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Happy new year

Freshmen Vanee Virasch, sitting, and Margaret Hsiang perform the "Flutter Fan Dance" during the Chinese New Year Festival on Feb. 8 in Graham Chapel. The festival, sponsored by the Chinese Students Association and the Chinese New Year Festival Planning Committee, culminated a weeklong celebration of the pageantry of Chinese culture. As the most celebrated holiday in Chinese culture, the lunar new year symbolizes unity and tradition.

University to purchase 33 apartment buildings

Washington University has reached an agreement with Parkview Properties Inc. to purchase 33 apartment buildings — 32 are located in the Skinker-DeBaliviere neighborhood in St. Louis city, and one is located in University City. They comprise 331 apartment units that are occupied primarily by Washington University graduate and professional students.

"The University is arranging to purchase the properties and also to sign a 10-year contract with Parkview Properties to manage the facilities," said Executive Vice Chancellor Richard A. Roloff.

The University will connect the buildings and apartments to its computer network and to its telephone system after the properties are acquired. The University also will provide transportation sup-

port by adding capacity to its shuttle loop system, and additional security personnel.

The University is purchasing the properties from Stephen and Lecil Saller and Alan and Kathleen Hamilton. The Sallers and Hamiltons are longtime residents of the Skinker-DeBaliviere neighborhood and have acquired the buildings over a 25-year period, managing them through their company, Parkview Properties.

"As residents of Skinker-DeBaliviere, we have come to love this neighborhood, and we want it to continue to thrive," said Alan Hamilton, president of Parkview Properties. "We believe that Washington University will bring many important additional benefits to those living in these apartments, most of whom attend Washington University."

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APARTMENT BUILDINGS TO BE ACQUIRED

The following is a list of the apartment buildings that Washington University plans to purchase:

Address	No. of Units	Address	No. of Units
6044 Kingsbury	2	6133 Pershing	3
6679 Kingsbury	30	6134 Pershing	2
6012 McPherson	6	6139 Pershing	2
6018 McPherson	6	6156 Pershing	6
6188 McPherson	57	6163 Pershing	6
6030 Pershing	6	6164 Pershing	6
6042 Pershing	2	6169 Pershing	6
6048 Pershing	2	6170 Pershing	6
6060 Pershing	12	304 Skinker	12
6100 Pershing	6	6031 Waterman	6
6104 Pershing	6	6053 Waterman	30
6110 Pershing	6	6109 Waterman	2
6111 Pershing	3	6145 Waterman	20
6116 Pershing	12	6146 Waterman	6
6124 Pershing	6	6152 Waterman	24
6127 Pershing	6	6158 Waterman	24
6132 Pershing	2	33 buildings	331 units

Elderly with dementia have trouble reporting pain, according to study

According to survey data, most nursing-home patients have problems with pain, one-third are in constant pain and more than half suffer severe pain. A study by School of Medicine researchers has found that elderly people with dementia are less likely to report pain than other elderly patients.

"This study told us that in the more demented population, people really cannot answer very simple questions about pain. This has never really been documented before," said Fran L. Porter, Ph.D., assistant professor of pediatrics and principal investigator of the study, which was published in last December's issue of the journal *Pain*.

These findings are important because

they could impact the effectiveness of pain-management efforts. The medical system relies heavily on verbal reporting to isolate and treat pain problems. Also, Porter said, failure to report pain can delay medical attention and lead to problematic behavior in the elderly.

Porter, who is an infant-pain researcher, said she decided to study pain in the elderly because pain management is difficult in this population, too. She wanted to

measure the effects of dementia on the ability to report pain.

"As you get older, there is an increase in illness, and you're more likely to experience pain," she said. "It's a population that may have trouble communicating about pain, especially when you add in dementia."

A pilot-project grant from Washington University's Alzheimer's Disease Research Center (ADRC) supported the research.

Porter and her colleagues studied two groups of people 65 or older — 51 cognitively intact people and 44 individuals with varying degrees of dementia. All were participants in a long-term ADRC project that compares aging in normal persons and in persons with dementia.

The researchers measured each

participant's physiologic responses — such as heart rate — before, during and after a venipuncture, which draws a vial of blood for testing. For the first phase, each participant sat quietly in a chair for 10 minutes (baseline). Then, a nurse came into the room, cleansed the venipuncture site on the arm, applied a tourniquet and showed the patient the syringe and needle (preparation). The nurse then drew blood. Physiologic responses also were measured for about 10 minutes after the venipuncture. Additionally, participants were asked a series of questions about their anticipated and actual anxiety levels during the procedure.

Porter expected the volunteers' verbal

Continued on page 6



Fran L. Porter



Theodore J. Cicero

"We're reaching out to the faculty to see what their needs are in technology transfer and how we can best meet them in the context of our academic and research mission as a university," Cicero said.

Jerome R. Cox Jr., Sc.D., the Harold B. and Adelaide G. Welge Professor of Computer Science, who was appointed by

Cicero as chair of the committee, agreed that faculty input is essential. The faculty are the most important ingredients in the development of successful technology, Cox said, and he sees the committee as an opportunity for the faculty to have a say in the future of their inventions.



Jerome R. Cox Jr.

Continued on back page

Committee formed to update decades-old technology-transfer policy

A committee has been formed to draft an update of Washington University's decades-old policy on technology transfer. Technology transfer represents a means to ensure that developments in the laboratory are made available to the public as practical applications as rapidly as possible.

The 23-member faculty committee grew out of a desire not only to review the out-of-date policy but to involve the faculty in the process, said Theodore J. Cicero, Ph.D., vice chancellor for research and professor of neuropharmacology and of anatomy and neurobiology.

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Medical Update

Lung surgery's benefits to be studied at School of Medicine, Barnes-Jewish

Researchers at the birthplace of a modern surgical treatment for emphysema soon will participate in a national multicenter study to determine the procedure's long-term benefits.

The National Heart, Lung and Blood Institute and the U.S. Health Care Finance Administration have named the School of Medicine and Barnes-Jewish Hospital as one of 18 centers that will study lung volume-reduction surgery, a procedure that removes 20 percent to 30 percent of the damaged lungs of emphysema patients.

Lung transplant surgeon Joel D. Cooper, M.D., the Joseph C. Bancroft Professor of cardiothoracic surgery, developed the volume-reduction procedure in 1993. He will lead the Washington University portion of the study with Stephen S. Lefrak, M.D., professor of medicine and medical director of the University's Lung Volume-Reduction Program at Barnes-Jewish Hospital. Patient enrollment will begin next September.

The seven-year study will examine the role of lung volume-reduction surgery in the treatment of end-stage emphysema and will evaluate the long-term effects on lung function. It also will define appropriate patient-selection criteria for the procedure and determine which patients benefit most from the surgery.

Cooper, a pioneer in single- and double-lung transplants, and his team already have treated 175 patients with lung volume-reduction surgery. The two-year survival rate has been 90 percent.

Emphysema causes the lungs to overinflate. Eventually, the lungs fill the chest cavity, and the thorax has difficulty expanding. By removing the most diseased portions of the lung, the operation gives the thorax and lungs room to expand with inspiration. Earlier studies at the Medical Center showed the surgery increased patients' breathing capacity by 55 percent.

For many patients, improved breathing means they no longer need supplemental oxygen to get through the day. They can shop for groceries and climb stairs without becoming short of breath. Most are able to resume moderate exercise programs.

In selected patients, the procedure provides an alternative to lung transplantation, which until now was the only option for patients with end-stage lung disease. However, volume-reduction surgery is not a cure for emphysema, and it is offered only to those who have some remaining healthy lung tissue.

For his central role in developing lung transplantation surgery and lung volume-reduction surgery, Cooper recently was presented with the Jacobson Innovation Award from the American College of Surgeons. The award honors living surgeons, or surgical teams, who have been innovators of new surgical developments or techniques.

The Washington University/Barnes-Jewish Hospital team has performed the largest number of lung transplants and lung-reduction surgeries of the 18 selected study sites.

Molecule might be key to corneal transplants

School of Medicine researchers have identified a molecule that appears to be necessary for success in corneal transplants.

In this month's issue of the *Journal of Clinical Investigation*, the researchers reported that when they transplanted mouse corneas without functional Fas ligand (FasL) molecules, virtually all were rejected. But corneas that had normal FasL survived.

Hundreds of thousands of people worldwide develop blindness each year because of corneal disease or injury. The current treatment for these patients is corneal transplantation. Last year in the United States, 50,000 corneas were transplanted, making the procedure the second most common type of transplantation performed.

Eighty percent to 90 percent of corneal transplants are successful even without anti-rejection drugs. "But the failure rate of 10 percent to 20 percent is significant, and we wanted to find out why those grafts might be rejected," said Thomas A. Ferguson, Ph.D., associate professor of ophthalmology and visual sciences. "Our findings suggest that the presence of the FasL molecule might be used to predict the success of corneal transplant surgery and even that one might eventually manipulate Fas ligand levels to increase the odds of graft survival."

