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## Washington University Record, November 9, 1995

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## University lands national imaging center

**W**ashington University has been chosen as the site for a new national Center for Imaging Science, which promises to play a vital role in enhancing the science of image understanding in a variety of research endeavors. The work performed at the center will aid the development of automated algorithms for understanding complex, real-world scenes, including imaging in the biomedical, planetary and defense areas.

The center, funded by the Army Research Office at \$7.5 million for five years, draws together the nation's top researchers in image representation and analysis from Harvard University, the Massachusetts Institute of Technology (MIT), the University of Texas, Austin, the University of Texas, El Paso, and Washington University. The collaborating scientists and engineers working at the center will share their knowledge in mathematics, physics, electrical engineering, computer vision, computer science and cognitive science to develop compu-

tational vision algorithms that are capable of recognizing and describing complex objects in natural scenes, as well as deformable shapes.

"Most previous imaging work has concentrated on recognizing isolated, rigid objects in highly constrained environments," said Michael I. Miller, Ph.D., Newton R. and Sarah Louisa Glasgow Wilson Professor of Biomedical Engineering and principal investigator of the center. "There are no existing vision systems capable of recognizing a human crawling through grass, a dog running across a field, or the subtle substructures of the human brain, for instance. There are many difficulties that have prevented this from becoming reality, including shapes and intensity patterns that vary greatly because of viewpoint, lighting and other factors, and the complexities of real-world imagery consisting of multiple objects that are at least partially hidden and often deformed."

"However, revolutionary developments in remote sensing devices over the past two decades, combined with an emerging

concept in mathematics and computational vision called pattern theory, give the center a strong basis to address the fundamental scientific difficulties of recognizing and understanding complex scenes. We're extremely pleased that the U.S. Army has selected Washington University as the site to fulfill this national mission."

Pattern theory is the foundation for the work to be conducted at the center. As applied to the center, pattern theory involves a three-fold process of representing a complex scene, then applying remote sensing techniques such as synthetic aperture radar (used in the Magellan Mission to Venus in remotely mapping the planet) and infrared sensing to the representation, and finally applying high-speed computing algorithms to recognize and understand the data. The problems the center will address, though a major challenge to the military, also are key to planetary and medical imaging processes. For instance, computed tomography (CT) allows doctors to gather physical informa-

tion about the brain without actually having to enter the brain. However, one problem with CT is that no two human brains are exactly alike and computer representations can miss subtle features of varying anatomical representations.

Ulf Grenander, Ph.D., professor of mathematics at Brown University and internationally renowned as the "father of metric pattern theory," will serve as consultant to the center.

Miller and his colleagues have concentrated on biomedical computer-imaging projects in recent years, with one major emphasis being the development of a computerized textbook map of biological variation. Such a map would serve as a basis for neurosurgeons and neurologists to compare with the biological coordinates of a real brain.

Miller said the representation component of the imaging center involves making a template and then transforming it. He used a human analogy to explain representation.

*Continued on page 6*

## Campus could host another debate in '96

**W**ashington University has been named one of 10 finalists in the selection of four communities for next fall's 1996 presidential debates, announced Paul Kirk and Frank Fahrenkopf, co-chairs of the Commission on Presidential Debates (CPD).

The University hosted the first presidential debate held in the 1992 election. Chancellor Mark S. Wrighton, Ph.D., said he is elated St. Louis again is being considered.

"On behalf of the whole community, let me say how delighted we are at the prospect of hosting one of the world's most-watched events, and we will work hard to convince the commission that St. Louis is the right place to have one of the 1996 presidential debates," Wrighton said.

"Since the announcement of my appointment as chancellor was made last spring, I have heard countless comments from students, faculty, staff and the whole St. Louis community about 'The Debate.' Hosting this important event has meant a great deal to the region, and we stand prepared to do an outstanding job for the commission and the candidates," he added.

The University is offering the same facilities that were made available for the 1992 debate. In addition, Wrighton said, "We are offering the expertise of our staff and the enthusiastic volunteer assistance of our students to assure the commission that again we will help make the event a success. Also, we are confident the

*Continued on page 6*



Joel Siegel, entertainment editor for "Good Morning America," interviews Olympic gold medalist Jackie Joyner-Kersey and her coach/husband, Bob Kersee, at Francis Field. Siegel's segment, scheduled to air Wednesday, Nov. 15, focuses on the 1904 World's Fair and Olympics. "Good Morning America" crews also taped Russ Roberts, Ph.D., director of the Management Center of the John M. Olin School of Business, for a feature on the economic turnaround of Quincy, Ill. That segment also is scheduled to air Nov. 15.

## ABC's 'Good Morning America' visits Hilltop

**A**BC's morning news program, "Good Morning America" (GMA), dispatched representatives to Washington University on two separate occasions to tape segments for its Wednesday, Nov. 15, show, scheduled to be broadcast from St. Louis' Union Station.

On Oct. 12, Tyler Mathisen, an economics reporter for GMA, interviewed Russ Roberts, Ph.D., director of the Management Center of the John M. Olin School of Business, for a feature on the economic turnaround of Quincy, Ill. Early that Thursday morning, Mathisen, Roberts, a GMA producer, and a camera crew departed from the business school and headed for Quincy.

The focus of the visit to Quincy was

the former Motorola Inc. plant, which had sat vacant for years after its purchase and subsequent closing by Japanese interests. When the plant closed in 1976, 3,500 jobs were lost, and the economy of Quincy felt the blow.

However, during the last 20 years, Quincy, like many other Midwest cities, has made the transition from a traditional manufacturing base of jobs to high-tech industries and services, Roberts said. The result is a more diverse and vibrant economy.

Roberts had researched the economic impact of the Motorola plant closing and subsequent reopening for his book "The Choice: A Fable of Free Trade and Protectionism." Using Quincy as an example, Roberts was able to discuss with Mathisen

how Quincy and other Midwest economies have responded to the economic changes of the past 20 years.

Joel Siegel, GMA's entertainment editor, was at Francis Field Oct. 27 interviewing Olympic gold medalist Jackie Joyner-Kersey and her coach/husband, Bob Kersee. Siegel's Nov. 15 segment focuses on the 1904 World's Fair and Olympics, which were held in St. Louis.

Francis Field and Gymnasium were the sites of those Olympic games — the first held in the Western Hemisphere. And the four buildings surrounding Brookings Quadrangle, and seven other Hilltop Campus buildings, were leased to the Louisiana Purchase Exposition Co. for the World's Fair.

### In this issue ...

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Investigators identify the command centers of the brain that trigger fight-or-flight

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Surgeons worldwide use techniques developed by radiologist Michael W. Vannier, M.D., when planning craniofacial reconstructions

**Leash law ..... 8**  
Owners must keep their dogs restrained while on campus



# Medical Update



At the freshman Halloween party, medical students Gregory Sharp (left) and Paul Klekotka masquerade as a ghoul and as Kramer from the TV show "Seinfeld." This annual party is one of the first social events of the first-year class.

## Fight-or-flight

### Brain centers that trigger emergency response identified by study

A study published in the Oct. 27 issue of the journal *Science* identifies the command centers of the brain that trigger the fight-or-flight response, which causes adrenaline to flow and the heart to pump vigorously. This sudden change prepares the body for emergency responses.

"This is the first time anyone has been able to identify the specific regions of the brain that are capable of producing widespread visceral responses," said Arthur D. Loewy, Ph.D., professor of anatomy and neurobiology. Research assistant Arthur S.P. Jansen and other members of Loewy's group developed a novel technique that uses weakened viruses to trace brain pathways.

The research may provide a springboard for studies of medical problems in which the fight-or-flight reaction may

operate, such as the anger response that possibly can trigger heart attacks. It also could aid in understanding disorders such as hypertension because blood pressure is regulated by these same brain centers.

Scientists long have recognized that specialized areas of the brain regulate heart rate and blood pressure, but until Loewy's laboratory developed the viral tracing technique, there was no way to pinpoint the exact brain regions that control these vital functions. Even sophisticated imaging techniques, like PET (positron emission tomography) scanning, fail to do the job because they cannot distinguish minute brain areas. "We have developed a tremendously powerful and highly specific technology for identifying the functional sets of brain cells," Loewy explained.

The researchers genetically engineered a herpes virus to make two forms, each of

which produced a unique marker protein. They injected one of the viruses into the adrenal gland of rats and the other into the nerve ganglion that controls the heart. After several days, the viruses sequentially infected the chains of neurons in the brain that control these two organs. Because the infections were very mild, the neurons remained intact, so the researchers were able to use antibodies to detect the two different marker proteins. Select sets of neurons in specialized centers of the brain displayed both markers, indicating that they regulate both the heart and adrenal gland. The specialized centers were found in the brain stem, midbrain and hypothalamus.

"This research provides the foundation for future research on how the brain controls stress, which has clinical implications," said Loewy. — Linda Sage

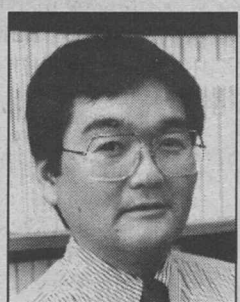
## Yokoyama joins faculty as director of rheumatology division

Wayne M. Yokoyama, M.D., has been named director of the Division of Rheumatology at the School of Medicine and director of rheumatology for The Jewish Hospital of St. Louis and Barnes Hospital. He joins the medical school faculty as professor of medicine and of pathology and as the first occupant of a new endowed chair, the Sam J. and Audrey Loew Levin Professor of Arthritis Research.

The appointment was announced by John P. Atkinson, M.D., Adolphus Busch Professor and chair of the Department of Medicine and professor of molecular microbiology, and by Saulo Klahr, M.D., the John E. and Adaline Simon Professor and co-chair of the Department of Medicine and chief of medicine at The Jewish Hospital. Yokoyama succeeds Louis Simchowicz, M.D., professor of medicine and of cell biology and physiology, who has served as interim director since Atkinson stepped down from the position in October 1992 to head the Department of Medicine.

The Levin professorship is made possible by a bequest from the estate of Audrey Loew Levin. Levin and her hus-

band, Sam J. Levin, were internationally recognized philanthropists and art collectors who contributed many works to art museums in the



Wayne M. Yokoyama

United States and Israel. Locally, they contributed paintings and sculptures to Washington University, Saint Louis University and the Saint Louis Art Museum. Audrey Levin was founder of Audrey Levin Realtors, a highly successful real estate firm, and she was a member of Washington University's William Greenleaf Eliot Society.

"We are extremely pleased to welcome Dr. Yokoyama, an outstanding researcher, to our faculty. His investigations will enhance our efforts in a very important area of research," said William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine.

Yokoyama comes to St. Louis from the Mount Sinai School of Medicine in New York, where he was an associate investiga-

tor at the Howard Hughes Medical Institute and an associate professor of medicine, microbiology and molecular biology. At Mount Sinai, Yokoyama was heavily involved in formulating a new doctoral program in immunology and in instituting a new immunology center.

Yokoyama studies a component of the immune system called natural killer cells, or NK cells. NK cells have the ability to kill tumor cells and infected cells but generally do not attack normal body cells. Yokoyama's group is credited with several major discoveries that help explain how NK cells recognize their targets.

Under Yokoyama's direction, the Division of Rheumatology will expand its efforts in basic and clinical research. New efforts will focus on understanding the cause of autoimmune diseases.

Yokoyama is an advisory editor for the *Journal of Experimental Medicine* and a member of the National Institutes of Health's Allergy and Immunology Study Section in the division of research grants. He received the Henry Christian Memorial Award for Excellence in Research in 1993 from the American Federation for Clinical Research.

## FDA approves laser surgery for treatment of nearsightedness

On Oct. 20, the U.S. Food and Drug Administration approved use of the excimer laser for the treatment of nearsightedness. This laser vision correction clinically is known as Photorefractive Keratectomy (PRK).

During the past four years, use of the laser has been under clinical investigation at 10 sites in the United States, including the School of Medicine. Jay S. Pepose, M.D., Ph.D., professor of ophthalmology and visual sciences and associate professor of pathology, has used this technique to treat more than 130 patients.

First developed by IBM in 1976 to etch computer microchips, the excimer laser reshapes the cornea using a highly concentrated beam of cold ultraviolet light. The laser is guided by a sophisticated computer, and it can vaporize tissue one microscopic layer at a time.

PRK is performed on an outpatient basis. Light beams are emitted in pulses, removing very thin layers of tissue from the cornea. The laser's computer determines the location, the number of pulses and the surface area to be corrected based on the amount of correction needed. The cornea retains its original strength because the laser removes only a layer of tissue more slender than a human hair.

Pepose, who also is director of the Refractive Eye Institute at Washington University, said the laser surgery offers a new approach for patients whose option in the past has been limited to radial keratectomy, where a diamond knife is used to make incisions in the cornea.

"Because incisions are not made in the cornea, it is not weakened, and the four-year results suggest excellent stability of vision over time," Pepose said. "In our study, over 90 percent of patients achieved 20/40 vision, 75 percent achieved 20/25 vision, and 66 percent, or two-thirds, achieved 20/20 vision without glasses or contact lenses."

The excimer laser rapidly should become a popular choice for those who opt for surgery to correct nearsightedness, he added. "Estimates vary, but there may be up to one-half million excimer PRKs performed during the next 12 to 18 months in the United States. In countries where the laser has been introduced, it quickly has become a treatment of choice for myopia (nearsightedness)."

