something like this to happen," said Violet Horvath, assistant contract and grant administrator in the Research Office at the School of Medicine. "I knew changes had to be made. The work has increased so much in the past year and a half, simply because there are not as many research dollars out there. Investigators are submitting more applications and more revised applications and the government is requiring more and more detail about exactly where the money is going. Our faculty is under a lot of pressure, and it also affects all of us who support them."

The complexity of the University's grant and contract administration also made it a natural target for the streamlining technique. The process involved dozens of departmental, administrative and academic offices on both campuses and is complicated further by extensive audit and compliance requirements.

"People involved in these areas are sensitive to the compliance and audit issues that they have to live up to, but wanted to reduce bottlenecks and the extra loops for review and approval that had accumulated in the process," explained Brian Bannister, director of financial planning and management at the John M. Olin School of Business. Bannister led the process mapping effort with Margaret Caldwell, who retired from the same position at the business school last month.

Phase one took place over four days in May, when the team of 40 assembled at the West Campus Conference Center to map the University's then-current research administration process. The team first met together,

then separated into several small groups composed of employees from a cross-section of offices, schools and departments. The individual groups worked together to map the process as they saw it, then presented their "maps" to the entire group.

Bannister said the small groups and relaxed atmosphere fostered a cooperative spirit.

"We mixed people horizontally and vertically to ensure a cross-functional mix and people started thinking of those in other areas as their partners; there was much less of the 'us and them' mentality," he said.

"As facilitators, we knew we were successful when the groups took the marker from our hand and did it on their own. Then we knew they owned the process," Caldwell added.

The team divided the gargantuan grant administration process into four phases: pre-award (described as the "seeking funding" process), award, post-award (described as the "spending and monitoring for compliance" process) and close-out (described as the "this is what I've done with the money" process).

By piecing together the groups' maps, the team eventually constructed a larger map with flowcharts, flip charts and Post-it notes that illustrated the process.

"It became immediately obvious where the redundancies were," Bannister said. "For the next step, we brainstormed about the causes of inefficiency and delay and determined that there were too many approvals, too many steps, people's checking and re-checking each other's work, and duplicate efforts."

By informal vote, the group ranked the list of causes of inefficiencies — which totaled about 125 — and defined two major areas to target first. Between phases one and two, participants collected data to verify that the top-ranked causes were valid.

During the second phase, which took place over four days in June, the larger

group broke into four teams charged with developing an ideal grant and contract administration process. Each team presented their proposals to the group, which voted to decide which should be implemented. After the presentations, the team that proposed the most radical changes earned the most votes.

"The final proposal involved putting more of the responsibility for the more standard aspects of the application process

"There's no magic way to implement their ideas. The magic occurred when the group began to work as a team."

— Brian Bannister

in the hands of the individual schools, rather than having primary responsibility in several offices of the schools or central administration," Bannister said. "The group also proposed greater reliance on information systems, a more centralized approach, and an effort to lessen the number of approvals required."

Because the proposal required what Bannister and other facilitators call a "paradigm shift," implementation is slow. But some successes already have been achieved in areas where approvals were reduced while audit integrity was maintained. For example, a payroll cost transfer once took an average of 29 days for approval. After redesign of the process, it takes about a day to approve a payroll cost transfer. In other

processes, cycle time has been cut by one-half.

"We are changing a process that grew complicated partly because of the staff's commitment to responsible stewardship of research funding," said Susan Cullen, Ph.D., associate vice chancellor for research, "and now, when we change the process to make it function more smoothly, we are being careful not to lose our accountability."

The group now is focusing on how to implement changes in an orderly way and to provide the information and training that a large and scattered administrative staff needs when procedures are altered.

"We are designing training programs for people new to the process and assistance programs to help experienced workers make a smooth transition from old to new methods," said Dorothy Yates, director of Sponsored Research Services.

"You can't turn the apple cart over all at once, but changes are being made," said Emily Pearce, senior accountant in the School of Engineering and Applied Science. "The most important change in my own area is that the process has forced me to look at everything we do in this office to see if we are working as effectively and efficiently as we could."

The group has branched out into individual implementation teams, but continues to meet as a whole periodically to chart progress and discuss challenges.

"This is the first time the central administration and all the departments have worked together in this kind of an effort, and I have never seen so many people work so hard," McCartney said. "Change is tough, but we are heading in the right direction."

According to Bannister, the work has just begun.

"There's no magic way to implement their ideas," he said. "The magic occurred when the group began to work as a team."

— Susannah Webb