The researchers predict that FasL also might be useful in other types of transplants. Displaying it on the surface of donor organs might keep the immune system at bay, they suggested.

It was thought for many years that the body simply did not mount an immune response to a transplanted cornea. "We have shown that the host does mount an immune response but that the Fas ligand stops the immune cells before they can do any damage," said Ferguson, who also is an associate professor of pathology.

FasL apparently protects corneal grafts by causing immune cells to self-destruct before they can attack a newly transplanted cornea, said Ferguson, who conducted the research with Patrick M. Stuart, Ph.D., research assistant professor of ophthalmology and visual sciences.

"The incidence of rejection is even

higher in infants and children," said Jay S. Pepose, M.D., Ph.D., medical director of the Mid-America Transplant Association, the Bernard Becker Clinical Professor of ophthalmology and visual sciences and a co-investigator in the study. "These results suggest strategies that could be pursued to increase corneal transplant survival in these patients."

In past research, published in a November 1995 issue of *Science*, Ferguson's team discussed FasL's importance to immune privilege and demonstrated that it is naturally expressed in the mouse cornea and throughout the eye.

Activated immune cells express a molecule called Fas on their cell surfaces. The investigators found that when Fas on the immune cell encounters FasL in the eye, the molecules bind and FasL delivers a lethal punch to the immune cell, causing it to self-destruct through a process called apoptosis.

In their new study, Stuart and Ferguson found that FasL is naturally present in human corneas. They also looked at whether it played a role in transplant rejection in mice.

The investigators transplanted corneas from mice without functional FasL to determine the molecule's effect on transplantation success. They also used corneas from normal mice that express FasL and from the *gld* mouse, a breed that makes a nonfunctional form of the molecule.

Normal mice accepted corneal grafts 45 percent of the time. That's lower than the rate for humans, but the technical problems involved with transplanting mouse corneas are much greater than in humans. In the transplants involving the *gld* mouse, all of the grafts were rejected. The researchers found that functional FasL had to be present in the corneal graft and the host had to express functional Fas in order for the graft to survive.

— Jim Dryden



Driving study

As part of the Safe Driving Program, Linda Hunt, right, evaluates Elinor Fischer as she identifies traffic signals. Hunt, an instructor in the Program in Occupational Therapy, tests older adults to determine if memory loss, attention deficit or visual problems are affecting their driving skills.

Burton's touch research earns grant

Harold Burton, Ph.D., professor of anatomy and neurobiology, has received a four-year \$1.4 million grant from the National Institute of Neurological Disorders and Stroke. He is studying how the brain processes the information people gather by touching objects.

"Little is known about how the brain pays attention to what you are touching and how it stores that information in short-term memory," said Burton, who also is a professor of cell biology and physiology.

To explore these questions, Burton makes functional images of the brain while subjects lie in a PET (positron emission tomography) scanner or an MRI (magnetic resonance imaging) scanner and touch various raised surfaces. These studies have revealed several areas in the parietal cortex — the upper-back part of the brain — that become active when tactile information is processed.

Burton will fine-tune these studies by trying to match individual areas with specific functions. These experiments with unfamiliar surfaces should reveal how the brain handles everyday tasks. When you touch a hot coffee mug, for example, does one part of your parietal cortex attend to the texture of the mug and another to its temperature? And which parts of your brain are active during the brief period you remember these features?

As well as identifying somatosensory areas of the human brain, Burton examines how these regions function by recording impulses from individual brain cells of monkeys while they perform tactile discrimination tasks.

A larger question underlies these experiments. "Do the parts of the brain that process tactile information function in the same way as the brain's visual system, which has been studied much more extensively?" Burton asked. "Neuroscientists assume they do, but the evidence isn't there."

Clarifying this issue might lead to better prostheses for people who rely on touch instead of sight, Burton hopes.

"People began using Braille in 1844," he said. "If we can determine how the tactile features of objects such as patterns of raised dots activate the brain, we may be able to redesign tactile prostheses to optimize this activation and make them work even better."

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Washington People

Fisher fuses psychology, biology of health

Behavioral science is an area of health care whose time has come, says Edwin B. Fisher Jr., Ph.D.

As a professor of psychology in Arts and Sciences on the Hilltop Campus, Fisher teaches graduate students and undergraduate freshmen that the psychology and biology of health problems are complementary, not mutually exclusive. On the other side of Forest Park — at the School of Medicine — Fisher heads the Center for Health Behavior Research as a research professor of medicine in the Division of General Medical Sciences. There, he probes the realm where the physiological and psychological paths of an illness merge. It's a place that sometimes is overlooked and viewed as not real science. For the past 20 years, however, Fisher has been a patient voice for the importance of behavioral science in health.

"Biology and psychology are intrinsically tied," he said. "The understanding of their relationships will grow even deeper and more multifaceted."

Through the center, Fisher works with about 30 collaborators from a range of disciplines, including social work, pediatrics, immunology, cardiology and radiology. Their common thread is to examine the psychosocial aspects of health behavior by exploring such questions as: What motivates people to quit smoking? What role does the family play in supporting a patient who has a chronic illness? How do cultural and social factors influence the course and management of a disease like diabetes? Finding the answers, Fisher said, will become increasingly important.

"Eventually, attention to the psychosocial aspects of any disease will become a normal part of health care," he said. "It's hard, though, because integrating behavioral science into health care involves a shift in perspective."

Why will this field grow in acceptance? Fisher said there are three reasons.

First, solid research has uncovered clear links between health and behavior. For example, smoking is tied to heart disease, and an overweight and sedentary lifestyle can lead to non-insulin-dependent diabetes.

"The medical field sees those ties and realizes that a patient's health improves when his behavior changes. And changing behavior entails some thorny psychological issues," Fisher said.

The second reason is that as baby boomers age, the number of people with chronic diseases will increase dramatically. Most people start getting chronic diseases, such as hypertension and diabetes, around age 50. Managing the diseases usually involves daily behavior and will become increasingly important, Fisher said.

Third, biological breakthroughs are raising some interesting and troublesome psychological issues. Medical advances such as genetic testing pose a mine field for the mind. How do we handle the discovery of disease-causing genes? Should a woman with a high risk for breast cancer test for the gene? If so, what does she do with the results?

"It's nothing new — behavioral psychology," Fisher said. "It's always been a part of health care, but its recognition is growing immensely."

A way to help people

Fisher came to Washington University in 1972 — straight from the doctoral program in psychology at the State University of New York at Stony Brook — and joined the Department of Psychology on the Hilltop Campus as an assistant professor. In 1980, he earned a joint appointment at the School of Medicine.

As a child of the 1960s, Fisher was drawn to psychology as a way to help people. His early research interests

focused on self-control — how people manage behavior in the face of temptation. As he tried to decipher how people are able to resist what they want — to say "no" to a cookie or a cigarette — Fisher learned that self-control essentially is about making clever choices. Most people erroneously see self-control as mental stoicism. But dieters who lose weight and smokers who quit acknowledge the temptation and plan around it, Fisher said.

"We all do it," he said. "For example, putting the alarm clock across the room is essentially planning around the temptation to hit the 'off' switch and go back to sleep."

In the course of his work, Fisher has become one of

report on smoking and health, the third on which Fisher has worked. In the report, Fisher shows that women might be more aware of social support than men. Women also seem more skilled at giving and receiving it. Men, on the other hand, frequently are raised believing that social support is a crutch.

"That autonomy myth is life-threatening. Insisting on autonomy can lead to big problems, especially for older men when they begin having to accept that they need some help," he said.

Two types of social support

Fisher's current research focuses on distinguishing between two kinds of social support — Nondirective and

Directive. Nondirective support entails cooperating and expressing an understanding of others' feelings. In Directive support, one tries to make sure others do the right thing and feel good. The distinction is most clear in dealing with emotions. For example, "I understand why that's upsetting" vs. "Just look on the bright side."

A recent study by Fisher shows that Nondirective support is more helpful for patients managing chronic illnesses. There is an exception, however. Following an acute episode — such as surgery — a patient might benefit from a period of Directive support.

"Consider someone just home from the hospital. At that point, what the patient may need is, 'Don't worry about anything. I've got it all under control,'" Fisher said.

The research findings are important for a growing segment of the population.

"Whether it's a nurse, a husband or the child of an aging parent, specific advice on how to be supportive will help them give better care," he said.

What is today the Center for Health Behavior Research was founded in 1977 as the Diabetes Education Center. In 1984, the center expanded to include several projects in the prevention and management of cardiovascular disease, and the name changed accordingly.

The center includes a number of varied research projects. Fisher, Robert C. Strunk, M.D., professor of pediatrics, and other colleagues are developing ways to help low-income African-American families of children with asthma manage the disease better and take advantage of care available to them. Another study is looking at whether peers make effective nutrition counselors among African-American women. An exciting new development in the last year entails working with BJC Health System in Community Health and Wellness Programs.

Many of the center's research projects address health objectives in St. Louis' neediest neighborhoods.