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Record (USPS 600-430; ISSN 1043-0520), Volume 20, Number 12/Nov. 9, 1995. Published for the faculty, staff and friends of Washington University. Produced weekly during the school year, except school holidays, and monthly during June, July and August by the Office of Public Affairs, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, Mo. 63130. Second-class postage paid at St. Louis, Mo.

Address changes and corrections:

Postmaster and non-employees: Send to Record, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, Mo. 63130.

Hilltop Campus employees: Send to Office of Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, Mo. 63130.

Medical Campus Employees: Send to Payroll Office, Washington University, Campus Box 8017, 660 S. Euclid, St. Louis, Mo. 63110.



Washington

WASHINGTON UNIVERSITY IN ST. LOUIS



# Washington People

## Vannier adds a third dimension to imaging

**W**hen Mike Vannier was 10, he dismantled the family car and couldn't get the pieces back together. Now he assembles 3-D images from thousands of parts. When he was 18, his poor eyesight kept him out of every branch of the military. Now he sees details no one has ever seen.

Michael W. Vannier, M.D., professor of radiology, is an engineer cum radiologist whose imaging techniques have revolutionized craniofacial surgery and physical anthropology. He also is improving dental X-rays, cardiovascular images, maps of the brain and the fitting of artificial limbs. "When I got started, people thought I was wasting my time," he recalled. "Now, 3-D medical imaging is used all over the world."

Vannier's early life is a moving story: nine different schools and a string of universities, where he racked up 300 semester hours before getting an engineering degree in 1971 from Colorado State University. Because he had to earn his own board and tuition, he also designed computer systems and did programming for NASA. "I came in at the transition from vacuum-tube to transistorized machines," he explained. "So I was able to learn from hands-on experience."

After two years of medical school at the University of Kentucky in Lexington, Vannier took leave for more computer projects. After he finished medical school in 1976, his contract work brought him briefly to Washington University, where Ronald G. Evens, M.D., head of radiology, encouraged him to apply for a radiology residency. Evens also is Elizabeth E. Mallinckrodt Professor and director of the Mallinckrodt Institute of Radiology.

### Head and face images

Vannier began his residency at the Mallinckrodt Institute of Radiology in 1978 and joined the School of Medicine faculty in 1982. Assigned to pediatric radiology in 1981, he was shocked to find X-ray films marked with ink. Learning that Jeffrey L. Marsh, M.D., professor of surgery and of radiology and associate professor of pediatrics, had disfigured the films, he asked how Marsh planned surgery to correct birth defects of the face and head. "Jeff said he drew on tracing paper over X-ray films taped to a view box and then simulated skull surgery by moving cutouts," Vannier recalled. "I asked him if he had ever heard of CAD."

CAD — computer-aided design — allows engineers to generate and modify 3-D images of objects they wish to construct, such as aircraft, bridges and buildings. But Vannier realized it also might provide geometrically accurate images of patients' heads. "Children with facial deformities have very disturbed anatomy," he said. "But even during surgery, you see only a small part of the underlying problem."

He previously had spent his evenings cracking the secrets of the Mallinckrodt institute's new CT (computed tomography) scanner, which constructed images of sections through the body from X-ray data. Over the next few weeks, he wrote software to stack the scanner's 2-D images into a 3-D picture of the skull — as if he were reassembling a sliced tomato.

Glancing at Vannier's computer screen as he came by on rounds one day, Marsh was astonished to see an image of a child's skull with the flesh stripped away. "It was exactly what I needed," he recalled. "I wanted to make plans for surgery based on the patient rather than on a drawing in a book or a museum specimen of a normal skull."

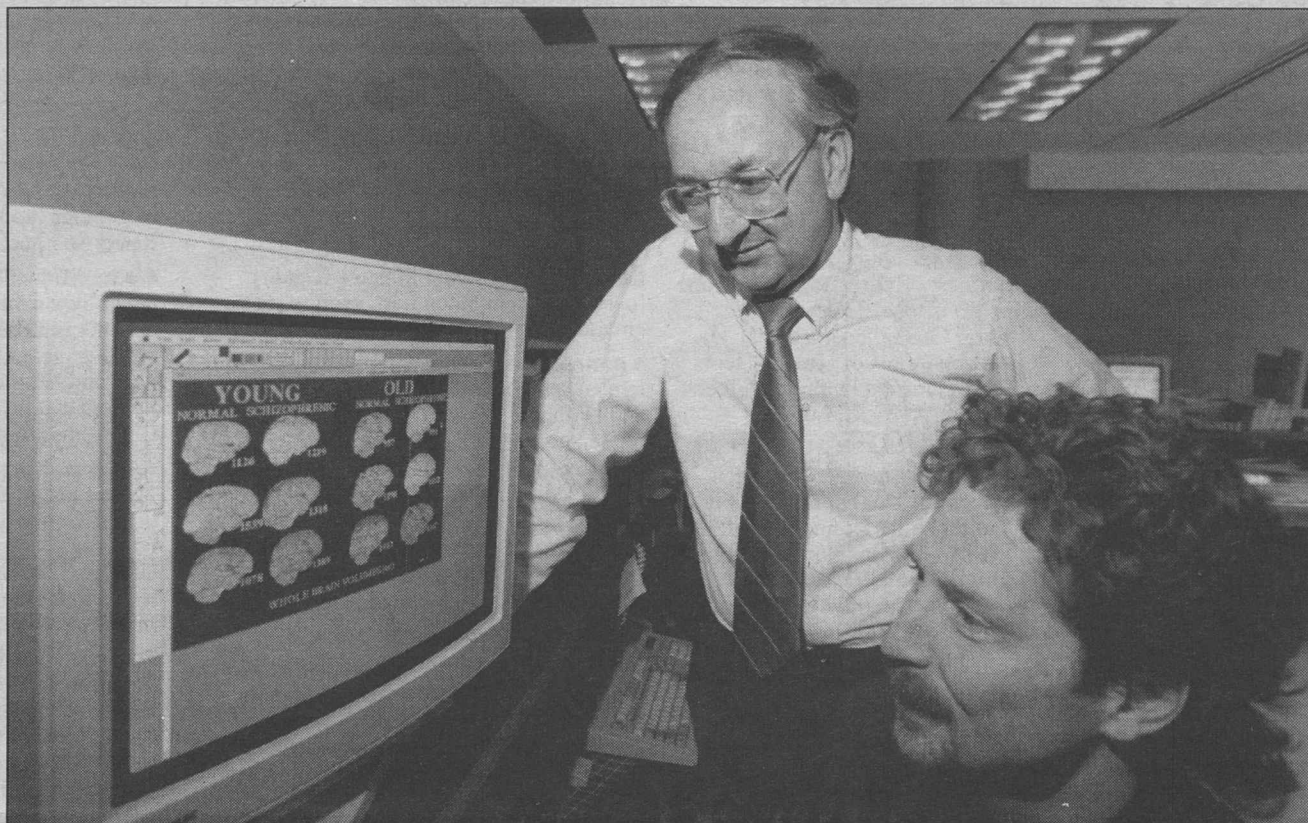
Marsh ordered CT scans of the face or head of each new patient. Then Vannier wrote individual computer programs to generate images of the underlying malformations. "Sometimes I would arrive in the lab at midnight, work on the computer until 6 a.m., and then do clinical work all day," he explained. The first 100 images were completed within a year, and in 1983, the results appeared in peer-reviewed journals.

Most craniofacial surgeons now use Vannier and Marsh's imaging techniques to plan their reconstructions. "Vannier and Marsh have led the international field," said Sven Krelborg, D.D.S., Dr. Odont., Ph.D., professor and chair of pediatric dentistry at the University of Copenhagen, Denmark. "The application of 3-D imaging

has meant a fantastic breakthrough that has led to new relevant knowledge and improved patient care."

The system allows surgeons to see and manipulate a patient's head on the screen or, with the push of a button, to view the underlying skull. By rearranging bone and soft tissue, it shows outcomes of all of the surgical options.

"Vannier and Marsh's work has been absolutely brilliant, and its implications revolutionary," said M. Michael Cohen Jr., D.M.D., Ph.D., professor of oral and maxillofacial pathology and pediatrics at Dalhousie University in Nova Scotia, who has written 11 books in the field. "The images are so realistic that it's like being able to study the actual patient."



Michael W. Vannier, M.D., (standing) and John Haller, Ph.D., research assistant professor of radiology and of psychology in psychiatry, examine 3-D MRI (magnetic resonance imaging) scans of normal and schizophrenic brains.

**"The application of 3-D imaging has meant a fantastic breakthrough that has led to new relevant knowledge and improved patient care."**

— Sven Krelborg

The images also have shed light on craniofacial syndromes described in textbooks. "We found that a lot of the previous descriptions were based on incomplete or erroneous data," Vannier said. "So many of the surgical procedures to correct these disorders were flawed."

Marsh and Vannier now have the world's largest collection of craniofacial images, having saved all of their data since 1982. By recording outcomes over time, the collection shows which procedures are most beneficial to patients.

The electronic library also includes multiple cases of very rare syndromes, which the researchers are analyzing for hallmark features. "We are discovering a great deal about the human body, just as anatomists did in the 16th and 17th centuries," said Marsh. "But we are using computer-assisted technology to look at patients instead of studying corpses."

The craniofacial imaging took an unexpected twist in 1983, when Glenn C. Conroy, Ph.D., professor of anatomy and neurobiology and of anthropology in Arts and Sciences, walked into Vannier's office with a fossil skull. In a collaboration that has had a major impact on physical anthropology, Vannier adapted his imaging techniques to uncover hidden details of some of the world's most important fossils.

### Surface scans

In 1992, a local company lent Vannier a device that makes 3-D images of the body surface. The technology, which proved too expensive for its intended use, enabled portrait studios to make sculpted busts of its customers.

Sensing a medical application, Vannier obtained a grant from the National Institutes of Health to improve the fitting of artificial limbs, which must hug the contours of the limb remnant to be comfortable and func-

tional. At present, prosthetists make plaster casts of residual limbs, use the cast to make a plastic socket, and then manually adjust the socket.

Vannier fashioned the optical device into a limb scanner. To the surface images, he adds pictures of underlying bone and flesh. Subtracting the image of the socket shows how the flesh is deformed by the prosthetic device.

By testing patients with limbs that fit well and poorly, Vannier and his collaborators are developing imaging procedures to evaluate how well a prosthesis fits. "Then we can see which type of socket works best," he explained, "and eventually customize the making of prostheses."

Vannier also was asked to join a NATO working group

on 3-D anthropometry — measurements of the human body. The group has recommended techniques for a forthcoming NATO anthropometry survey. The data will be used to design military clothing, helmets and human environments, such as airplane cockpits.

Because the math and physics of 3-D imaging stay the same regardless of the application, Vannier can address a diverse set of problems. He has improved cardiovascular imaging, for example, both in clinical settings and in research on congenital heart disorders.

He also wants to improve dental imaging, in collaboration with dentist-turned-anthropologist Charles F. Hildebolt, D.D.S., Ph.D., associate professor of radiology. While dental X-rays are the most common type of radiological image — 500 million to 700

million are made each year — they miss 40 percent of cavities. The 2-D pictures also fail to describe the twists and turns of root canals, the progressive bone loss in periodontal disease or the relationships of tooth to bone in a person getting braces.

Vannier now can generate 3-D pictures of teeth that show features as small as 0.1 mm — the smallest speck the human eye can see. He can capture all of a patient's teeth in one fell swoop. "This technique could have a big impact on dental care," Hildebolt said. "If you could detect cavities much earlier, you could re-mineralize teeth instead of inserting fillings. Comparing accurate anatomical images over time also would enable you to detect bone loss in the very early stages."

Vannier also is collaborating with Michael I. Miller, Ph.D., Newton R. and Sarah Louisa Glasgow Wilson Professor of Biomedical Engineering, and other Hilltop Campus faculty on electronic atlases that precisely and automatically outline the various parts of the brain. Such atlases will become part of established medical practice in the future, Vannier predicted.

In 1988, Vannier commuted to Argonne National Laboratory in Illinois, where he studied techniques for inspecting composite materials used in the aircraft industry. Work with ceramic-coated metal gave him the technology to generate images that otherwise would be ruined by metal implants such as dental bridges or the stems of artificial hips. "So we now can address previously unapproachable questions, such as the way bone interfaces with hip prostheses," he explained.

### The future of radiology

Vannier predicted that supercomputers one day will sit on physicians' desks, generating 3-D images of a patient in a scanner. These smart machines will erase flesh with the flick of a key or highlight selected areas of the brain in a split second. Information from disparate sources will accompany the images — a provisional diagnosis, treatment guidelines, articles from journals.

The future also will change the practice of radiology, cautioned Vannier. Influenced by his tenure as chair of the National Library of Medicine's Biomedical Library Review Committee and a recent sabbatical at Emory University, he is rethinking his role in patient care. "Radiologists must be able to extract more useful information from images and become more involved in the continuum," he has decided. "We must know the context in which a patient comes for an imaging exam and learn what happens after treatment. We also can play a key role in the synthesis of information. So we need to move away from simply reviewing X-ray films to proving our value in the entire context of care."