"The positive ramifications are enormous," said George Eberle, president and chief executive officer of Grace Hill Neighborhood Services, a health and social-service agency active in St. Louis for more than 90 years. Grace Hill serves the area's low-income neighborhoods, from Wentzville in St. Charles County to Carondelet in the inner city.

Over the years, the Center for Health Behavior Research has conducted studies on smoking cessation, childhood asthma and weight control within Grace Hill neighborhoods. Many of the studies involve the area's residents as peer counselors or data collectors.

"We've got neighbors performing interventions," Eberle said. "That helps the neighborhood respond to its own problems."

For Fisher, that's the most rewarding aspect of his job. "I'm fortunate to have the opportunity for intellectual fulfillment in a field that helps people," he said.

— Nancy Mays



Edwin B. Fisher Jr., Ph.D., center, talks with George Eberle, president and chief executive officer of Grace Hill Neighborhood Services, and Edna Moses, a community center site director, outside the Grace Hill administration offices.

"Eventually, attention to the psychosocial aspects of any disease will become a normal part of health care."

the nation's leading spokespersons on the issue of smoking and smoking cessation. On behalf of the American Lung Association, he has spoken to an array of audiences, has testified before Congress, and has appeared on national television to discuss smoking and how to promote nonsmoking.

"He often has been the lone voice of the behaviorist," said Karen Monaco, the lung association's senior program associate for tobacco control who is based in New York. "We have many physicians and biological scientists advising us on programs and materials, and many times Dr. Fisher's brought a real — and needed — perspective on the psychology behind smoking and trying to quit smoking."

Over the years, Fisher's research interests have shifted from self-control to social support and the role it plays in health behavior modification.

Instead of tracking an individual's struggle to lose weight or manage diabetes, Fisher now looks at how society — from the family to the community — affects the way a patient manages health. A study he conducted 10 years ago was among the first to look at how men and women might react differently to such social support. That study, and subsequent ones, led Fisher to write a section on gender roles and social support for the forthcoming U.S. surgeon general's

Calendar

Visit Washington University's on-line calendar at
http://cf6000.wustl.edu/calendar/events/v1.1

Feb. 20–March 1



Exhibitions

"Abstract Expressionism: American Art in the 1950s and '60s." A collection of 20th-century masterpieces by artists of the "New York School." Through April 6. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m. to 4:30 p.m. weekdays; noon to 5 p.m. weekends. 935-4523.

Arts Connection/City Faces exhibit. Features works by participants in City Faces, a summer drawing program for at-risk youths. Through March 29. Center Of Contemporary Arts, 524 Trinity Ave. 725-6555.

"The Last Time I Saw Paris: A City in Time." A Department of Special Collections exhibit. Through March 21. Special Collections, level five, Olin Library. Hours: 8:30 a.m. to 5 p.m. weekdays. 935-5495.

"The Lens of Architecture: Ronchamp Through Hervé." Architectural photographs by 20th-century photographer Lucien Hervé. Through March 30. Gallery of Art, lower gallery, Steinberg Hall. Hours: 10 a.m. to 4:30 p.m. weekdays; noon to 5 p.m. weekends. 935-4523.



Films

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

Friday, Feb. 21

7 and 9:30 p.m. Filmboard Feature Series. "Night on Earth." (Also Feb. 22, same times, and Feb. 23 at 7 p.m.)

Midnight. Filmboard Midnight Series. "The Gods Must Be Crazy." (Also Feb. 22, same time, and Feb. 23 at 9:30 p.m.)

Tuesday, Feb. 25

6 p.m. Japanese Film Series. "The Burmese Harp." Room 219 South Ridgley Hall. 935-5156.

7 and 9 p.m. Filmboard Classic Series. "Grand Illusion." (Also Feb. 26, same times.)



Lectures

Thursday, Feb. 20

11:15 a.m. Social work seminar. "Measuring Service Use from Provider Records," Mingliang Zhang, asst. prof., Center for Mental Health Care Research, U. of Arkansas-Medical Sciences. Room 353 West Campus Administrative Center. 935-5687.

Noon. Genetics seminar. "Genetic Analysis of Monogenic and Polygenic Disorders of Carbohydrate Metabolism," M. Alan Permutt, prof. of medicine. Room 823 McDonnell Medical Sciences Bldg. 362-3365.

4 p.m. Cancer Center seminar. "Energy and Clonal Deletion to Control Alloreactivity," Lee Nadler, chair, Dept. of Medical Oncology, Dana Farber Cancer Institute, Harvard U. Medical School. Third Floor Aud., St. Louis Children's Hospital. 362-9035.

4 p.m. Earth and planetary sciences colloquium. "Atmospheres of Brown Dwarf and Extracolor Giant Planets," Mark Marley, asst. prof. of astronomy, New Mexico State U., Las Cruces. Room 362 McDonnell Hall. 935-5603.

4:15 p.m. Philosophy lecture. "The Importance of Nonscientific Knowledge," Hilary Putnam, prof. of philosophy, Harvard U. Room 361 McDonnell Hall. 935-6614.

4:30 p.m. Math colloquium. "Mathematics in Industry — One Person's Perspective," Jerry Cline, former head of operations analysis, McDonnell Douglas Corp. Room 199 Cupples I Hall. 935-6726.

5 p.m. Vision sciences seminar. "RPE Transplantation: What Do In Vivo and In Vitro Studies Tell Us?" Lucian V. Del Priore, asst. prof. of biochemistry and molecular biophysics and of ophthalmology and visual sciences. East Pavilion Aud., Barnes-Jewish Hospital. 362-3365.

8 p.m. African and Afro-American studies/American culture studies/English lecture. "The Lessons of the Master: Getting to Know Ralph Ellison," Horace Porter, assoc. prof. of English and director, African and Afro-American studies, Stanford U. Hurst Lounge, Room 201 Duncker Hall. 935-5690.

Friday, Feb. 21

9:15 a.m. Pediatric Grand Rounds. "La Crosse (Calif.) Encephalitis," Rob Rust, director of child neurology, depts. of Neurology and of Pediatrics, U. of Wisconsin, Madison. Clopton Aud., 4950 Children's Place. 454-6006.

11 a.m. Assembly Series. "Redemption Through Sacrifice: The Legacy of American Slavery," jazz musician Wynton Marsalis. Part of the Cultural Celebration. Graham Chapel. Seating is limited. 935-5285.

Noon. Cell biology and physiology seminar. "Amiloride-sensitive Na⁺ Channels: Properties and Regulation," Dale J. Benos, prof. of physiology and biophysics, U. of Alabama, Birmingham. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

1 p.m. Molecular microbiology/microbial pathogenesis seminar. "Viral Dynamics in HIV-1," George Shaw, prof., Dept. of Medicine and Microbiology, U. of Alabama, Birmingham. Cori Aud., 4565 McKinley Ave. 362-7258.

3 p.m. Environmental engineering lecture. The 48th annual Conference on World Affairs: Technology, Power and Change. "The Natural Step: A Framework for Sustainable Communities," Molly Harriss Olson, former executive director, President's Council on Sustainable Development, Washington, D.C. Co-sponsored by the EPRI-Community Environmental Center and St. Louis 2004. Room 101 Lopata Hall. 935-5548.

4 p.m. Hematology seminar. "Thrombin Structure and Biological Function," J. Evan Sadler, prof. of biochemistry and molecular biophysics and of medicine. Room 8841 Clinical Sciences Research Bldg. 362-3365.

4 p.m. Neuroscience seminar. "Dynamic Properties of Adult Visual Cortex," Charles Gilbert, Rockefeller U., New York. Cori Aud., 4565 McKinley Ave. 362-3365.

7:30 p.m. Astronomy meeting. "The Greenhouse Effect and the Ozone Hole," Carl M. Bender, prof. of physics. Room 162 McDonnell Hall. 935-4614.

Saturday, Feb. 22

11 a.m. University College Saturday Seminars. "When you see this, remember me," William H. Gass, the David May Distinguished University Professor in the Humanities and director, International Writers Center. Room 362 McDonnell Hall. 935-6788.

1 p.m. Slide lecture. Patrick C. Renschen, lecturer in art, will describe his newest work, "Where the River Turns," which depicts his first trip to Big Bend National Park on the Texas/Mexico border. Room 104 Bixby Hall. 935-4643.

Monday, Feb. 24

Noon. Molecular biology and pharmacology research seminar. "A Molecular Link Between the Notch and Ras Pathways During Cell Fate Commitment and Death in the Developing Fly Eye," Ross L. Cagan, asst. prof. of molecular biology and pharmacology. Pharmacology Library: Philip Needleman Library, Room 3907 South Bldg. 362-3365.

Noon. Neurology and neurological surgery seminar. "Role of LRP and its Ligands in the Pathogenesis of Alzheimer's Disease," Guojun Bu, asst. prof. of pediatrics. Schwarz Aud., first floor, Maternity Bldg. 362-3365.

Noon. Social work brown-bag seminar. "Uninsured Spells for the Poor: Prevalence, Duration and Impact on Health Status and Health Utilization," Timothy McBride, Dept. of Economics, U. of Missouri-St. Louis. Room 300 Eliot Hall. 935-6691.