— Linda Sage



# Calendar

Nov. 9-18



## Exhibitions

**"The Keenest of Senses: Celebrating the Becker Rare Book Collection in Ophthalmology."** Through Dec. 22. Glaser Gallery, The Bernard Becker Medical Library, 660 S. Euclid Ave. Hours: 9 a.m.-9 p.m. weekdays; 1-5 p.m. weekends. 362-4239.

**"Engineering at Washington University: 125 Years of Excellence."** Through Nov. 30. Special Collections, Olin Library, Level Five. Hours: 8:30 a.m.-5 p.m. weekdays. 935-5444.

**"Transitions."** Works by new and longtime faculty members in the School of Art. Through Dec. 17. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m.-4:30 p.m. weekdays; 1-5 p.m. weekends. 935-5490.



## Films

All Filmboard movies cost \$3 and are shown in Room 100 Brown Hall. For 24-hour Filmboard hotline, call 935-5983.

### Thursday, Nov. 9

**7 and 9 p.m. Filmboard Foreign Series.** "Whisky Galore!" (1949, B&W), a classic comedy from late 1940s Great Britain.

### Friday, Nov. 10

**7 and 9:30 p.m. Filmboard Feature Series.** "In the Name of the Father" (1993), starring Daniel Day Lewis and Emma Thompson. (Also Nov. 11, same times, and Nov. 12 at 7 p.m.)

**Midnight. Filmboard Midnight Series.** "The Road Warrior" (1981), starring Mel Gibson. (Also Nov. 11, same time, and Nov. 12 at 9:30 p.m.)

### Monday, Nov. 13

**3 p.m. Russian film.** "City Zero" (1988), with English subtitles. Room 219 South Ridgley Hall. 935-5177.

### Wednesday, Nov. 15

**7 and 9 p.m. Filmboard Foreign Series.** "Ginger and Fred" (1986), in Italian with English subtitles. (Also Nov. 16, same times.)

**7 p.m. Chinese Film Series.** "The Killer" (1989), with English subtitles. Room 219 South Ridgley Hall. 935-5156.

### Friday, Nov. 17

**8 and 10 p.m. and midnight. Filmboard Feature Series.** "Pink Floyd's The Wall." (Also Nov. 18, same times.)



## Lectures

### Thursday, Nov. 9

**11:15 a.m. Social work seminar.** "Components of a Quality Research Proposal: Prior Studies," Lee N. Robins, University Professor of Social Science. Room 353 West Campus Conference Center. 935-5741.

**Noon. Genetics lecture.** "Vesicular Transport, Pattern Formation and Rab GTPases in Drosophila," Chris Cheney, asst. prof. of genetics. Cori Aud., 4565 McKinley Ave. 362-2694.

**1 p.m. Vision science seminar.** "Water Transport Proteins in the Eye," Raj Patil,

research asst. prof., Dept. of Ophthalmology and Visual Sciences. East Pavilion Aud., Barnes Hospital. 362-3726.

**1:30 p.m. Developmental biology thesis defense.** "The  $\alpha_5\beta_1$  Integrin: Cloning, Expression and Role in Vertebrate Development," Justina Wu, graduate student. Room 8841 Clinical Sciences Research Bldg. 362-3365.

**2:30 p.m. Mechanical engineering seminar.** "Ease of Disassembly for Recycling: Design Evaluation Metrics and Tools," Ehud Kroll, asst. prof. of mechanical engineering, Texas A&M U., College Station. Room 100 Cupples II Hall. 935-6055.

**4 p.m. Dept. of Education's Wilma Koetter Memorial Lecture.** "The Study of Culture and Development in Community Settings: The Case of Computer-mediated Communication and Instruction," Michael Cole, prof. of communication and psychology, U. of California, San Diego. Women's Bldg. Lounge. (Reception at 3:30 p.m.) 935-6707.

**4 p.m. Molecular oncology, medicine and pathology seminar.** "Regulation of Immune Responses by NF-kB/Rel Transcription Factors," William C. Sha, postdoctoral fellow, National Institutes of Health, Dept. of Biology, Massachusetts Institute of Technology. Third Floor Aud., St. Louis Children's Hospital. 362-9035.

**4:15 p.m. Philosophy lecture.** "Between Justice and Affection: The Family as a Field of Moral Disputes," Axel Honneth, prof. of philosophy, Free U., Berlin. Hurst Lounge, Room 201 Duncker Hall. 935-7148.

**4:30 p.m. Math colloquium.** "A Weierstrass Representation for Surfaces of Constant Mean Curvature," Josef Dorfmeister, prof. of mathematics, U. of Kansas, Lawrence. Room 199 Cupples I Hall. 935-6726.

### Friday, Nov. 10

**9:15 a.m. Pediatric Grand Rounds.** "Hereditary Hearing Loss and Its Syndromes," Robert Gorlin, Regents' Professor of Oral Pathology and Genetics Emeritus, U. of Minnesota, Minneapolis. Clopton Aud., 4950 Children's Place. 454-6006.

**10 a.m. Electrical engineering colloquium.** "High-definition Imaging for Synthetic Aperture Radar," Gerald R. Benitz, member, technical staff, Advanced Techniques Group, Massachusetts Institute of Technology. Room 305 Bryan Hall. 935-4830.

**Noon. Cell biology and physiology seminar.** "Regulating Dynamic Instability," Timothy Mitchison, Dept. of Pharmacology, U. of California, San Francisco. Cell Biology and Physiology Library, Room 426 McDonnell Medical Sciences Bldg. 362-3964.

**Noon. Environmental engineering seminar.** "Cement Kiln Waste-management Technologies," Robert J. Schreiber Jr., Schreiber, Grana & Yonley Inc. Room 216 Urbauer Hall. 935-8590.

**4 p.m. Biological science forum.** Biology as an Interdisciplinary Science: Frontiers for the 21st Century. "Biochips: What's Real and What's Not," Chancellor Mark S. Wrighton. Room 162 McDonnell Hall. Call Betty Smith at 935-6850 to make a reservation.

**4 p.m. Hematology lecture.** "Mechanism of Action of the Retinoblastoma Tumor Suppressor," Douglas C. Dean, assoc. prof. of cell biology and physiology and of medicine. Room 8841 Clinical Sciences Research Bldg. 362-3365.

**4 p.m. Music lecture.** "The Music of a Nation: Attempts to Define 'Germanness' in Music in the 18th, 19th and 20th Centuries," Pamela Potter, asst. prof., Dept. of Music, U. of Illinois at Urbana-Champaign. Room B-8 Blewett Hall. 935-5581.

### Monday, Nov. 13

**4 p.m. Immunology seminar.** "Immuno Pathogenesis of HIV Infection," Guiseppe Pantaleo, senior investigator, Immune Regulation, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Md. Third Floor Aud., St. Louis Children's Hospital. 362-8748.

**4 p.m. Psychology colloquium.** "Studies of Vowel Perception," James D. Miller, prof. of psychology in speech and hearing, Central Institute for the Deaf, and research prof., Dept. of Otolaryngology. Room 118 Eads Hall. 935-6592.

**6 p.m. Radiology lecture.** Tenth Annual Daniel R. Biello Memorial Lecture. "Broad Exposure — Radiation in American Popular Culture," David J. DiSantis, assoc. prof. of radiology, Eastern Virginia Medical School,

Norfolk. Scarpellino Aud., Mallinckrodt Institute of Radiology. 362-2866.

**8 p.m. Architecture lecture.** Carme Pinós, who is from Barcelona, Spain, and has a background in architecture and Renaissance art. Steinberg Hall Aud. 935-6200.

### Tuesday, Nov. 14

**Noon. Molecular microbiology/microbial pathogenesis seminar.** "Genetic Evidence for Two Prions of Yeast (URE3) and (PSI)," Reed Wickner, chief, Section on Genetics of Simple Eukaryotes, National Institutes of Health, Bethesda, Md. Cori Aud., 4565 McKinley Ave. (Refreshments: 11:45 a.m.) 362-7258.

**12:10 p.m. Physical Therapy Brown Bag Research Seminar.** "Measuring Physical Frailty in Older Adults," Helen Host, physical therapist and doctoral candidate in movement science. Classroom C Forest Park Bldg., 4444 Forest Park Blvd. 286-1400.

**3 p.m. Geometry seminar.** "The Minimal Entropy Theorem and Mostow Rigidity (cont.)," Renato Feres, asst. prof. of mathematics. Room 199 Cupples I Hall. 935-6726.

**4 p.m. Anthropology colloquium.** "Morphological Integration Among Mice, Monkeys and Humans," James Cheverud, prof., depts. of Genetics and of Anatomy and Neurobiology. Room 149 McMillan Hall. 935-5346.

**4 p.m. Chemistry seminar.** "Ion-gated Electron Transfer in Structurally Well-characterized Self-assembled Monolayers," Chad Mirkin, asst. prof. of chemistry, Northwestern U., Evanston, Ill. Room 311 McMillan Lab. 935-6530.

**4 p.m. Diabetes research seminar.** "Phospholipid Derived Mediators and Insulin Secretion," John Turk, Joseph Friedman Professor of Renal Diseases in Medicine and Wilma and Roswell Messing Professor of pathology. Pathology Library, Room 3723 West Bldg. 362-7435.

**4 p.m. Jewish renewal movement lecture.** "Down to Earth Judaism: Food, Money, Sex and the Rest of Life," Rabbi Arthur Waskow, author of "Seasons of Our Joy" and "The Freedom Seder." Hillel Center, 6300 Forsyth Blvd. 726-6177.

**7 p.m. Catholic Student Center lecture.** "A Call to be Catholic," the Rev. Michael Demkovich, Aquinas Institute of Theology. Catholic Student Center, 6352 Forsyth Blvd. 725-3358.

**8 p.m. Art history and archaeology lecture.** "Through the Big End of a Telescope: A Renaissance Critique of Modernist Theory of Architecture," Richard J. Betts, prof. of the history of architecture, School of Architecture, U. of Illinois at Urbana-Champaign. Room 200 Steinberg Hall. 935-5287.

### Wednesday, Nov. 15

**6:30 a.m. Anesthesiology Grand Rounds.** "Laparoscopic Surgery 1995," Nathaniel J. Soper, assoc. prof. of surgery, Wohl Hospital Bldg. Aud., 4960 Children's Place. 362-6978.

**8 a.m. Obstetrics and Gynecology Grand Rounds.** "Primary Bowel Disease," John J. O'Brien, instructor, Division of Gastroenterology. Clopton Aud., 4950 Children's Place. 362-3143.

**11 a.m. Assembly Series.** CHIMES Lecture. "Ghosts and Yappy Dogs: The Serendipity of Fiction," Amy Tan, author. (See story, page 5.) Graham Chapel. 935-5285.

**Noon. Molecular microbiology seminar.** "Translation and Control of dsRNA Virus Replication: Decapitation, Ribosomal Frameshifting and 3' Poly(A) Surveillance," Reed Wickner, chief, Section on Genetics of Simple Eukaryotes, National Institutes of Health. Room 775 McDonnell Medical Sciences Bldg. 362-7259.

**4 p.m. Biochemistry and molecular biophysics seminar.** "Chaperonin-mediated Protein Folding: Structure and Function Studies," Arthur Horwich, prof. of genetics, Yale U. School of Medicine. Cori Aud., 4565 McKinley Ave. 362-0261.

**4 p.m. Women's studies lecture.** "Between Agency and Oppression: The Inquisitorial Autobiography of Cecilia Ferrazzi," Anne Jacobson Schutte, Newberry Library fellow and prof. of history, U. of Virginia, Charlottesville. Co-sponsored by the depts. of Music, of History and of Medieval and Renaissance Studies. Alumni House Living Room. 935-5566 or 935-5102.

**7:30 p.m. Art lecture.** Don Overmyer, asst. prof. of art in graphic communications, will

talk about the typographic response to the nature of information in visual communication. Steinberg Hall Aud. 935-6597.

### Thursday, Nov. 16

**Noon. Occupational Therapy Grand Rounds.** "Ergonomic Interventions and Outcomes," Laurie Wolf, ergonomist, and Ann Marie Dale, occupational therapist, Barnes Care Corp. Health Services. Clopton Aud., 4950 Children's Place. 286-1614.

**1:10 p.m. Social work lecture.** "Violence: Its Impact on the Child, Family and Community," James Garbarino, prof. of human development and family studies and director, Family Life Development Center, Cornell U. Brown Hall Lounge. 935-6600.

**4 p.m. Earth and planetary sciences colloquium.** "Seafloor Observations at the TAG Hydrothermal Area on the Mid-Atlantic Ridge," Martin C. Kleinrock, asst. prof. of geology, Vanderbilt U., Nashville, Tenn. Room 362 McDonnell Hall. 935-5603.

**4 p.m. Molecular oncology/medicine/pathology seminar.** "Assembly of Cyclin-dependent Kinases," David Morgan, assoc. prof., depts. of Physiology and of Biochemistry and Biophysics, U. of California, San Francisco. Third Floor Aud., St. Louis Children's Hospital. 362-9035.

**4:15 p.m. Linguistic studies lecture.** "When Moral Worlds Collide: The Application of Cognitive Science to Domestic Politics," George Lakoff, prof. of linguistics, U. of California, Berkeley. May Aud., Simon Hall. (Reception: 3:45 p.m. in the auditorium lobby.) 935-7445.