1 p.m. Neuroscience thesis defense. "Actin-based Intracellular Transport and Myosin V: The Role of a Membrane-associated Mechanoenzyme in Intracellular Transport," Lisa L. Evans, graduate student. Room 928 McDonnell Medical Sciences Bldg. 362-3365.

2 p.m. Physics seminar. "Metal Homeopitaxy: The Search for a Quantitative Description of Film Growth," Paul F. Miceli, Dept. of Physics and Astronomy, U. of Missouri, Columbia. Room 241 Compton Hall. 935-6239.

4 p.m. Biology seminar. "Multiple Modes of Action of the fushi tarazu Homeoprotein of Drosophila," Ian W. Duncan, assoc. prof. of biology and of genetics. Room 322 Rebstock Hall. 935-6860.

4 p.m. Psychology/Linguistic Studies Program lecture. "A Picture is Worth a Thousand Words — But That's the Problem. The Human Simulation Paradigm," Lila Gleitman, the Roth Professor of Psychology, U. of Pennsylvania, Philadelphia. Goldfarb Aud., Room 162 McDonnell Hall. 935-6592.

6:15 p.m. Germanic languages and literatures lecture. "Wahnsinn als Metapher? Pathographie und Literatur bei Goethe, Lenz und Bücher," Burghard Dedner, prof. of German, U. of Marburg, Germany, and the Max Kade Visiting Professor of German, U. of Kansas, Lawrence. Hurst Lounge, Room 201 Duncker Hall. 935-5106.

Tuesday, Feb. 25

Noon. Alzheimer's research lecture. "Overexpression of PS-1 (and PS-2) in Mammalian Cells Upregulates Voltage-dependent K⁺ Currents," Jeanne M. Nerbonne, assoc. prof. of molecular biology and pharmacology. Room 203 McMillan Hall. 362-3365.

Noon. Molecular biology and pharmacology seminar. "Regulation of Cardiovascular Communication Through Connexin Co-expression and Mixing," Eric C. Beyer, assoc. prof. of cell biology and physiology and of pediatrics and asst. prof. of medicine. Pharmacology Library: Philip Needleman Library, Room 3907 South Bldg. 362-3365.

12:10 p.m. Physical therapy research seminar. "Alzheimer's Disease: Clinical and Research Update," John C. Morris, assoc. prof. of neurology and asst. prof. of pathology. Classroom C Forest Park Bldg., 4444 Forest Park Ave. 286-1400.

3 p.m. Math analysis seminar. "Dirichlet Eigenfunctions on the Sierpinski Gasket," Jade Vinson, senior in mathematics. Room 216 Cupples I Hall. 935-6726.

4 p.m. Anthropology colloquium. "The Evolution of Human Growth Retardation," Stephen Leigh, asst. prof. of anthropology, U. of Illinois, Urbana-Champaign. Room 149 McMillan Hall. 935-5252.

4 p.m. Chemistry seminar. "Exploring the Organic/Enzymatic Interface: Synthesis and Properties of Unnatural Amino Acids and Lignans," David Berkowitz, asst. prof. of chemistry, U. of Nebraska, Lincoln. Room 311 McMillan Lab. 935-6530.

4 p.m. Computational genomics seminar. "Statistical Tests for Detecting Gene Conversion," Stanley Sawyer, prof. of mathematics. Room 2204 Shriner's Bldg., Clayton and Euclid avenues. 935-6703.

4 p.m. Computational neuroscience seminar. "Resolving the Paradoxical Effect of Activity on Synapse Elimination," Michael Barber, graduate student. Room 241 Compton Hall. 935-6276.

4 p.m. Diabetes research seminar. "IL-1-induced Production of Chemotactic Factors by Rat Pancreatic β -cells," Guim Kwon, postdoctoral fellow in pathology. Pathology Library, Room 3723 West Bldg. 362-7435.

4 p.m. Math seminar. "Wavelet Multipliers and Connectivity of Wavelets," Guido Weiss, the Elinor Anheuser Professor of mathematics. Room 199 Cupples I Hall. 935-6726.

4 p.m. Pharmacological and physiological science seminar. "Studies on the Pot Holder: Cannabinoid Receptor in the Brain," Allen Howlet, Saint Louis U. School of Medicine. Cori Aud., 4565 McKinley Ave. 362-3365.

6 p.m. Medical ethics lecture and reception. "Physician-assisted Suicide — Progress or Peril?" Timothy Quill, assoc. chief of medicine, The Genesee Hospital, and prof. of medicine and of psychiatry, U. of Rochester School of Medicine, and Linda Emanuel, vice president, Ethics Standards Division, American Medical Association. Reception at 5:30 p.m. Eric P. Newman Education Center. To register, call 454-4728.

Wednesday, Feb. 26

6:30 a.m. Anesthesiology Grand Rounds. Topic to be announced. Speaker is Richard S. Hotchkiss, assoc. prof. of anesthesiology. Wohl Hospital Bldg. Aud., 4960 Children's Place. 362-6978.

8 a.m. Obstetrics and Gynecology Grand Rounds. "Antiphospholipid Antibody Syndrome," Francine Cosner, chief resident in obstetrics and gynecology. Clopton Aud., 4950 Children's Place. 362-3143.

11 a.m. Assembly Series. Arthur Holly Compton Memorial Lecture. "Ancient Life on Earth and Mars: Extraordinary Claims! Extraordinary Evidence?" J. William Schopf, paleobiologist, U. of California at Los Angeles. Graham Chapel. (See story on page 5.) 935-5285.

Noon. Geriatrics and gerontology seminar. "Role of Nutrition in Maintenance of Health in the Elderly," Susan Racette, postdoctoral trainee, depts. of Applied Physiology and of Medicine. Newman Conference Room, Parkview Place and Euclid Avenue. 362-3365.

3:45 p.m. Physics colloquium. "Dimensional Behavior of Physics," Carl M. Bender, prof. of physics. Room 204 Crow Hall. 935-6252.

4 p.m. Biochemistry and molecular biophysics seminar. "Structure and Mechanism of Alpha-hemolysin: A Heptameric Transmembrane Pore," Eric Gouaux, asst. prof. of biochemistry and molecular biophysics, Columbia U., New York. Cori Aud., 4565 McKinley Ave. 362-0261.

7 p.m. Catholic Student Center lecture. "John Paul II as Philosopher," John Kavanaugh, prof. of philosophy, Saint Louis U. Catholic Student Center, 6352 Forsyth Blvd. 725-3358.

Thursday, Feb. 27

Noon. Genetics seminar. "A Genetic Analysis of Neural and Endocrine Peptides in Drosophila," Paul H. Taghert, assoc. prof. of anatomy and neurobiology. Room 823 McDonnell Medical Sciences Bldg. 362-3365.

1:10 p.m. Social work lecture. "Grassroot Empowerment and Economic Entrepreneurism," Rebecca Adamson, founder and president, First National Development Institute, Washington, D.C. Brown Hall Lounge. 935-4909.

4 p.m. Chemistry seminar. "Organoplatinum Chemistry: From Mechanisms to Materials," Richard Puddephatt, prof. of chemistry, U. of Western Ontario. Room 311 McMillan Lab. 935-6530.

4 p.m. East Asian studies colloquium. "Japan's Changing Role in the World: A Historian's Perspective," Michael Barnhart, prof. of history, SUNY at Stony Brook. Sponsored by the Joint Center for East Asian Studies. Room 331 Social Sciences and Business Bldg., U. of Missouri-St. Louis, 8001 Natural Bridge Road. 516-5753.

4 p.m. Neurology lecture. The second William M. Landau Lecture. "High Places, Empty Spaces," Thomas F. Hornbein, prof. of anesthesiology and of physiology and biophysics, U. of Washington, Seattle. Reception will follow. Moore Aud., 660 S. Euclid Ave. 454-6084.

5 p.m. Vision sciences seminar. "Retinal Neuronal Development in Neurotrophin Knockouts and Knockdowns," Dennis W. Rickman, Dept. of Ophthalmology and Visual Sciences. East Pavilion Aud., Barnes-Jewish Hospital. 362-3740.

5:30 p.m. Art history and archaeology lecture. "Plains Indian Drawings: The Art of the Intercultural Encounter in the 19th Century," Janet Berlo, assoc. prof. of art history, U. of Missouri-St. Louis. Room 200 Steinberg Hall. 935-5270.

Friday, Feb. 28

9:15 a.m. Pediatric Grand Rounds. "Maternal and Infant Postpartum Health: Moving Beyond Length of Stay," Kenneth

Mandl, instructor in pediatrics, Harvard U. Medical School. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and physiology seminar. "The Roles of FATP and FACS in Plasma Membrane Fatty Acid Transport," Jean E. Schaffer, asst. prof. of medicine and of molecular biology and pharmacology. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

4 p.m. Anatomy and neurobiology seminar. "Metabotropic Glutamate Receptors: Location, Regulation and Structure," Carmelo Romano, asst. prof. of anatomy and neurobiology and of ophthalmology and visual sciences. Room 928 McDonnell Medical Sciences Bldg. 362-3365.