**4:30 p.m. Math colloquium.** "The Heat Equation and Harmonic Maps on Algebraic Varieties," Peter Li, prof. of mathematics, U. of California, Irvine. Room 199 Cupples I Hall. (Tea: 4 p.m. in Room 200.) 935-6726.

**5 p.m. Art slide lecture.** "An Artist's View of Florence," Tom Ebenhoh, artist and photographer, will talk about his trip to and his impressions of Florence, Italy. (A reception will precede the lecture at 4:30 p.m.) Bixby Gallery, Bixby Hall. Pre-registration preferred. 935-4643.

### Friday, Nov. 17

**9:15 a.m. Pediatric Grand Rounds.** "Amazing Tales of Giants and Dwarfs," Marc Hammerman, Chromalloy Professor of Renal Diseases in Medicine; director, Renal Division; and assoc. prof. of cell biology and physiology. Clopton Aud., 4950 Children's Place. 454-6006.

**Noon. Cell biology and physiology seminar.** "The Role of Integrins in Angiogenesis and Disease," David A. Cheresh, Dept. of Immunology, Scripps Research Institute. Cell Biology and Physiology Library, Room 426 McDonnell Medical Sciences Bldg. 362-6950.

**Noon. Environmental engineering seminar.** "Use of Interferometric and Polarimetric Radar for Floodplain Damage Assessment From 1993 and 1995 Floods," Ray Arvidson, prof. of earth and planetary sciences. Room 216 Urbauer Hall. 935-8590.

**1 p.m. Solid-state engineering and applied science seminar.** "Thermal Effects on Stress in Magnetic Recording Heads," Leslie He, graduate student in electrical engineering. Room 305 Bryan Hall. 935-5565.

**3:15 p.m. Political science lecture.** "Why Did the Incumbency Advantage in U.S. House Elections Grow?" Jonathan Katz, prof. of political science, California Institute of Technology. Room 200 C Eliot Hall. 935-5822.

**3:30 p.m. Environmental studies seminar.** "Role of Vertebrate Paleontology in Reconstructing Past Environments," Tab Rasmussen, assoc. prof. of anthropology. Room 362 McDonnell Hall. 935-4258 or 935-7047.

**3:30 p.m. Linguistic studies lecture.** "The Embodied Mind: Concepts and Categories in Human Minds With Human Brains," George Lakoff, prof. of linguistics, U. of California, Berkeley. Room 103 Eads Hall. 935-7445.

**4 p.m. Music lecture.** "MTV's Role in Current Musical Culture: Are You Plugged In?" Elizabeth Seitz, visiting asst. prof. of music. Room B-8 Blewett Hall. 935-5581.

**5 p.m. Architecture lecture.** Lester Yuen, Steedman fellow, will discuss the results of his research that was funded by the Steedman fellowship. Room 116 Givens Hall. 935-6200.



# WASHINGTON UNIVERSITY DRUG AND ALCOHOL POLICY

*A federal mandate requires that the following Drug and Alcohol Policy be distributed to all Washington University employees and students. Please post or file accordingly.*

## I. Introduction

The president's National Drug Control Strategy, issued in September 1989 proposed that Congress pass legislation to require schools, colleges and universities to implement and enforce drug prevention programs and policies as a condition of eligibility to receive federal financial assistance, including student financial aid. On December 12, 1989, the president signed the Drug-Free Schools and Communities Act Amendments of 1989, Public Law 101-226. That law also requires institutions receiving federal financial assistance to prevent the illegal use of alcohol by students and employees.

The law requires that, as a condition of receiving federal funds, Washington University must certify that it has adopted and implemented a program to prohibit the unlawful possession, use or distribution of illicit drugs and alcohol by students and employees on its property or as part of any of its activities. Accordingly, Washington University has instituted this policy, which became effective on and after October 1, 1990.

## II. Policy Statement

It is the goal of Washington University to protect the public health and environment of members of the University by promoting a drug-free environment.

In accordance with the mandate of the federal legislation, the manufacture, distribution, possession or use of illicit drugs, and the unlawful possession, use or distribution of alcohol on Washington University property or as part of any of its activities is prohibited.

Violations of the policy will be handled according to existing policies and procedures covering the conduct of administrators, faculty, students, and staff.

- A. Standards of Conduct — Illicit Drugs: The unlawful manufacture, possession, distribution or use of illicit drugs on Washington University property or as part of any of its activities by University students, employees or their guests is prohibited.
- B. Standards of Conduct — Alcohol: Federal legislation prohibits the *unlawful* possession, use or distribution of alcohol. Therefore, the possession and use of alcohol by non-intoxicated persons

twenty-one (21) years of age or older is, according to Missouri law, lawful. University policies limit the lawful use of alcohol to appropriate occasions. Undergraduate students should contact the Office of Student Affairs for standards governing student parties and student use and possession of alcohol. Graduate students should contact their Dean's office. Contact the Office of Human Resources on either campus for specific standards governing non-academic employees.

## III. Legal Sanctions

- A. Drugs: The manufacture, possession, sale, distribution and use of illicit drugs is prohibited by city and county ordinance, state law and federal statute. Punishments range from fines of \$50 to life imprisonment. The statutes and ordinances define the drugs deemed "illicit." Attached, as Appendix A, is a summary of federal sanctions. Chapter 195 of the Revised Statutes of Missouri addresses illicit drugs. Section 195.214 of the Missouri statutes specifically prohibits the distribution of any controlled substance on University property. Persons convicted of this offense can be sentenced to imprisonment for not less than ten (10) years. To review specific provisions of applicable ordinances and statutes, contact the Office of the General Counsel (935-5152).
- B. Alcohol: Missouri's Liquor Control Law makes it illegal for a person under the age of twenty-one years to purchase, attempt to purchase, or possess any intoxicating liquor. Section 311.325 RSMo. Violation of this provision can subject one to a fine between \$50 and \$1000 and/or imprisonment for a maximum term of one year. County and municipality ordinances contain similar prohibitions and sanctions. To review specific provisions of applicable ordinances and statutes, contact the Office of the General Counsel (935-5152).

## IV. Health Risks

- A. Drugs: Severe health risks, including death, are associated with the use of illicit drugs. Some are stated in Appendix B. For further information, contact the Center for Chemical Abuse Prevention Education (CAPE) (935-4062) or the University Health Services (Hilltop Campus — 935-6666) (Medical Campus — 362-3523).



B. Alcohol: Abuse of alcohol can produce severe health risks, including death. Alcohol consumption causes a number of marked changes in behavior. Even low doses significantly impair the judgment and coordination required to drive a car safely, increasing the likelihood that the driver will be involved in an accident. Low to moderate doses of alcohol also increase the incidence of a variety of aggressive acts, including spouse and child abuse. Moderate to high doses of alcohol cause marked impairments in higher mental functions, severely altering a person's ability to learn and remember information. Very high doses cause respiratory depression and death. If combined with other depressants of the central nervous system, much lower doses of alcohol will produce the effects just described.

Repeated use of alcohol can lead to dependence. Sudden cessation of alcohol intake is likely to produce withdrawal symptoms, including severe anxiety, tremors, hallucinations, and convulsions. Alcohol withdrawal can be life-threatening. Long-term consumption of large quantities of alcohol, particularly when combined with poor nutrition, also can lead to permanent damage to vital organs such as the brain and the liver.

Women who drink alcohol during pregnancy may give birth to infants with fetal alcohol syndrome. These infants have irreversible physical abnormalities and mental retardation. In addition, research indicates that children of alcoholic parents are at greater risk than other youngsters of becoming alcoholics. For further information, contact the Center for Chemical Abuse Prevention Education (CAPE) (935-4062) or the University Health Services (Hilltop Campus — 935-6666) (Medical Campus — 362-3523).

## **V. Available Drug or Alcohol Counseling, Treatments or Rehabilitation or Re-entry Programs**

A. The Center for Chemical Abuse Prevention Education (CAPE) provides the Washington University community with alcohol and other drug information, education, brief assessment and referral. Outside treatment options include self-help groups, long- and short-term outpatient programs, individual and group programs, and residential short- and long-term treatment programs. CAPE also provides assistance with re-entry into the University community following completion of an outside treatment program. All services are free

and confidential. Call 935-4062 for an appointment or more information.

- B. Other University resources include the University Health Services (Hilltop Campus — 935-6666) (Medical Campus — 362-3523), the Psychological Service Center (935-6555) and the Department of Psychiatry (362-7002).
- C. Numerous non-University programs exist in the St. Louis metropolitan area. Many programs advertise extensively in local media. Consultation with one's personal physician is advised prior to self referral to such non-University programs. For further information regarding referral to such programs, contact CAPE, University Health Services or your private physician.

## **VI. Disciplinary Sanctions**

Different disciplinary procedures are applicable to faculty, staff and students. Violations of the standards of conduct will be dealt with on a case by case basis with the imposition of discipline being appropriate to the severity of the violation. For each group comprising the University community, there are certain common sanctions that could be applied in an appropriate case. These common sanctions include letters of reprimand, probation and severance of ties with the University, through expulsion or termination. Normally, opportunity for referral to an appropriate rehabilitation program occurs and is usually associated with a first offense. Referral for prosecution will undoubtedly occur only for the most serious violations.

- A. Faculty: Faculty discipline is normally administered, in the informal manner, by the faculty member's department head, dean or by the provost. Faculty members can be terminated for cause only after a hearing conducted before a panel of faculty peers.
- B. Staff: The non-academic staff is subject to disciplinary procedures administered by the staff member's department in consultation with the human resources offices on the Hilltop and Medical campuses. The normal range of personnel actions could occur. Staff members are entitled to hearing and redress by a panel of peers.
- C. Students: The University Judicial Code governs students' conduct and establishes procedures for adjudicating complaints against students. Expulsion is the most severe sanction possible. In addition, residence halls (including fraternity houses) can impose discipline upon residents. The University may terminate the residence hall contracts of students violating its standards.



# CONTROLLED SUBSTANCES — USES AND EFFECTS

DRUGS/CSA SCHEDULES	TRADE OR OTHER NAMES	MEDICAL USES	DEPENDENCE		TOLERANCE	DURATION (Hours)	USUAL METHODS OF ADMINISTRATION	POSSIBLE EFFECTS	EFFECTS OF OVERDOSE	WITHDRAWAL SYNDROME
			Physical	Psychological						
NARCOTICS										
Opium	II III V Dover's Powder, Paregoric Parepectolin	Analgesic, antidiarrheal	High	High	Yes	3-6	Oral, Smoked	Euphoria, drowsiness, respiratory depression, constricted pupils, nausea	Slow and shallow breathing, clammy skin, con- vulsions, coma, possible death	Watery eyes, runny nose, yawning loss of appetite, irritability, tremors, panic, cramps, nausea, chills and sweating
Morphine	II III Morphine, MS-Contin, Roxanol, Roxanol-SR	Analgesic, Antitussive	High	High	Yes	3-6	Oral, smoked, injected			
Codeine	II III V Tylenol w/Codeine, Empirin w/Codeine Robitussin A-C, Fiorinal w/Codeine	Analgesic, antitussive	Moderate	Moderate	Yes	3-6	Oral, injected			
Heroin	I Diacetylmorphine, Horse, Smack	None	High	High	Yes	3-6	Injected, sniffed, smoked			
Hydromorphone	II Dilaudid	Analgesic	High	High	Yes	3-6	Oral, injected			
Meperidine (Pethidine)	II Demerol, Mepergan	Analgesic	High	High	Yes	3-6	Oral, injected			
Methadone	II Dolophine, Methadone, Methadose	Analgesic	High	High-Low	Yes	12-24	Oral, injected			
Other Narcotics <sup>1</sup>	II III IV V Numorphan, Percodan, Percocet, Tylox, Tussionex, Fentanyl, Darvon, Lomotil, Talwin <sup>2</sup>	Analgesic, antidiarrheal, antitussive	High-Low	High-Low	Yes	Variable	Oral, injected			
DEPRESSANTS										
Chloral Hydrate	IV Noctec	Hypnotic	Moderate	Moderate	Yes	5-8	Oral	Slurred speech, disorienta- tion, drunken behavior without odor of alcohol	Shallow respiration, clammy skin, dilated pupils, weak and rapid pulse, coma, possible death	Anxiety, insomnia, tremors, delirium, convul- sions, possible death
Barbiturates	II III IV Amytal, Butisol, Fiorinal, Lotusate, Nembutal, Seconal, Tuinal, Phenobarbital	Anesthetic, anticonvulsant, sedative, hypnotic, veterinary euthanasia agent	High-Mod.	High-Mod.	Yes	1-16	Oral			
Benzodiazepines	IV Ativan, Dalmane, Diazepam, Librium, Xanax, Serax, Valium Tranxene, Verstran, Versed, Halcion, Paxipam, Restoril	Antianxiety, Anticonvulsant, Sedative, hypnotic	Low	Low	Yes	4-8	Oral			
Methaqualone	I Quaalude	Sedative, hypnotic	High	High	Yes	4-8	Oral			
Glutethimide	III Doriden	Sedative, hypnotic	High	Moderate	Yes	4-8	Oral			
Other Depressants	III IV Equanil, Miltown, Noludar, Placidyl, Valmid	Antianxiety, sedative, hypnotic	Moderate	Moderate	Yes	4-8	Oral			
STIMULANTS										
Cocaine <sup>1</sup>	II Coke, Flake, Snow, Crack	Local anesthetic	Possible	High	Yes	1-2	Sniffed, smoked, injected	Increased alertness, excitation, euphoria, in- creased pulse rate & blood press- ure, insom- nia, loss of appetite.	Agitation, increase in body temp- erature, hallucina- tions, con- vulsions, possible death	Apathy, long periods of sleep, irri- tability, depression, disorienta- tion
Amphetamines	II Biphetamine, Delcobese, Desoxyn, Dexedrine, Obetrol	Attention deficit disorders, narcolepsy, weight control	Possible	High	Yes	2-4	Oral, injected			
Phenmetrazine	II Preludin	Weight control	Possible	High	Yes	2-4	Oral, injected			
Methylphenidate	II Ritalin	Attention deficit disorders, narcolepsy	Possible	Moderate	Yes	2-4	Oral, injected			
Other Stimulants	III IV Adipex, Cylert, Didrex, Ionamin, Melfiat, Plegine, Sanorex, Tenuate, Tepanil, Prelu-2	Weight control	Possible	High	Yes	2-4	Oral, injected			
HALLUCINOGENS										
LSD	I Acid, Microdot	None	None	Unknown	Yes	8-12	Oral	Illusions and hallu- cinations, poor perception of time and distance	Longer, more intense "trip" episodes, psychosis, possible death	Withdraw- al syn- drome not reported
Mescaline and Peyote	I Mexc, Buttons, Cactus	None	None	Unknown	Yes	8-12	Oral			
Amphetamine Variants	I 2,5-DMA, PMA, STP, MDA, MDMA, TMA, DOM, DOB	None	Unknown	Unknown	Yes	Variable	Oral, injected			
Phencyclidine	II PCP, Angel Dust, Hog	None	Unknown	High	Yes	Days	Smoked, oral, injected			
Phencyclidine Analogues	I PCE, PCPy, TCP	None	Unknown	High	Yes	Days	Smoked, oral, injected			
Other Hallucinogens	I Bufotenine, Ibogaine, DMT, DET, Psilocybin, Psilocyn	None	None	Unknown	Possible	Variable	Smoked, oral, injected, sniffed			
CANNABIS										
Marijuana	I Pot, Acapulco Gold, Grass, Reefer, Sinsemilla, Thai Sticks	None	Unknown	Moderate	Yes	2-4	Smoked, oral	Euphoria, relaxed inhibitions, increased appetite, disoriented behavior	Fatigue, paranoia, possible psychosis	Insomnia, hyperac- tivity, and de- creased appetite occasion- ally reported
Tetrahydrocannabinol	I II THC, Marinol	cancer chemotherapy antinauseant	Unknown	Moderate	Yes	2-4	Smoked, oral			
Hashish	I Hash	None	Unknown	Moderate	Yes	2-4	Smoked, oral			
Hashish Oil	I Hash Oil	None	Unknown	Moderate	Yes	2-4	Smoked, oral			

<sup>1</sup>Designated a narcotic under the CSA.

<sup>2</sup>Not designated a narcotic under the CSA.



# Federal Trafficking Penalties

APPENDIX A

Controlled Substances							
CSA	PENALTY		Quantity	DRUG	Quantity	PENALTY	
	2nd Offense	1st Offense				1st Offense	2nd Offense
I  And  II	Not less than 10 years. Not more than life.	Not less than 5 years. Not more than 40 years.	10-99gm or 100-999 gm mixture	METHAMPHETAMINE	100 gm or more or 1 kg or more mixture	Not less than 10 years. Not more than life.	Not less than 20 years. Not more than life.
			100-999 gm mixture	HEROIN	1 kg or more mixture		
			500-4,999 gm mixture	COCAINE	5 kg or more mixture		
	If death or serious injury, not less than life.	If death or serious injury, not less than 20 years. Not more than life.	5-49 gm mixture	COCAINE BASE	50 gm or more mixture	If death or serious injury, not less than 20 years. Not more than life.	If death or serious injury, not less than life.
			10-99 gm or 100-999 gm mixture	PCP	100 gm or more or 1 kg or more mixture		
	Fine of not more than \$4 million individual, \$10 million other than individual.	Fine of not more than \$2 million individual, \$5 million other than individual.	1-10 gm mixture	LSD	10 gm or more mixture	Fine of not more than \$4 million individual, \$10 million other than individual.	Fine of not more than \$8 million individual, \$20 million other than individual.
			40-399 gm mixture	FENTANYL	400 gm or more mixture		
			10-99 gm mixture	FENTANYL ANALOGUE	100 gm or more mixture		
	DRUG	QUANTITY	FIRST OFFENSE		SECOND OFFENSE		
	Others <sup>2</sup>	Any	Not more than 20 years. If death or serious injury, not less than 20 years, not more than life. Fine \$1 million individual, \$5 milicn not individual.		Not more than 30 years. If death or serious injury, life. Fine \$2 million individual, \$10 million not individual.		
III	All	Any	Not more than 5 years. Fine not more than \$250,000 individual, \$1 million not individual.		Not more than 10 years. Fine not more than \$500,000 individual, \$2 million not individual.		
IV	All	Any	Not more than 3 years. Fine not more than \$250,000 individual, \$1 million not individual.		Not more than 6 years. Fine not more than \$500,000 individual, \$2 million not individual.		
V	All	Any	Not more than 1 year. Fine not more than \$100,000 individual, \$250,000 not individual.		Not more than 2 years. Fine not more than \$200,000 individual, \$500,000 not individual.		

<sup>1</sup>Law as originally enacted states 100 gm. Congress requested to make technical correction to 1 kg. <sup>2</sup>Does not include marijuana, hashish, or hash oil. (See separate chart.)

## Federal Trafficking Penalties — Marijuana

As of November 18, 1988

QUANTITY	DESCRIPTION	FIRST OFFENSE	SECOND OFFENSE
1,000 kg or more; or 1,000 or more plants	<b>Marijuana</b> Mixture containing detectable quantity*	Not less than 10 years, not more than life. If death or serious injury, not less than 20 years, not more than life. Fine not more than \$4 million individual, \$10 million other than individual.	Not less than 20 years, not more than life. If death or serious injury, not less than life. Fine not more than \$8 million individual, \$20 million other than individual.
100 kg to 1,000 kg; or 100-999 plants	<b>Marijuana</b> Mixture containing detectable quantity*	Not less than 5 years, not more than 40 years. If death or serious injury, not less than 20 years, not more than life. Fine not more than \$2 million individual, \$5 million other than individual.	Not less than 10 years, not more than life. If death or serious injury, not less than life. Fine not more than \$4 million individual, \$10 million other than individual.
50 to 100 kg	<b>Marijuana</b>	Not more than 20 years. If death or serious injury, not less than 20 years, not more than life. Fine \$1 million individual, \$5 million other than individual.	Not more than 30 years. If death or serious injury, life. Fine \$2 million individual, \$10 million other than individual.
10 to 100 kg	<b>Hashish</b>		
1 to 100 kg	<b>Hashish Oil</b>		
50-99 plants	<b>Marijuana</b>	Not more than 5 years. Fine not more than \$250,000, \$1 million other than individual.	Not more than 10 years. Fine \$500,000 individual, \$2 million other than individual.
Less than 50 kg	<b>Marijuana</b>		
Less than 10 kg	<b>Hashish</b>		
Less than 1 kg	<b>Hashish Oil</b>		

\*Includes Hashish and Hashish Oil

(Marijuana is a Schedule I Controlled Substance)





## Music

### Wednesday, Nov. 15

8 p.m. Student recital. Graham Chapel. 935-5581.



## Performances

### Friday, Nov. 10

8 p.m. Performing Arts Dept. play. "Marat/Sade," the story of the persecution and assassination of Jean-Paul Marat by the inmates of the Asylum of Charenton under the direction of the Marquis de Sade. Twenty-five students have on-stage roles. (Also Nov. 11, same time, and Nov. 12 at 2 p.m.) Cost: \$8 for the general public and \$6 for senior citizens and WU faculty, staff and students. (Recommended for mature audiences only.) Edison Theatre. 935-6543.

8 p.m. "Stage Left" series presents "Jordan: One Woman's Journey," with English actress Moira Buffini. (Also Nov. 11, same time, and Nov. 12 at 7 p.m.) (A free discussion of "Jordan" with Buffini and Eric Nuetzel, M.D., of the St. Louis Psychoanalytic Institute will be held after the Nov. 10 performance.) Cost: \$12 for the general public and WU faculty and staff and \$10 for WU students. Drama Studio, Room 208 Mallinckrodt Center. 935-6543.

### Friday, Nov. 17

8 p.m. Concert. Inti-Illimani, a seven-member Chilean musical group. (See story, this page.) Cost: \$20 for the general public; \$16 for senior citizens and WU faculty and staff; and \$11 for WU students. Edison Theatre. 935-6543.



## Miscellany

### Thursday, Nov. 9

7 p.m. Dance lecture/demonstration. "Movement and Meaning," Danial Shapiro, co-founder and artistic director of Shapiro

& Smith Dance company. Dance Studio, Room 207 Mallinckrodt Center. 935-5858.

7:30 p.m. Feminist reading group. The second half of the book "Simians, Cyborgs and Women," by Donna Haraway, will be the discussion topic. Hurst Lounge, Room 201 Duncker Hall. 935-5102.

### Friday, Nov. 10

9 p.m. Winter break trips to Israel registration deadline. The Hillel Center is coordinating two trips to Israel. Jewish students interested can either attend the "U.J.A. University Mission," a 10-day tour with 450 U.S. students, or "Volunteers for Israel," a two-week experience volunteering on a non-combat military base side-by-side with Israelis. Applications available at Hillel Center, 6300 Forsyth Blvd., or call 726-6177.

### Saturday, Nov. 11

9:30 a.m.-noon. Fine arts workshop. "Opening Pandora's Box: Unique Book Structures," William Harroff, National Endowment for the Arts fellowship recipient. Explores the history of books and the diversity of modern book arts. Room 104 Bixby Hall. Cost: \$35. To register, call 935-4643.

### Thursday, Nov. 16

Office of Continuing Medical Education symposium registration opens. "Third Annual Symposium on Management Issues in Gastroenterology." Symposium held Dec. 1-2. Cost: physicians, \$175; physicians in training, \$75; allied health professionals, \$60; and WU full-time staff, \$125. The Ritz-Carlton Hotel, 100 Carondelet Plaza. For more info. and to register, call 362-5678.

### 10 a.m.-4 p.m. Israeli market shopping.

Enjoy browsing for food, music, books, jewelry and other Judaica items. Lower level, Mallinckrodt Center. 726-6177.

4 p.m. History panel discussion. "Broadening the Horizons of History Teaching: The Challenge of Afro-American History," Gerald L. Early, prof. of English and prof. and director, African and Afro-American Studies Program, and Donald Matthews, postdoctoral fellow in Afro-American studies. Cohen Lounge, Room 113 Busch Hall. 935-5450.

### Friday, Nov. 17

7 p.m. Office of Continuing Medical Education conference. "Infant Pulmonary Function Testing: Growing Up." Co-sponsored by the St. Louis Children's Hospital Pulmonary Function Lab. Conference continues through Nov. 19. Eric P. Newman Education Center, Euclid Avenue and Children's Place, and the Adam's Mark Hotel, Fourth and Chestnut streets, St. Louis. To register, call 454-2695.

### Saturday, Nov. 18

9:30 a.m.-noon. Book art workshop. "Book Design Basics," Ted Smith, book designer and lecturer in the School of Art. Room 104 Bixby Hall. Cost: \$20. For more info. and to register, call 935-4643.

11 a.m.-4 p.m. African and Afro-American studies symposium. "'Black Boy' at Fifty," a look at Richard Wright's classic book on its 50th anniversary, and a showing of the new documentary of Wright's life. (See story, this page.) Women's Bldg. Lounge.

## Chilean sensation blends tribal rhythms, ballads

Blending musical influences ranging from Afro-Peruvian folk to Stravinsky, the seven-member Chilean sensation Inti-Illimani brings its hybrid mix of bouncy salsa, moody ballads and tribal rhythms for a St. Louis premiere at 8 p.m. Nov. 17 in Edison Theatre.

"Inti-Illimani is like a talisman," wrote a reviewer for the Chicago Tribune. "The longer it is around, the more polished it becomes, the more it shines and reflects, and the more memories it collects."

Exiled from Chile during the country's politically turbulent 1970s, Inti-Illimani spent the next 15 years touring the world, interacting with musicians and playing concerts in more than 45 countries.

Allowed to return to Chile in 1988, the group has become a symbol of the quest for human freedom and social justice in Latin America.

Inti-Illimani's music relies on the weight of seven voices and an eclectic mix of more than 30 wind, string and percussion instruments drawn from cultures around the world.

The performance is part of Edison Theatre's "OVATIONS!" series. Tickets are \$20 for the public; \$16 for Washington University faculty and staff and senior citizens; and \$11 for University students. Tickets are available at the Edison Theatre box office (935-6543) or Metrotix (534-1111).

## Symposium marks 'Black Boy' anniversary

A symposium celebrating the 50th anniversary of the 1945 publication of Richard Wright's novel "Black Boy" will be held from 11 a.m. to 4 p.m. on Nov. 18 in the Women's Building Lounge.