4 p.m. Hematology seminar. "Genetic Analysis of Monogenic and Polygenic Disorders of Glucose Metabolism," M. Alan Permutt, prof. of medicine. Room 8841 Clinical Sciences Research Bldg. 362-3365.

4 p.m. Music lecture. Harold Blumenfeld, composer and prof. emeritus of music, will show a video extracted from the premiere of his opera "Seasons in Hell." Room 102 new music classroom bldg. 935-4841.



Music

Thursday, Feb. 20

8 p.m. Piano recital. Featuring Aldo Mancinelli, artist-in-residence, Millikin U., Decatur, Ill. Program: two sonatas by Domenico Scarlatti; Variations on "Abegg" by Robert Schumann; Sonata in B-flat minor by Frédéric Chopin; "Images, Book I" by Claude Debussy; "Barcarolle" by Charles Griffes; and Ballade in B minor by Franz Liszt. Graham Chapel. 935-5581.

Tuesday, Feb. 25

8 p.m. Student recital. Featuring the music of Wolfgang Amadeus Mozart and Felix Mendelssohn. Graham Chapel. 935-5581.

Saturday, March 1

8 p.m. New Music Circle presents the Detroit-based quartet Only a Mother. Cost: \$10; \$6 for senior citizens and students. Steinberg Hall Aud. 781-9314.



Performances

Friday, Feb. 21

8 p.m. Edison Theatre's "OVATIONS!" series presents mandolinist David Grisman. (Grisman will perform with Fishel Bresler at both 8:30 p.m. Feb. 22 and at 2 p.m. Feb. 23.) Cost: \$23 for the general public; \$18 for senior citizens and WU faculty and staff; and \$12 for WU students. Edison Theatre. 935-6543.

8 p.m. The Performing Arts Dept. presents "The Girl From Clare" by Patricia M. Cobey, playwright-in-residence. (Also Feb. 22, same time, and Feb. 23 at 2 p.m.) Cost: \$8 for the general public; \$6 for senior citizens and WU students, faculty and staff. Drama Studio, Room 208 Mallinckrodt Center. 935-6543.



Miscellany

Registration continues for the following **Office of Continuing Medical Education seminars**: "New Approaches to the Management of HIV Disease: Update From the Fourth Conference on Retroviruses and Opportunistic Infections" (March 22); the Leonard Berg Symposium on Alzheimer's Disease (April 4); and "Clinical Pulmonary Update" (April 4-5). 362-6891.

European studies symposium registration opens. "The Third World Through

European Eyes: Postcolonial German Literature (1970-1990)." The conference, to be held March 28-30, will hold sessions at various locations. Registration open through March 14. For more info. and to register, call 935-4360.

Thursday, Feb. 20

7 p.m. Fashion show. "Gowns in the Gallery" features designs by eight seniors in the fashion-design program. Lisa Steinmetz Gallery, 7443 Forsyth Blvd. (See story on page 6.) 935-6470 or 725-0079.

Friday, Feb. 21

4:30 p.m. Annual graduate student reception. Come and enjoy refreshments and meet people from other departments. Holmes Lounge, Ridgley Hall. 725-1273.

Saturday, Feb. 22

7:30 a.m. Office of Continuing Medical Education seminar. "Alzheimer's Disease — Recent Developments in Diagnosis, Pathogenesis and Treatment." The Ritz-Carlton, Clayton. For more info. and to register, call 362-6891.

10 a.m.-noon. University College career workshop. "Job Surfin' the 'Net.'" Continues March 1. Class size limited. Cost: \$60. To register, call 935-6788.

Monday, Feb. 24

7-10 p.m. Twenty-third Internal Medicine Review. The topic is pulmonary. Steinberg Amphitheater, 216 S. Kings-highway Blvd. For more info. and to register, call 362-6891.

Tuesday, Feb. 25

4:15 p.m. Psychology presentation and discussion. "Fearful Symmetry: 'Similar' and Similar Concepts," Lila Gleitman, the Roth Professor of Psychology, U. of Pennsylvania, Philadelphia. Co-sponsored by the Philosophy-Neuroscience-Psychology Program. Room 216A new psychology bldg. 935-6592.

Thursday, Feb. 27

7:30 p.m. Feminist reading group. For faculty and graduate students. Sponsored by the Women's Studies Program. Women's Bldg. Lounge. 935-5102.

Friday, Feb. 28

8 a.m. Ethics conference. "Ethics In Caring VI." Through March 1. To register, call 768-3890; deadline is Feb. 24. For more info., call 966-9159.

Noon. Woman's Club mini-luncheon and program. Presented by Jolly Stewart, teacher of applied music, and Gina Galati, Stacia Thiel, Lori Barrett and Robert Reed, with pianist Karin Di Bella. Program features excerpts from Thomas Benjamin's opera "Rehearsal" and Wolfgang Amadeus Mozart's opera "Impressario." Luncheon cost: \$8.50. Bixby Gallery, Bixby Hall. Open to Woman's Club members and their guests. 862-6615.

Saturday, March 1

1-4 p.m. Fine arts workshop. "Explore Creativity Through Painting." Continues Saturdays through March 22. Instructed by Eileen Dailey. Supplies provided. Cost: \$100. Room 212 Bixby Hall. 935-4643.

2 p.m. Memorial service. A service will be held in memory of J.H. Hexter, emeritus prof. of history, who died Dec. 8. Open to members of the WU community only. Graham Chapel. For more info., call 935-4324.



Vienna Fest 1997

"Biedermeier in Austria, 1815-1848." Exhibit includes photographic reproductions of art from Austria's Biedermeier era. Through Feb. 21. New music classroom bldg., located behind Tietjens Hall. Hours: 8:30 a.m. to 7 p.m. weekdays. For weekend hours, call 935-4841.

Sunday, Feb. 23

3 p.m. Symphony Orchestra concert. Directed by Dan Presgrave and Elizabeth Macdonald, director of strings, with Benjamin Binder, piano. Program includes Johannes Brahms' Piano Concerto No. 1 in D minor; Entr'acte and Waltz from "Eugene Onegin" by Peter Tchaikovsky; and "Rodeo: Four Dance Episodes" by Aaron Copland. Saint Louis Symphony Music School, 560 Trinity Ave. 935-4841.

Paleobiologist to discuss 'Ancient Life on Earth and Mars' in Assembly Series

Paleobiologist J. William Schopf, Ph.D., director of the Center for the Study of Evolution and the Origin of Life at the University of California at Los Angeles (UCLA), will deliver the Arthur Holly Compton Memorial Lecture at 11 a.m. Wednesday, Feb. 26, in Graham Chapel. The lecture — titled "Ancient Life on Earth and Mars: Extraordinary Claims! Extraordinary Evidence?" — is part of the Assembly Series and is free and open to the public.

Schopf is an expert on the early history of life. He is the editor of "Earth's Earliest Biosphere" and "The Proterozoic Biosphere: A Multidisciplinary Study," companion books that provide a comprehensive survey of Earth's history — from the formation of the solar system 4.6 billion years ago to events that occurred a half-billion years ago.

Schopf is the author of more than 200 scholarly articles on the origin and evolution of life, and he has received many honors, including the National Academy of Sciences' Mary Clark Thompson Medal in 1986 and the National Science Foundation's Alan T. Waterman Award in 1977.

He earned a bachelor's degree with high honors in geology in 1963 from Ohio's Oberlin College and a master's degree in 1965 and a doctorate in 1968,

both in biology and both from Harvard University. He joined UCLA's faculty in 1968. He now is a professor of paleobiology.

Schopf has worked with the National Aeronautics and Space Administration (NASA), serving as a member of the Lunar Sample Preliminary Examination Team at Houston's Johnson Space Center from 1968 to 1971 and as the principal investigator of lunar samples for the Apollo Program from 1969 to 1973.

He has completed fieldwork in more than 20 countries and has received support from the National Geographic Society, the National Science Foundation and NASA.

The Arthur Holly Compton Memorial Lecture was established by the late William C. Ferguson, former president of Presstite Engineering Co. of St. Louis. Compton, a Nobel Prize-winning physicist, was Washington University's chancellor from 1945 to 1953.

For more information, call (314) 935-5285.



J. William Schopf

Sports

Compiled by Mike Wolf, director, and Kevin Bergquist, asst. director, sports information. For the most up-to-date news about Washington University's athletics program, access the Bears' Web site at www.sports-u.com. Click on "Colleges."

Men's basketball 16-6 after pair of victories

Despite a pair of home victories last weekend against Emory University (Atlanta), 96-71, and Carnegie Mellon University (Pittsburgh), 79-64, the Washington University men's basketball team remains two games behind league-leading University of Chicago in this season's University Athletic Association (UAA) race. Last week, senior point guard J.J. Siepierski reached a milestone by becoming the 20th player in NCAA Division III men's basketball history to surpass career totals of 1,000 points, 500 assists and 100 steals. Through 100 career games, the last 51 as a starting point guard, Siepierski has compiled 1,033 points, 523 assists and 117 steals.