Julia Wright, Richard Wright's daughter, will speak during the free and public symposium, which is titled "'Black Boy' at 50." In addition to Julia Wright, a writer who lives in Paris, symposium participants will be Gerald L. Early, Ph.D., professor of English and professor and director of the African and Afro-American Studies Program in Arts and Sciences; Lynn Weiss, Ph.D., assistant

professor of English and of African and Afro-American studies; and Carla Cappetti, professor of English at the City University of New York.

A showing of "Black Boy," a new documentary on Wright's life, will be presented at the morning session. During the afternoon session, participants will discuss the continuing relevance of the legendary novel.

The symposium is sponsored by the American Culture Studies Institute and the African and Afro-American Studies Program. For more information, call Elizabeth Kellerman at 935-5216.

## Fiction writer Amy Tan to lecture

Best-selling author Amy Tan will give the CHIMES Lecture at 11 a.m. Wednesday, Nov. 15. Her talk, titled "Ghosts and Yappy Dogs: The Serendipity of Fiction," will take place in Graham Chapel. Washington University identification will be required for the



Amy Tan

lecture, which is part of the Assembly Series. The general public will be admitted at 11 a.m. if seating remains. An audio feed will be set up outside the chapel. Tan will join in an informal discussion at 2 p.m. in the Women's Building Lounge, followed by a book-signing from 3 to 3:30 p.m. Both the discussion and book-signing are free and open to the public.

Tan's first work of fiction, "The Joy Luck Club," was published in 1989 and

became that year's longest-running best seller on The New York Times hard-cover list. It was a finalist for both the National Book Award and the National Book Critics Circle Award. In this book, Tan concocts stories about life in China and Chinatown with a compelling universal underlying theme — the difficult relationships and strong bonds between Chinese mothers and their American-born daughters.

Tan's second book, "The Kitchen God's Wife," was published in 1991 and became an international best seller. Her other works include a 1992 children's book, "The Moon Lady," created in collaboration with illustrator Gretchen Schields, and "The Hundred Secret Senses," which came out in October. Her stories have been published in many magazines, including The Atlantic Monthly and McCall's.

Prior to writing fiction, Tan worked as a language development consultant to programs serving developmentally disabled children and as a free-lance business writer. For more information, call 935-5285.

## Sports

Compiled by Mike Wolf, director, and David Moessner, assoc. director, sports information.

### Football Bears wrap up record-setting season

En route to only its second nine-win season in the program's 105-year history, the 18th-ranked Washington University football team finished the regular season with a 42-0 victory Saturday, Nov. 4, against Colorado College (Colorado Springs). It was a record-setting afternoon at Francis Field as the Bears broke or tied 16 different individual and team records. Among the players shattering season marks were sophomore quarterback Thor Larsen, junior wide receiver Josh Haza and junior cornerback Chris Nalley. Setting single-game bests with 18 completions, 325 passing yards and five touchdowns, Larsen became the Bears' single-season leader for completions (135) and total offense (2,294 yards). Haza, finishing the game with seven receptions, a career-best 184 yards and three touchdowns, is the new single-season leader for receptions (50) and receiving yardage (967). Nalley broke the Bears' interception mark with his ninth of the season. Clinging to slim playoff hopes, the Bears will learn their postseason fate on Sunday, Nov. 12.

Current record: 9-1

### Men's soccer snares seventh regional crown

The ninth-ranked men's soccer team captured its seventh NCAA regional championship last weekend and now advances to the quarterfinal round of the national tournament. Freshman Josh Hallsten, a reserve midfielder for the Bears, sparked Washington in its two regional wins, setting up the Bears' only goal in their shutout win against Rhodes College (Memphis, Tenn.) and then snapping a 1-1 tie with a 25-yard shot against Wheaton (Ill.) College. Hallsten's goal against Wheaton came with less than five minutes remaining in the contest. Washington is gunning for its sixth NCAA national semifinal appearance.

Current record: 16-2-2

This week: 1 p.m. Saturday, Nov. 11, vs. Methodist College (Fayetteville, N.C.) (NCAA quarterfinal), Francis Field

### Women's soccer loses in NCAA Sweet 16

A historic women's soccer season came to an end on Saturday, Nov. 4, as the Bears fell to the University of California, San Diego, 2-0 in the NCAA Division III Sweet 16. The 20th-ranked Bears made a respectable first showing on the national stage, staying within a 17-12 shot margin against the defending Division III runner-up. The Tritons scored both goals in the first half and fended off the Bears, who were led offensively by

freshman Lori Thomas and senior Terri Basco.

Final record: 10-7-4 (4-0-2, University Athletic Association champion)

### Volleyball Bears seek fifth-straight crown

The Bears will begin their quest for a fifth-consecutive NCAA Division III volleyball crown this weekend in friendly surroundings. On Friday-Saturday, Nov. 10-11, the Bears will host the four-team South Regional, featuring Washington, Southwestern University (Georgetown, Texas), Trinity University (San Antonio), and Thomas More College (Crestview Hills, Ky.). The Bears enter the weekend carrying an NCAA all-division record home winning streak of 87 matches and also have won 18 straight in NCAA tournament play.

Current record: 37-3 (12-0, UAA champion)

This week: 5 p.m. Friday, Nov. 10, vs. Southwestern University (NCAA South Regional), WU Field House; 7 p.m. Saturday, Nov. 11, NCAA South Regional Final, WU Field House

### Swimmers making early season waves

The Washington swimmers and divers churned out a combined 1-4 record last weekend, with the men providing a victory against Northeast Missouri State University (Kirksville) on Friday, Nov. 3. Both teams lost decisions with DePauw University (Greencastle, Ind.) on Saturday, Nov. 4, and the men also fell to the University of Missouri-Rolla. Freshman Ryan Schuenke led the men's effort, winning once on Nov. 3 and twice on Nov. 4. Junior Shay Upadhyaya was the women's sole winner on Nov. 3, placing first in the 100-yard freestyle.

Current record: men, 2-2; women, 1-2

This week: Idle

### Cross country teams dash to NCAA regionals

Aiming for their first national meet invitations, the men and women's cross country teams will compete at this weekend's NCAA Division III Midwest Regionals. Based on a formula from last year's meet, four men's teams and two women's squads will advance to the NCAA Division III Championship on Nov. 18. The Washington women's squad enters the meet ranked 15th nationally and fourth in the region. The men are 24th in the national polls and sixth in the regional rankings.

This week: 11 a.m. Saturday, Nov. 11, at NCAA Division III Midwest Regionals, Oshkosh, Wis.



## Three faculty members discuss Constitution at ACLU conference

Three Washington University faculty members recently helped local high school social-studies teachers catch up on the latest debates concerning the Constitution.

David T. Konig, Ph.D., professor of history and director of the Legal Studies Program in Arts and Sciences, and law professors Bruce La Pierre, J.D., and Katherine Goldwasser, J.D., each spoke to a group of about 60 teachers and 10 high school students during a recent American Civil Liberties Union (ACLU) conference.

Titled "The Living Constitution," the conference helps high school teachers keep up with current events, particularly as they relate to the Constitution. This year, teachers also brought several of their students.

"These teachers are so dedicated, but things change so rapidly they can't keep up — particularly issues relating to the Bill of Rights," said Joyce Armstrong, executive director of the ACLU of Eastern Missouri, founder and organizer of the conference.

Armstrong said the ACLU began the conference 11 years ago because it was getting so many requests from high school teachers to do a presentation for their students. This way, Armstrong said, the teachers "learn from people involved in the field and then take it back to the classroom and make it come alive for the students."

### Providing classroom strategies

The conference focuses on the importance of teaching the Constitution and Bill of Rights; updating information about constitutional law; and providing classroom teaching resources and strategies.

"This conference is my treat for the year," said social-studies teacher Susan Scarpinato from Visitation Academy. "It really makes me feel so enriched by the conference, the presenters, the supporting materials and the great attitude of the organizers and the professors who participate. I love being surrounded by people who believe, as I do, in the Constitution, looking at the same topic and coming up with 47 different opinions."

Don Rothermich, a social-studies teacher at Parkway Central, said he uses court cases in his own classes, so the conference is essential for him.

"Hearing from law professors helps me stay updated and gives me a sense of where the courts are headed," said Rothermich, who teaches a course called "Crime and Law" and an advanced government class. "Listening to the university professors gives me great lesson-plan ideas and ideas for how to teach my classes. My students are always very interested in First Amendment issues."

Konig discussed the historical information concerning militias and the right to bear arms. He cautioned against what he called "reducing complex issues to simple sound bites." By tracing the origins of many well-known phrases concerning the right to bear arms, he showed how they had been taken out of context and used to further a certain group's goals or views.

Among Konig's points were that, in

colonial times, riots were not anti-government but occurred only when the colonial government didn't have enough legal power to do what was needed for the common good. The examples Konig gave were quiet events that occurred in the middle of the night, rather than in the daytime. In addition, the concept of individual rights comes much later. In colonial times, revolutionary activity was conducted by communities as a whole. Rights were protected by membership in a group or through institutions, not through individual self-assertiveness.

### Freedom of religion

La Pierre discussed some recent First Amendment cases that have been decided by the Supreme Court. These cases involved schools that had denied use of school meeting rooms to religious groups but not to other groups. The First Amendment requires schools to respect free speech and free expression of religion, but it also requires them to avoid promoting religion. Some schools have interpreted that to mean that religious groups can't meet on school property because that would imply the school supported that particular religion.

In his presentation, La Pierre drew a distinction between a religious group using space for a prayer meeting or for a discussion of proper child rearing. By allowing, for example, a doctors' group, but not a religious group, to speak on child rearing, the school would be involved in "impermissible viewpoint discrimination," La Pierre said. Because there are all kinds of perspectives on how to raise children, every group's perspective should be allowed to have a voice.

"School teachers implement the Constitution for students eight hours a day," said La Pierre. "You are the line officers. The way you understand freedom of religion and the Constitution affects your students every day."

### 'Beyond a reasonable doubt'

Goldwasser tied her talk into the recent O.J. Simpson case. She gave the group a historical perspective on juries. For example, juries once comprised only people who already knew something about the case and the participants. And the jury included only white, male landowners. Goldwasser also discussed the concept of "beyond a reasonable doubt." This very demanding standard was set intentionally, she said. It conveys this country's philosophy that it is much worse to convict one innocent person than let many guilty ones go free.

Konig and Goldwasser were new to the conference this year, though Konig has done other similar presentations for the ACLU.

La Pierre has made presentations at the ACLU conference almost every year. "I believe that law is not just for lawyers and law students but for non-lawyers, too," he said. "It is important that non-lawyers have an understanding of their legal system. Besides, these high school teachers are feisty, which makes them a lively, fun group to talk to."

— Debby Aronson



Michael I. Miller, Ph.D., (right) discusses the new Center for Imaging Science with Jagdish Chandra, Ph.D., (left) director of the mathematical and computer sciences division of the Army Research Office (ARO), and Rudy Buser, director of the ARO's Night Vision Laboratory.

## University natural site for center — from page 1

"If you take three faces, apply beards to two of them and creases and lines to the other face to age it, a person who knows those three faces still will recognize them," he explained. "Well, the imaging center is about computer understanding of the variants that make those faces, the understanding of the deeper reconstructions that make those faces human. The faces may be altered, but the computer still is able to recognize them as human and not dog or horse faces, for instance."

In the past five years, the science of image recognition has undergone what Miller calls a "paradigm shift" in how researchers are going about imparting computers with the ability to recognize subtle and cluttered images. This shift in thought and research methods is similar to what occurred with speech recognition beginning in 1980. Speech recognition researchers during the past 15 years began to realize that the essential problem to crack was not the understanding of acoustics but instead the underlying, deeper task of understanding language itself.

Similarly, with image recognition, better, faster algorithms have helped in the understanding process, but what researchers have begun to focus on is the underlying broad symbolic information of what the algorithms are computing. Christopher I. Byrnes, Ph.D., dean of the School of Engineering and Applied Science, likens this information to an alphabet.

"The numerical equivalent is a little like an alphabet and a language," he said. "The alphabet is a basic building block for language. You can string letters together and get something that may or may not be a word. What the center attempts to do is understand what the building blocks are for vision — which collections and linkings of these data in any form actually form an image that is recognizable and understandable."

Byrnes said one of the reasons the Department of Defense chose Washington University as the site for the national center is the research infrastructure — people and projects — already in place.

"We have a lot of talented people working on signal analysis, data compression, three-dimensional imaging and mapping, and the high-speed, fiber-optic network Project Zeus," Byrnes said. "We also have the nation's largest, most powerful parallel computer of its kind, the MasPar, and several other very high-speed computers, as well as the Applied Research Laboratory and the Electronic Systems Signals and Research Laboratory (ESSRL). Eventually, with this kind of foundation, we envision the center being a hub of activity where images can be swapped all around the country and scientists can collaborate electronically."

### Addressing military problems

The Washington University proposal was chosen from a competitive field because of its emphasis on the fundamental ways of developing an image-recognition theory for military problems, said Bobby Guenther, Ph.D., director of the Physics Division of the Army Research Office (ARO) in North Carolina and head of the research panel that chose Washington University.