Current record: 16-6 (8-3 UAA)

This week: 8 p.m. (EST) Friday, Feb. 21, at New York University (UAA); 1 p.m. (EST) Sunday, Feb. 23, at Brandeis University (Waltham, Mass.) (UAA)

Men's tennis team opens season with three matches

With five of its top seven players returning from last year's squad, the men's tennis team opens the 1997 season this week with three matches in indoor facilities. The Bears' top three returnees are junior Trent Patterson, sophomore Mark Friedman and junior James Peera.

This week: 4 p.m. Thursday, Feb. 20, at Principia College (Elsah, Ill.); 8:30 a.m. Saturday, Feb. 22, at Coe College (Cedar Rapids, Iowa); noon Saturday, Feb. 22, vs. University of Wisconsin-Eau Claire at Coe College

Women's basketball set for battle in New York

After making a statement for NCAA tournament consideration with a pair of 20-point victories last weekend, the women's basketball team faces its most important test of the season this week. Trailing front-running New York University by one game in the UAA, the Bears travel to New York City for a Friday, Feb. 21, showdown with the Violets. On Friday, Feb. 14, WU avenged an earlier

loss to 18th-ranked Emory University with a 71-51 home victory. Sophomore forward Emily Nolan paced the Bears with career-best totals of 15 points and nine rebounds. WU defeated Carnegie Mellon University at home on Sunday, Feb. 16. Senior forward Sara Scheffler snagged 17 points and eight rebounds.

Current record: 18-4 (9-2 UAA)

This week: 6 p.m. (EST) Friday, Feb. 21, at New York University (UAA); 3 p.m. (EST) Sunday, Feb. 23, at Brandeis University (UAA)

Maria Loinaz anchors women's tennis team

NCAA singles qualifier Maria Loinaz begins her final season this weekend when the women's tennis team opens its spring season with a pair of matches in Elsah, Ill. Freshman Ari Kaplan posted a 5-0 mark at No. 3 singles last fall, when the team won a pair of dual meets.

This week: 3:30 p.m. Friday, Feb. 21, vs. Truman State University at Elsah, Ill.; 2 p.m. Saturday, Feb. 22, vs. Gustavus Adolphus College at Elsah, Ill.

Emily Richard again sets University record

Sophomore Emily Richard continues to shatter the 3,000-meter school record. Competing in her fourth meet of the indoor season, Richard broke the school mark for the third time this season. Last weekend, she ran a first-place time of 10 minutes, 16.31 seconds at the Augustana College (Ill.) Invitational, bettering the mark she set the previous week (10:17.47), which broke the record she set in the first weekend of the season (10:21.14). Richard's effort was one of three WU records to fall at the Augustana meet. Sophomore Claudine Rigaud broke the school mark in the 55-meter hurdles (9.25 seconds), while freshman Kristin Meade posted a record 34-foot, 5.75-inch effort in the triple jump. Junior Jeremy Dubow won the 5,000 meters at Augustana, running a season-best time of 15:23.94.

This week: 11 a.m. Saturday, Feb. 22, at Knox College Invitational (Galesburg, Ill.)



Chancellor Mark S. Wrighton talks with, from left, Parkway School District Superintendent Jere Hochman and Parkway North High School seniors Ankur Nagaraja and Darren Grodsky during a luncheon that was part of the Feb. 8 conference "Bridging Systems for Habits of the Mind: A High School-University Dialogue for Administrators and Faculty Members."

Conference bridges high school, college transition

A daylong conference titled "Bridging Systems for Habits of the Mind: A High School-University Dialogue for Administrators and Faculty Members" was held Feb. 8 in Anheuser-Busch Hall. This is the third year that Washington University and the Parkway School District have co-sponsored the conference for high school teachers, counselors and administrators and for university faculty members and administrators.

The annual conference encourages dialogue on the factors affecting the successful student transition from high school to college. This year's theme focused on how instructional strategies related to brain research, critical thinking and problem-solving impact student success, particularly in foreign languages and history.

Some of the University faculty and staff members involved in planning and participating in the conference were Marilyn M. Cohn, Ph.D., adjunct associ-

ate professor of education in Arts and Sciences and director of preservice teacher education; James W. Davis, Ph.D., professor of political science in Arts and Sciences and director of the Teaching Center; Martin H. Israel, Ph.D., vice chancellor for academic planning; Susan L. McLaughlin, executive assistant; James E. McLeod, vice chancellor for students and dean of the College of Arts and Sciences; Mark Rollins, Ph.D., associate professor of philosophy in Arts and Sciences; and James V. Wertsch, Ph.D., professor and chair of the Department of Education in Arts and Sciences.

Parkway School District Superintendent Jere Hochman also played an integral role in the conference, as did Parkway North High School Principal Gretchen Fleming.

"It was a very engaging dialogue," Israel said. "All of the discussions could have gone on much longer. Everybody left with their appetite whetted."

More than 100 people attended the

conference, which included panel discussions and dialogue sessions. Steven Krantz, Ph.D., professor of mathematics in Arts and Sciences, delivered the conference's keynote address, titled "Habits of the Mind."

Chancellor Mark S. Wrighton personally welcomed the attendees during a luncheon in the Women's Building.

Attending the conference were representatives from high schools in the Clayton, Kirkwood, Ladue, Lindbergh, Parkway, Pattonville, Rockwood and University City school districts. Participants also included representatives from John Burroughs and Whitfield schools, as well as high schools in Winnetka, Ill., and Midland, Mich.

Participating universities, in addition to Washington University, included Maryville University; Saint Louis University; Truman State University; the University of Missouri in Columbia; the University of Missouri-Rolla; and the University of Missouri-St. Louis.

'Gowns in the Gallery' offers early glimpse of art students' works

Elegant evening wear will be on display when eight Washington University fashion-design students in the School of Art present their latest couture creations at 7 p.m. Thursday, Feb. 20, in the Lisa Steinmetz Gallery, 7443 Forsyth Blvd., in Clayton.

The show, titled "Gowns in the Gallery," will feature dresses designed by eight seniors. The student designers will be on hand with the models to discuss the inspiration and craftsmanship behind the works.

The event is free and open to the public and is being held in conjunction with the Steinmetz Gallery's current exhibition, "Portraits: Reflections of the Soul."

The gallery show will give fashion lovers a glimpse of what's ahead at this year's "Washington University Fashion Show" — a full-blown Paris-style extravaganza to be held May 4 in the Saint Louis Galleria.

Both the large runway show and the more intimate "Gowns in the Gallery" offer a valuable experience for fashion students who stand on the cusp of careers in the industry, said well-known designer Jeigh Singleton, associate professor of art and head of the fashion-design program.

The smaller show in the gallery gives the students the chance to explain and promote their works, Singleton noted. In the fashion world, this is the format during which many of the designers' clothes would be considered by buyers.

"Most people in the business talk about clothes more than they show clothes on models on the runway," Singleton explained. "The students in this gallery show will talk about the concepts behind the dresses."

The gowns all were created around a colorful circus theme, Singleton said. Each year, students center their works around a different theme as a way to inspire the creative thought process, he noted. Last year, the students created works based on an international theme. Singleton said he teaches his students not to follow the fashion industry pack but to anticipate trends and, when possible, set them.

"We're not slaves to what's going on in the fashion centers," Singleton said of his students. "We want to be innovative. We want to be creative. We want to be different. That is what sets us apart."

For more information about the show, call the Steinmetz Gallery at (314) 725-0079 or the School of Art at (314) 935-6470.

Ability to report pain focus of study — from page 1

reports to correlate with the physiologic measurements. In the cognitively normal group, heart rate increased greatly during the preparation phase but fell during the actual needle stick.

"So, for them, the disturbing part was the anticipation," Porter said. "But when the needle stick came, they weren't surprised at all and calmed down because they knew what was happening. Their heart rates went back down."

The participants with dementia had a different reaction. They did not use the preparation time to psychologically brace themselves for the needle stick.

"In fact, they may not have even realized there was an impending event," Porter said. "So they were caught off-guard by the painful event and showed an increase in heart rate that stayed high in response to the needle stick."

Using questionnaires, the cognitively normal people rated their fear and anxiety as relatively low. The demented group also reported relatively low anxiety and pain. However, of the patients with moderate dementia, only 40 percent were able to answer the questions. Of the patients with severe dementia, zero percent to 20 percent were able to answer queries about their anxiety and pain.

"If you translate this to a doctor's

office, the only tool the doctor has is to ask them questions. The likelihood of them reporting pain is even lower than we thought it was," Porter said.

Toward the end of the study, the researchers also began videotaping the facial expressions of participants during the procedure. The individuals with dementia used twice as many facial actions during the preparation period than the

cognitively normal patients. They also were five times more expressive during the venipuncture.

"Our study concluded that even though individuals with dementia did not show the same response as individuals who were cognitively intact, both their behav-

ioral and physiologic responses indicate they were feeling pain," Porter said.

In nursing homes, where many patients are irritable and sometimes show inappropriate emotional reactions, this behavior might signal underlying pain that is not being treated appropriately, Porter said.