"As things stand now, the Army has no overriding theory for image analysis," said Guenther. "The problem is that whatever computer recognition technology we now have has been developed from a trial-and-error approach. While it might work for one specific problem, if variability is introduced into the scene, there's no guarantee it will find the right target."

"In Desert Storm, most of our combat deaths were from friendly fire. We certainly want to avoid the problem of shooting ourselves. The Army will be very pleased with the center if it can come out with a theory that will help us improve present models and create new ones."

### Key collaborators

The center will involve the collaboration of 17 researchers from the universities. Other Washington University participants and their specialties are Joseph O'Sullivan, Ph.D., associate professor of electrical engineering, specializing in systems and estimation and information theory; Bixio Rimoldi, Dr. Tech.-Sci., associate professor of electrical engineering, specializing in information theory and coding theory; and Donald L. Snyder, Ph.D., Samuel C. Sachs Professor of electrical engineering and ESSRL director, specializing in optics, point processes and biomedical imaging.

The principal investigator from the University of Texas, Austin, is Jacob Aggarwal, Ph.D., professor of electrical engineering, specializing in computational vision, imaging and robotics. Sergio Cabrera, Ph.D., professor of electrical engineering at the University of Texas, El Paso, will concentrate on signal-processing problems.

David Mumford, Ph.D., professor of mathematics at Harvard University, brings his expertise in computer vision computation and algorithms.

The co-principal investigators from MIT are Jeffrey Shapiro, Ph.D., associate head and professor of electrical engineering; Sanjoy Mitter, Ph.D., professor of electrical engineering and director of the Center for Intelligent Control Systems; Tomaso Poggio, Ph.D., professor of brain and cognitive science; and Alan Willsky, Ph.D., professor of electrical engineering.

"The new center creates a very exciting source for researchers doing computer vision work," said Shapiro, who has collaborated with engineers and scientists from MIT's Lincoln Laboratory, which holds an extensive optical-sensing data collection. "One of the great things about the center is the knowledge pool it offers. We'll be working with extraordinary people across the many disciplines that are needed to solve such vexing image-science problems as distinguishing desired objects from surrounding clutter."

Added Miller: "It's our hope that we'll come up with an organized setting in which the Army will have access to a knowledge base in image understanding. It's important that the setting is an academic one and that our defense will become stronger from the knowledge gained, and the many other aspects of image understanding will advance as well."

— Tony Fitzpatrick

## Four debates scheduled for '96 — from page 1

\$500,000 needed to host the event can be raised, just as in 1992 — thanks to public-spirited St. Louis firms and individuals who gave so generously of their time and support to compress a multi-week project into only seven days of preparation."

Prior to his retirement as chancellor at the end of June, William H. Danforth wrote and asked the commission to consider returning in 1996, and then Chancellor Wrighton extended a formal invitation after he took office.

The nine other sites vying to host a debate are: Furman University, Greenville, S.C.; George Washington University, Washington, D.C.; Hartford/Trinity College, Hartford, Conn.; Michigan State University, East Lansing, Mich., which also hosted a 1992 presidential debate; St. Petersburg/Tampa/University of South Florida; University of Maryland, College Park; University of Oklahoma, Norman; University of Pennsylvania, Philadelphia;

and University of San Diego.

The CPD board of directors made the following recommendations for the 1996 debates:

- Three presidential debates and one vice presidential debate will be held.
- The four debates, each 90 minutes in length, will take place on four consecutive Wednesdays: Sept. 25, Oct. 2, Oct. 9 and Oct. 16, with Oct. 9 being the vice presidential debate.
- Each debate will be moderated by a single individual.
- Three different formats will be used: During one presidential debate, the candidates will stand behind traditional podiums; during a second, citizens will question the candidates in a town meeting format; and during a third, the candidates and moderator will be seated. The vice presidential debate also will be held with the candidates and moderator seated.



# Introducing new faculty members

## Hilltop Campus:

**Rachel Roberts**, Ph.D., assistant professor of mathematics in Arts and Sciences, comes from the California Institute of Technology in Pasadena, where she was the Harry Bateman Instructor in Mathematics. Among her research interests are low-dimensional topology and knot theory. She received a bachelor's degree with honors in mathematics and computer science in 1985 from Memorial University in Newfoundland, Canada, and a master's degree in mathematics in 1988 and a doctorate in mathematics in 1992 from Cornell University.

## Medical Campus:

**Jeffrey Drebin**, M.D., Ph.D., assistant professor of surgery, was an instructor in the surgical sciences section at the Johns Hopkins University School of Medicine in Baltimore and an attending surgeon and assistant chief of service in general and trauma surgery at Johns Hopkins Hospital and the Johns Hopkins Bayview Medical Center. He received a bachelor's degree in biology in 1979 from Oberlin (Ohio) College. He received a doctorate in immunology from Harvard University and a medical degree from Harvard Medical School, both in 1987.

**Kevin Ho**, M.D., assistant professor of medicine, comes from the West Roxbury (Mass.) Veterans Administration Hospital, where he was an attending physician. He also was a clinical and research fellow at Brigham and Women's Hospital in Boston and the Harvard Medical School. As a nephrologist, Ho investigates the molecular architecture of potassium channels and their role in the kidney in potassium recycling and secretion. He received a bachelor's degree in biology in 1982 from Harvard University and a medical degree in 1987 from the Columbia University College of Physicians and Surgeons.

# International Office seeking volunteers

The International Office is looking for volunteers to participate in its community connections programs.

The Host Family Program is designed to promote cultural exchange between international students and local families. As part of the program, volunteers invite students to share in family celebrations, as well as sports or cultural events, at least once a month. Volunteers may be from single or multi-generational households. Host families do not provide living accommodations for the students.

The Speak English With Us Program matches community volunteers with international students, faculty and researchers from both the Hilltop and Medical campuses who want to improve their understanding of the English language and culture. Volunteers meet weekly with a participant at a mutually convenient location. Volunteers are not required to be trained teachers or have any special language skills.

For more information, call the International Office at 935-5910.

# Participants needed for nature programs

The Tyson Research Center's Field Science Department is seeking volunteers available on weekdays to help with nature-education programs for schoolchildren and scouts. School topics include pond studies, bird banding, forest ecology and spring wildflowers. Scout programs cover wildlife-related badge work for Brownies, Girl Scouts and Cub Scouts. No previous knowledge is necessary. Training will be provided.

For more information, call 935-8430.

# For The Record

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

## Of note

**Fidelda L. Flanagan**, M.D., an assistant in radiology at the School of Medicine's Mallinckrodt Institute of Radiology, received the Society of Nuclear Medicine's 1995 Mallinckrodt Fellowship and a \$30,000 grant. Under the mentorship of **Farrokh Dehdashti**, M.D., assistant professor of radiology and the first recipient of the fellowship, Flanagan will investigate the use of PET (positron emission tomography) scans to monitor tamoxifen therapy in patients with breast cancer metastases. ...

During the 1995 Midwest Conference on Asian Affairs at the University of Missouri-St. Louis, **Pang Laikwan**, a doctoral candidate in the Joint Ph.D. Program in Chinese and Comparative Literature in Arts and Sciences, was awarded the \$100 Percy Buchanan Prize for best graduate student paper in the China and Inner Asia category. Laikwan, a native of Hong Kong, presented her paper at the annual conference, which attracted more than 300 Asian scholars. Representatives from Washington University and UM-St. Louis served as hosts for the conference. ...

**Oliver W. Siebert**, affiliate professor of chemical engineering, was named a fellow of the American Society of Mechanical Engineers.

## Speaking of

**John W. Clark**, Ph.D., professor of physics in Arts and Sciences, spoke on "Pairing Gaps in Neutron Star Matter" during the Theory Workshop on Pairing Forces in Nuclei at the Argonne National Laboratory, Illinois. He delivered the presentation while visiting the laboratory's physics division as a consultant. ...

At the Association on Employment Practices and Principles' national conference in New Orleans, **Raymond L. Hilgert**, D.B.A., professor of management and industrial relations, delivered a presentation titled "Understanding and Applying the Just Cause Principle" during a session on "Negotiations, Arbitration and Remediation." ...

**Rami J. Pinsberg**, lecturer in modern Hebrew in Arts and Sciences, attended the National Association of Professors of Hebrew's annual meeting in Orlando, Fla. ...

**Carter Revard**, Ph.D., professor of English in Arts and Sciences, delivered a paper titled "Milton as Muse for Keats, Shelley, and Robert Frost" at the International Milton Society conference in Bangor, North Wales, Great Britain. He also presented a paper titled "Courtly Romances in the Privy Wardrobe: Book-borrowing at the Court of Isabella and Mortimer, 1326-30" at the International Courtly Literature Society conference in Belfast, Northern Ireland, United Kingdom. ...

**Michael Valente**, Ph.D., associate clinical professor of otolaryngology (audiology), presented two papers at the Private Practice Audiologists of Atlantic Canada's second annual meeting in Halifax, Nova Scotia, Canada. His papers were titled "A Fitting Protocol to Improve User Satisfaction With Hearing Aids" and "Experiences With Programmable Hearing Aids." In addition, he presented a paper on "Recent Trends in Hearing Aid Verification Procedures" during the Amplification Update meeting at the University of California, San Francisco. ...

**Kristin E. S. Zapalac**, Ph.D., assistant professor of history in Arts and Sciences, delivered the Miller Memorial Lecture for 1995 at Valparaiso (Ind.) University. The Miller lecture was endowed in commemoration of one of the university's founders. Zapalac's talk was titled "'Self' as Subject: Martin Luther's Contribution to the Making of Modern Identity." In addition, she chaired two sessions at the Sixteenth Century Studies Conference in San Francisco.

## On assignment

**Scott A. Mirowitz**, M.D., associate professor of radiology at the School of Medicine's Mallinckrodt Institute of Radiology, was appointed chair of the American College of Radiology's Magnetic Resonance Professional Self-Evaluation Test and Syllabus Committee. He also was named to the editorial board of Academic Radiology, a journal published by the Association of University Radiologists. ...

**William D. Owens**, M.D., professor of anesthesiology, was elected president of The American Board of Anesthesiology. He has served on the group's board of directors for 11 years, three as secretary-treasurer. ...

**Leila Sadat Wexler**, LL.M., associate professor of law, was named chair of the International Law Association's

Committee on an International Criminal Court.

## To press

**Andrew D. Dimarogonas**, Ph.D., William Palm Professor of Mechanical Design, was appointed editor in chief of a new printed/electronic journal titled SYNOPSIS, The Greek Studies Index, which is scheduled to be published by Gordon and Breach Publishers of New York this fall. Members of the editorial advisory board are **Robert D.**

**Lamberton**, Ph.D., associate professor of classics and of comparative literature in Arts and Sciences, and **Sarantis Symeonoglou**, Ph.D., professor of art history and archaeology in Arts and Sciences. **Susan I. Rotroff**, Ph.D., professor of classics in Arts and Sciences, was named associate editor for Hellenistic studies. ...

An article written by **Marvin E. Levin**, M.D., professor of clinical medicine, was published in the October 1995 issue of Diabetes Care, a journal published by the American Diabetes Association. In addition, he wrote a chapter titled "Exercise in Diabetic Patients With Foot Complications" that is featured in the new Handbook of Diabetes and Exercise, which also is published by the diabetes association. ...

An article written by **Curtis J. Milhaupt**, J.D., associate professor of law, is scheduled to be published in the Harvard International Law Journal. The article is titled "A Relational Theory of Japanese Corporation Governance: Contract, Culture and the Rule of Law." ...

**Matt Visser**, Ph.D., research assistant professor of physics in Arts and Sciences, wrote a technical monograph titled "Lorentzian Wormholes: From Einstein to Hawking," published by the American Institute of Physics Press in Woodbury, N.Y. In the monograph, Visser uses the general framework of Einstein gravity and quantum physics to extract information about such speculative objects as wormholes in space-time, baby universes, time machines and time travel.

## 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.

# Kristina Niedringhaus named interim judicial head

**K**ristina L. Niedringhaus, a Washington University alumna, has been appointed interim University judicial administrator in the Division of Student Affairs. Justin X. Carroll, dean of student affairs, has announced.

Niedringhaus succeeds John Lowery, who is now director of residential life at Adrian (Mich.) College.

As interim University judicial administrator, Niedringhaus investigates complaints concerning



Kristina L. Niedringhaus

violations of the student judicial code, which governs academic and behavioral misconduct. She also refers cases of misconduct to the University Judicial Board, which issues binding decisions. In addition, she serves as a liaison for members of the University community who want to complain of violations or who are charged with violations of the University Judicial Code. Niedringhaus also advises students about disciplinary options within the University for dealing with problems caused by student behavior.

Niedringhaus most recently was employed as a Parents Weekend assistant in the University's Office of Alumni and

Development Programs. She also has worked as a graduate assistant for judicial programs at the University of North Carolina at Chapel Hill, where she compiled data on student judicial action for the board of trustees and other groups.

A native of St. Albans, W.Va., Niedringhaus received a bachelor's degree, with college honors, in 1992 in economics and political science in Arts and Sciences from Washington University. She received a law degree from the

University of North Carolina at Chapel Hill earlier this year.

While attending Washington University, she was active in several organizations, including the Student Union Judicial Board; the Women's Leadership Training Institute; Phi Alpha Delta International Law Fraternity; and Pi Sigma Alpha, an honor society for political science students. An Alumni Scholar, she also was the recipient of a National Merit Scholarship and was on the Dean's List.