"This study is a first attempt to look at whether demented people can tell their caregivers and physicians if they're in pain and to what extent they respond to pain," she said. "Learning more about pain in this population could help with education and awareness in caring for the elderly." — Diane Duke

"This study is a first attempt to look at whether demented people can tell their caregivers and physicians if they're in pain. ..."

— Fran L. Porter

Campus Watch

The following incidents were reported to the University Police Department from Feb. 10-16. Readers with information that could assist the investigation of these incidents are urged to call (314) 935-5555. This release is provided as a public service to promote safety-awareness on campus.

Feb. 10

8:46 a.m. — Seventeen Washington University hats and a black canvas briefcase were reported stolen from the Campus Bookstore in Mallinckrodt Center. The items later were recovered.

2:19 p.m. — A student reported that two St. Louis Blues hockey tickets were stolen from a Millbrook Square apartment.

3:54 p.m. — A student reported that a vehicle parked near the Millbrook Square apartments was struck, causing moderate damage.

Feb. 12

3:18 p.m. — A VCR was reported stolen from Olin Library.

Feb. 13

2:21 p.m. — A staff member reported that two students were held at the Campus Bookstore in Mallinckrodt Center for allegedly attempting to steal computer components and a laptop computer.

Feb. 14

2:45 p.m. — A student reported that a bag containing a checkbook, credit cards and personal items was stolen from the Athletic Complex.

6:30 p.m. — A student was stopped for driving the wrong way on Shepley Drive.

Feb. 15

4:30 a.m. — An officer on patrol discovered that the gate arm was broken off an electronic gate near the Helen Ette Park House.

4:57 a.m. — An officer on patrol discovered that a stop sign and pole had been stolen from the intersection of Fraternity Way and Throop Drive.

Feb. 16

11:57 p.m. — A female student reported being approached in a parking lot near North Brookings Hall by a man who asked for a cigarette and invited her to see his vehicle. The student continued walking and was not harmed. The man is described as white, in his late 30s, 5-foot-7-inches tall, medium build, brown hair and a beard. The man was driving a brown minivan.

University Police also responded to one report of an emergency exit alarm in Simon Hall; one report of a fire alarm in Beaumont Residence Hall; one report of smoke in Myers Residence Hall; and two reports of vandalism to vehicles.

For The Record

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

Of note

Five School of Medicine faculty members have received grants for pilot projects from the Missouri State Alzheimer's Disease Research Program. They are **John Csernansky, M.D.**, the Gregory B. Couch Professor of psychiatry and associate professor of anatomy and neurobiology, for automating volume measurements of the brain's hippocampus; **Kathleen Mann Koepke, Ph.D.**, research assistant professor of neurology, for determining whether elderly people with dementia can give valid consent for research studies; **Raj Ajit Srivastava, Ph.D.**, research assistant professor of medicine, for studying how cholesterol and estrogen regulate levels of apolipoprotein E and beta-amyloid protein in the brain; **Richard D. Todd, M.D., Ph.D.**, the Blanche F. Ittleson Professor and director of the Division of Child Psychiatry and professor of genetics, for studying the clinical subtypes of Alzheimer's disease; and **Jane Y. Wu, M.D., Ph.D.**, assistant professor of pediatrics and of molecular biology and pharmacology, for exploring the function of a gene called presenilin-1. ...

John E. Heuser, M.D., professor of cell biology and physiology, has received a \$1,631,613 four-year grant from the National Institute of General Medical Sciences for a project titled "Deep Etch EM of Molecules Involved in Membrane Fusion." ...

Jeffery W. Lichtman, M.D., Ph.D., professor of anatomy and neurobiology, has received a \$927,805 four-year grant from the National Institute of Neurological Disorders and Stroke for a project titled "Competition Between Axons at the Neuromuscular Junction." ...

Tim B. Schedl, Ph.D., assistant professor of genetics, has received a \$1,266,567 four-year grant from the National Institute of Health and Human Development for a project titled "Germline Proliferation and Meiosis in *C. Elegans*." ...

Joseph H. Steinbach, Ph.D., professor of anesthesiology and associate professor of anatomy and neurobiology, has received a \$1,161,315 five-year grant from the National Institute of Neurological Disorders and Stroke for a project titled "Acetylcholine Receptor Function."

On assignment

John W. Clark, Ph.D., professor of physics in Arts and Sciences, was scientific co-director of the 165th WE-Heraeus Seminar titled "Theory of Spin Lattices and Lattice

Gauge Models" held last October at Physik-Zentrum Bad Honnef in Germany. He also spoke on "Scientific Applications of Neural Networks." While visiting the University of Cologne's Institute for Crystallography in Germany, Clark delivered a lecture on "Applications of Neural Networks in Chemistry and Physics." ...

Peter Heath, Ph.D., associate professor of Arabic language and literature and chair of the Department of Asian and Near Eastern Languages and Literatures in Arts and Sciences, recently was named chair of the Committee on Academic Freedom in the Middle East and North Africa for the Middle East Studies Association of North America. He also presented "As-Suyūṭī's Maqāmāt: A Later Premodern Example of the Genre" at last November's 30th annual meeting of the Middle East Studies Association in Providence, R.I. At the same meeting, he

served on a panel on "Intellectual and Political Patterns of the Third/Ninth Century in the Islamic World." ...

Nancy Tye-Murray, Ph.D., associate professor of audiology in the Department of Speech and Hearing and interim director of research at the Central Institute for the Deaf, has been named president-elect of the Academy of Rehabilitative Audiology (ARA). The ARA is an international professional organization formed in 1966 to promote excellence in hearing health care through the provision of comprehensive rehabilitative and habilitative services.

To press

A book by **Joan Cassell, Ph.D.**, research associate in anthropology in Arts and Sciences, titled "The Woman in the Surgeon's Body," has been accepted for publication by Harvard University Press. ...

Paul Michael Lützeler, Ph.D., the Rosa May Distinguished University Professor in the Humanities and director of the European Studies Program in Arts and Sciences, recently had a book titled "European Identity and Multiculture" published in Germany by Stauffenburg. He also will be a fellow at the Institute for Advanced Study at Indiana University in Bloomington, where he will conduct research and lecture in the field of literature and multiculturalism.

Guidelines for submitting copy:

Send your full name, complete title(s), department(s), phone number and highest-earned degree(s), along with a typed description of your noteworthy activity, to For The Record, c/o David Moessner, Campus Box 1070, or p72245md@wuvmd.wustl.edu. Items must not exceed 75 words. For information, call Moessner at (314) 935-5293.



The next generation

Graduate student Susan Mahan, right, talks with Junior Academy of Science member Andy Blaida, center; his mother, Vicki Blaida-Keller; and Robert M. Walker, Ph.D., the McDonnell Professor of physics in Arts and Sciences and director of the McDonnell Center for the Space Sciences. Members of the Junior Academy of Science visited Walker's research lab on Feb. 11. The Junior Academy, which is sponsored by the Academy of Science of St. Louis, is a science network for students in grades 7 through 12. On March 20, Walker and Paul E. Lacy, M.D., Ph.D., professor emeritus of pathology at the School of Medicine, will each receive the Peter H. Raven Lifetime Award from the Academy of Science of St. Louis.

Obituaries

Dorothy Jung Echols, pioneering geologist

Dorothy Jung Echols, professor emerita of earth and planetary sciences in Arts and Sciences, died Tuesday, Feb. 4, 1997, of cancer at Barnes-Jewish Hospital. She was 80.

There will be a private celebration of her life March 29 at her home.

Born and raised in New York, Echols earned a bachelor's degree in 1936 from New York University and a master's degree in 1938 from Columbia University, both in geology. She had conducted work toward a doctorate at Washington University.

From 1938 to 1946, she worked in the petroleum industry as a geologist and micropaleontologist — a specialist in microfossils. She was one of the few female geologists working in the petroleum industry during that era.

She began her academic career in 1948 at Washington University as a laboratory instructor. She was named an assistant professor in 1960. She became an associate professor in 1976 and was named professor emerita in 1982.

In 1977 and again in 1981, she was part of a scientific team aboard the

Glomar Challenger, a deep-sea drilling vessel used for various projects funded by the National Science Foundation through the Scripps Institution of Oceanography.

After leaving the University in 1982, Echols formed a petroleum-mapping consulting company with longtime friend and geologist Doris Malkin Curtis, who was the first woman president of the Geological Society of America (GSA). Echols worked as a consultant until her death.

In 1982, Echols received the Neil A. Miner Award from the National Association of Geology Teachers for her contributions to earth sciences.

She was a senior fellow of the GSA and a fellow of the American Association for the Advancement of Science.

Among the survivors are a daughter, Lizette Echols of Arrol, Mo.; three sons, Leonard Echols of Healdsburg, Calif., Jon Echols of St. Louis and William Echols of Mountain View, Mo.; a sister, Lizette von Gal of Ancram, N.Y.; five grandchildren; and a great-granddaughter.

Her body was donated to the School of Medicine.