# 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).

"Viral Vectors: Gene Therapy and Neuroscience Applications" is the title of a book by **Arthur D. Loewy**, Ph.D., professor of anatomy and neurobiology. Loewy edited the book with Michael G. Kaplitt of the Cornell University Medical College and The Rockefeller University in New York. "Viral Vectors" focuses on methods that use viruses as tools to study the brain. The book is a comprehensive review of viral vector applications to the nervous system by leaders in virology, molecular neurobiology, neuroanatomy, and developmental neurobiology. It serves both as a source of fundamental information for those newly interested in viral vectors and as a compilation of state-of-the-art technologies and applications for more experienced researchers. (Academic Press, Orlando, Fla.)





# 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.

**Library Assistant and Weekend/Evening Manager 960069.** *Olin Library.* Requirements: two years of college or equivalent study/work experience; library work experience preferred; supervisory experience preferred; interpersonal skills, including the ability to communicate effectively with a diverse public and staff combined with a strong service orientation; computer skills preferred; familiarity with automated circulation system, preferably Notis, preferred; familiarity with audiovisual and photocopier maintenance preferred; ability to work Sunday and weekday evenings and flexible hours. Application required.

**Office Manager 960071.** *Student Activities.* Requirements: high school graduate; strong organizational and interpersonal skills; team orientation; ability to handle a fast-paced and diverse daily agenda; willingness to work as part of a non-traditional organization that places a premium on student service. Application required.

**Research Assistant and Database Administrator 960073.** *Department of Electrical Engineering.* Requirements: bachelor's degree; knowledge of parallel computers, graphics, visualization, networking, Web management, C, Fortran and Unix. Application required.

**Admissions Analyst 960074.** *Financial Planning.* Requirements: bachelor's degree; strong math and quantitative skills; analytical thinking; ability to learn Focus, develop reports and analyze admissions. Application required.

**Administrative Secretary 960079.** *University College.* Requirements: high school graduate, some college preferred; ability to meet public in a pleasant and professional manner; stamina as job requires some hand deliveries of correspondence and packages across campus; excellent verbal and mathematical skills. Application required.

**Biology Lab Technician 960090.** *Department of Biology.* Requirements: bachelor's degree; some experience in benchtop biological science; knowledge of, or a willingness to learn, techniques in cell culture and computerized micros-

copy; experience with recombinant DNA techniques preferred. After training, technician will carry out experiments independently. Opportunities for co-authorship on scientific papers will be available.

**Scene Shop Supervisor 960092.** *Performing Arts Department.* Requirements: some college preferred; budgeting; computer management; mainframe word processing; electrician/electronic tech. Application required.

**Facility Manager 960094.** *Arts and Sciences Computing Center.* Requirements: bachelor's degree in social sciences, computer science or equivalent experience; demonstrated strong problem-solving skills; attentiveness to detail; experience with UNIX-based operating systems, Lans, Novell and Internet services; ability to work independently in an academic environment; experience providing support in a highly technical area and commitment to user support; excellent verbal and written communication skills. Application required.

**Assistant Director of Development Services 960095.** *Development Services.* Requirements: bachelor's degree; knowledge of a programming language; expert knowledge of personal computers, DOS and Windows a plus; knowledge of Lans, database system design; experience with Windows NT or Novell; experience with Lotus Notes highly preferred. Application required.

**PC Systems Manager 960097.** *Center for the Application of Information Technology.* Requirements: bachelor's degree; high level of skill in debugging and trouble-shooting system set-up and software-installation problems; experience with DOS, Windows and netware; knowledge of UNIX, Netscape, HTML, D, Perl or C preferred; punctual; strong organizational skills; good work ethic; effective interpersonal communication skills. Application required.

**Switchboard Operator 960098.** *Telephone Services.* Hours: 11 a.m.-10 p.m. weekends. Requirements: high school graduate; ability to work with minimal supervision; excellent communication skills; excellent attendance and punctuality. Application required.

**Biology/Chemistry/Earth Sciences Libraries Assistant 960099.** *Olin Library.* Requirements: two years of college, bachelor's degree preferred; library work experience preferred; ability to organize work and to perform detailed work with accuracy; ability to work independently with minimal supervision; ability to type accurately and quickly; word processing experience preferred;

ability to work well with others and to respond to the public in a courteous and helpful manner; strong verbal and written communication skills; physical stamina; flexibility and adaptability to various work schedules and environments; willingness to work occasional night and weekend hours during the spring and fall semesters. Application required.

**Associate Director, Faculty and Academic Services 960100.** *Arts and Sciences Computing Center.* Requirements: bachelor's degree; ability to work with faculty, students, staff and interface with the University at all levels; demonstrated skills with Unix-based operating systems, personal computing and Internet services; ability to work independently in an academic environment; experience providing support in a highly technical area and commitment to user support; excellent verbal and written communication skills. Application required.

**Government Grants Specialist II 960101.** *Accounting Services.* Requirements: certificate or associate's degree; four years or equivalent experience, preferably in a university environment, including computer systems; ability to read and understand guidelines for government grants; in-depth knowledge of the PHS system for the electronic transmission of final reports; ability to process and prepare government grants final reports in a timely manner; excellent interpersonal and communication skills; a minimum of 60 semester hours of college, including 12 hours of accounting. Application required.

**Communications Technician I 960103.** *Communications Services.* Requirements: high school graduate; training and/or experience in concepts of operation and maintenance of communication equipment; ability to perform strenuous work and heavy lifting; willingness to work flexible hours and overtime; use of personal vehicle required with mileage reimbursement; ability to detect and differentiate the telephone color code. Application required.

**Cashier 960104.** *Accounting Services.* Requirements: high school graduate; one year cashiering or comparable 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; ability to learn two complex computer systems; willingness to work additional hours as

required; flexibility to work at Hilltop or Medical campuses. Hours: 10 a.m.-2 p.m. daily. Application required.

**Receptionist 960105.** *Accounting Services.* Requirements: college degree or business or vocational school training; excellent interpersonal communication skills, particularly on the telephone; ability to participate as a team member on various projects to achieve the goals of Accounting Services; one year receptionist experience; PC word processing experience, including Windows and e-mail; excellent diction, grammar, punctuation and spelling skills; ability to work on multiple-line telephone set; excellent attendance record; ability to handle multitask functions. Application required.

**Accounts Payable Service Representative 960106.** *Accounting Services.* Requirements: high school graduate, courses in business accounting preferred; working knowledge of routine office equipment, including PC, calculator and typewriter; strong communication, organizational and alpha numeric skills; good judgment; word processing, spreadsheet and database experience highly preferred; service-oriented; ability to participate as a team member on various projects to achieve the goals of Accounting Services. Application required.

**Seismic Data Analyst 960108.** *Department of Earth and Planetary Sciences.* Requirements: high school graduate; ability to learn basic computer workstation operating procedures; accuracy with numerical data. Application 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 re-

quest 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 résumé 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 Research Technician 960299-R.** *Renal Division.* Requirements: bachelor's degree in biology, biochemistry or chemistry; six to 12 months of lab research experience involving molecular biology, genetic or cell biology techniques.

**Medical Research Technologist 960307-R.** *Ophthalmology.* Requirements: bachelor's degree in scientific field; two years recent lab experience; DNA cloning and sequencing experience.

**Dialysis Tech II 960311-R.** *Kidney Center.* Requirements: high school graduate or equivalent; willingness to work Saturdays; experience as a medical assistant, nurse's aide or phlebotomist preferred. Duties include performing all activities of patient care and related functions.

**Data Control Coordinator 960312-R.** *Bone Marrow Transplant.* Requirements: some college, bachelor's degree or nursing degree preferred; experience in data-management preferred; knowledge of medical records and terminology.

**Manager, Financial Operations 960324-R.** *Internal Medicine.* Requirements: bachelor's degree, master's degree in accounting, business or healthcare administration preferred; certified public accountant with supervisory experience preferred. Responsibilities

include handling all departmental finances and strategic planning.

**Manager, Patient Financial Service 960329-R.** *Washington University Shared Billing and Collection Services.* Requirements: bachelor's degree in business or related field with three years healthcare reimbursement experience. Responsibilities include developing programs to maximize the reimbursement for the medical school.

**Research Patient Coordinator 960330-R.** *Infectious Diseases.* Requirements: bachelor's degree in nursing, public health or natural science; two years related experience; working knowledge of computers and data entry; statistical background preferred.

**Receptionist-Typist 960331-R.** *Respiratory and Critical Care.* Requirements: high school graduate or equivalent, some business school preferred; receptionist or front desk experience; experience with Macintosh; typing 50 wpm.

**Coordinator, Medical Coding and Claims 960363-R.** *Washington University Shared Billing and Collection Services.* Requirements: associate's degree; four years related experience in medical insurance collection and supervision; knowledge of all third-party carriers; experience with the IDX system.

**Clerk Typist II 960368-R.** *Lipid Research.* Requirements: high school graduate or equivalent; familiarity with medical terminology; experience with WordPerfect; typing 50 wpm.

**Environmental Tech I 961088-R.** *Environmental Safety.* Requirements: high school graduate or equivalent, some college preferred. Responsibilities include handling chemicals and infectious waste; familiarity with scientific/math calculations and background in chemistry or biology preferred.

## University establishes leash policy

To ensure the safety of the campus community and to maintain consistency with surrounding municipalities, Washington University has instituted a policy in which dogs must be on a leash at all times while on University property.

William F. Taylor, director of the University Police Department, said several incidents involving unleashed dogs last fall precipitated the leash policy. In addition, Taylor said, each of the municipalities surrounding the campus — St. Louis, Clayton and University City — has its own ordinance requiring that dogs be kept on 6-foot leashes at all times.

The University policy, which went into effect July 1, reads as follows: "Washington University's policy on animal leashes requires that owners keep their dogs on a leash of not more than 6 feet while on Washington University property. This policy is consistent with the animal leash laws enforced by each of the cities that border the Washington University campus. Failure to comply with this policy may be considered a violation of the University Judicial Code.

"In addition, departments may develop stricter policies regarding animals. It is the responsibility of the owner to ensure that no University policies regarding animal leashes are violated."

The leash policy refers to University property both inside and outside of campus buildings.

Taylor said the idea of creating a University leash policy had been an issue for quite some time but came to a head last fall when, in two separate incidents, a University Police officer and a staff member were charged by dogs. In the latter incident, three unleashed dogs charged the staff member, and one bit her arm.

Luckily, Taylor said, the staff member was wearing a heavy winter coat, so the bite did not break her skin.

"Because we've had more of these types of things, ... it became an issue the University felt it had to address," Taylor said. "Those are the two really definitive incidents, and I think the one that really put the issue to the front was the incident of someone being bitten.

"It's not that the University is trying to stop people from walking their dogs on campus; it's just that we cannot have dogs running free."

In the past, the lack of a leash policy attracted dog owners from elsewhere to come to campus to "run" their dogs, Taylor said.

"We were hearing, and this is nothing I can document, that people from as much as 20 miles away were coming here with their dogs because their communities had leash laws and this is the only place where they could let their dogs run free," he said.

Several signs stating the 6-foot leash policy have been posted in various campus locations, Taylor said. In addition, University Police officers are handing out cards with the leash policy printed on them to people whose dogs are not leashed.

Since the policy was instituted this summer, most people have been complying, Taylor said. However, he added, there have been a couple of people who appear to be refusing to comply. Taylor noted that these people are not members of the campus community but live in the surrounding neighborhoods and bring their dogs to the campus.

Taylor said members of the campus community who are found to be in consistent violation of the leash policy — or those whose unleashed dogs are involved in a severe attack on a person — will have their cases handled through the University's internal disciplinary mechanisms. Those from outside the campus community will have their cases referred to the University's legal counsel, Taylor said.

## Campus Watch

The following criminal incidents were reported to the University Police Department Oct. 30–Nov. 5. 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. 31

11:06 a.m. — A faculty member reported that a watch, valued at \$35, was stolen from a desk in Eliot Hall.

### Nov. 1

3:07 p.m. — A student reported vandalism to a car that was parked near Mallinckrodt Center.

### Nov. 2

1:32 p.m. — A student reported that a credit card was stolen from Liggett Residence Hall and that \$6,400 worth of merchandise had been purchased with it since Nov. 1.

### Nov. 3

1:30 a.m. — A graduate student reportedly chased two males from Givens Hall after they allegedly removed a poster from a bulletin board.

11:21 a.m. — A security bar was broken off a washing machine in the basement laundry room of Lee Residence Hall.

1:46 p.m. — A student reported that a locked mountain bike, valued at \$1,560, was stolen from a bike rack on the east side of Olin Library.

2:30 p.m. — A student reported that a set of headphones, valued at \$10, was stolen from a workbench in Givens Hall. About the same time, a student reported that a stereo cassette player, valued at \$40, was stolen from a workbench in Givens Hall.

5:26 p.m. — A student reported that a locked mountain bike, valued at \$680, was stolen from a bike rack on the north side of Givens Hall.

### Nov. 5

1:30 a.m. — A student reported seeing a male subject in a Mallinckrodt Center restroom with a handgun tucked inside the waist of his pants. Because of the subject's level of intoxication, he was escorted from the building by security officers, who neither saw a weapon nor had any knowledge of the student observing it.