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 (314) 935-5500 (Hilltop Campus) or (314) 362-3240 (School of Medicine).

Still Life in Harlem (Henry Holt and Co.)

Eddy L. Harris, visiting lecturer and writer-in-residence in African and Afro-American studies in Arts and Sciences

A deeply affecting memoir, "Still Life in Harlem" is Harris' insightful look at a neighborhood — both real and metaphorical. He reveals the magic of Harlem as it becomes home and spirit in his masterful hands. Through his keen perceptions, we enter the images and passions Harlem always has conjured, coming to understand its significance to those who live there and to those who only yearn to come to it. Unforgettably moving, this book chronicles how the world we know as Harlem came to be — from its pastoral days as a New York suburb, to its days as the mecca of the black universe, to its decline into a symbol of urban despair. Harris is torn over what this community has become and is remorseful for having abandoned it. Lured back by Harlem's enchanting whispers in the ear of his imaginings, he returns in reverie. With amazing emotional depth and candor, he explores issues of identity through Harlem's sturdy people — folks with eyes dimmed from too few chances and with life worries burdensome enough to bend backs. He also examines his taut relationship with his father, juxtaposing a generation that aspired to do everything in its power to ensure that their sons and daughters would enjoy a better life against a recent generation cornered by resignation and surrender. Through it all, in what only can be seen as a stretch toward grace, Harris discovers his need for Harlem and Harlem's need for him, locating the life in this rich community that still harbors the embers of hope. (Excerpted from book jacket.)



Opportunities & personnel news

Hilltop Campus

The following is a partial list of positions available on the Hilltop Campus. Information regarding these and other positions may be obtained in the Office of Human Resources, Room 130 West Campus, or by calling (314) 935-5906. Job openings also may be accessed via the World Wide Web at cf6000.wustl.edu/hr/home.

University Webmaster 970158.

Olin Library. Requirements: bachelor's degree plus two or more years experience in creating and maintaining sophisticated Web sites; thorough working knowledge of Web technology, including HTML, forms design, CGI scripting, Web-authoring tools, image-processing software for scanning and preparing Web-based graphic files, and techniques for converting existing information to Web-based formats; ability to work independently and with aggressive deadlines desirable; experience developing policies and procedures in a diverse institutional setting; experience designing and offering formal technical training to end users; experience with Windows NT and Microsoft's Internet product suite; knowledge of high-level programming languages such as C or C++; knowledge of JAVA programming. Application required.

Administrative Secretary 970161.

Medical Alumni and Development Programs. Requirements: high school graduate with five years secretarial experience; college degree preferred; accuracy; strong oral and written communication skills; organizational skills; thorough knowledge of computers; ability to operate a computer efficiently; general knowledge of a filing system and office procedures; willingness to assume responsibility; ability to carry out duties with minimal supervision; willingness to work overtime occasionally; ability to work well with others and communicate with the public in a professional manner. Application required.

Director of Operations 970162.

Undergraduate Admissions. Requirements: bachelor's degree; ability to adjust to abrupt changes in priorities and strategy; ability to

use good judgment and common sense in determining priorities; good people skills required for working with internal and external contacts; excellent time-management and resource-planning skills for seeing projects through to completion; strong business analysis skills; sufficient technical background to allow the understanding and documentation of technology solutions to the operation's functions; flexibility; willingness to work extended hours as necessary and recognize the need to do so. Application required.

Secretary II 970163.

Department of Romance Languages and Literatures. Requirements: high school graduate with some college; ability to interact with a variety of personalities in a large department (30 full-time faculty and 50 graduate students); ability to handle several duties simultaneously. Application required.

Associate Treasurer 970164.

Treasury Services. Requirements: bachelor's degree; master's degree preferred with a financial emphasis or equivalent experience; strong oral and written communication skills, including ability to prepare effective management presentations; strong management skills; strong quantitative aptitude; high standards; commitment to striving for the strongest performance in all aspects of Treasury Services; strong work ethic; ability to work effectively with other departments; initiative; ability and willingness to initiate modifications of policies and procedures as necessary to improve efficiency, service and compliance with University and external requirements; ability to respond to changing circumstances and to take advantage of opportunities. Application required.

Residential College Coordinator 970165.

Residential Life. Requirements: bachelor's degree; master's degree in higher education or related field preferred; ability to communicate effectively with students, faculty, administrators and parents; ambition; responsibility; ability to work effectively as a team member and independently; initiative; creativity; enthusiasm; commitment; excellent program-coordination skills; residence hall and student affairs experience

preferred. Three positions available. Application required.

Administrative Secretary 970170.

University College. Requirements: high school graduate with some college; ability to meet the public in a pleasant and professional manner; stamina; excellent verbal and mathematical skills. Responsibilities include some hand deliveries of correspondence and packages across campus. Application required.

Administrative Assistant 970175.

Lab Research. Requirements: equivalent of associate's degree with five years experience in a university/medical environment; working knowledge of general office equipment, including word processing, FIS, FOCUS and similar programs; communication, organizational and supervisory skills; ability to maintain effective working relationships with varied internal/external contacts. Responsibilities might include minimal supervisory duties. This position will be located on the Medical Campus. Application required.

Business Manager 970180.

School of Social Work. Requirements: bachelor's degree; ability to provide all accounting reports as needed by the dean and Financial Planning Office; ability to design and maintain a record-keeping system for the school; ability to analyze data and recommend action based on that analysis; supervisory skills; experience with grant management, payroll and contracts; excellent communication skills; extensive knowledge of the University's budget structure and accounting system. Application required.

Medical Campus

The following is a partial list of positions available at the School of Medicine. Employees interested in submitting a transfer request should contact the Human Resources Department of the medical school at (314) 362-7202 to request an application. External candidates may call (314) 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. Job openings also may be accessed via the World Wide Web at <http://@medicine.wustl.edu/wumshr>.

Programmer Analyst II

970536-R. Requirements: bachelor's degree in computer science; master's degree strongly preferred; advanced knowledge and three years experience with Macintosh/Windows, JAVA/HTML programming and World Wide Web site construction. Responsibilities include analyzing problems; proposing software system solutions; and designing, developing and maintaining software applications and reusable software components.

EEG Technician Trainee

970546-R. Requirements: high school graduate or equivalent; college course work in psychology and/or neurophysiology preferred; some experience preferred. Responsibilities include continuous video and digital EEG monitoring of patients with epilepsy. Training on how to perform and monitor EEGs will be provided.

Payroll Assistant II 970566-R.

Requirements: associate's degree and/or two years experience in bookkeeping and accounting; experience with on-line payroll processing; knowledge of grants accounting preferred. Responsibilities include overseeing the department's payroll; reviewing all payroll documents; preparing quarterly overtime reports and payroll cost transfers; and maintaining the on-line asset system and grants list.

Patient Billing/Services Representative 970581-R.

Requirements: enthusiastic; knowledge of health insurance and managed-care plans; previous experience in physician billing. Responsibilities include obtaining insurance information; assisting patients with the explanation and the updating of insurance and billing forms; and overseeing outpatient office registration for patients.

ing user problems or issues or directing them to the appropriate resources; providing on-site hardware and software support; and creating and maintaining World Wide Web sites.

Access Control Coordinator

970608-R. Requirements: high school graduate or equivalent with two years of college; knowledge of security industry; working knowledge of computerized reporting and three to five years office experience preferred. Responsibilities include managing the Medical School/Hilltop/West Campus access-control system and setting up and administering policy and procedures to ensure that routine and specialized access is granted only to approved personnel.

Statistical Data Analyst

970612-R. Requirements: master's degree; doctorate in mathematics, biostatistics or statistics preferred; two to three years research experience preferred; fluent in SAS, dBase or other relational systems. Responsibilities include statistical computing; designing/coding and managing a large-scale biomedical database; and programming and analyzing data using survival analytic and multivariate techniques.

Trainer/Computer Information and Retrieval Systems

970627-R. Requirements: associate's degree in information systems or related field; familiarity with Microsoft and Macintosh packages; knowledge of HTML preferred. Responsibilities include providing general computer systems support and training for users; providing telephone support to users; resolving

Statistical Data Analyst

970631-R. Requirements: bachelor's degree; statistical experience in a research environment preferred. Responsibilities include writing statistical programs; overseeing the management of the computer system for the research staff; and maintaining the tracking program for study subjects.

Computer Programmer II

970640-R. Requirements: bachelor's degree in computer science; master's degree highly advantageous; programming experience with C, C++, PERL, JAVA, HTML and UNIX. Responsibilities include developing scientific software.

System Manager 970644-R.

Requirements: bachelor's degree or equivalent in business or computer science with three to five years experience in information-system management; understanding of facility-management operations beneficial. Responsibilities include managing a Novell Network network consisting of multiple file servers and more than 100 users and overseeing software training and database administration.

Administrative Coordinator

970678-R. Requirements: college degree or equivalent; experience in financial management and payroll desirable; excellent spreadsheet skills. Responsibilities include processing department's payroll; serving as benefits coordinator and advocate for department employees; preparing grant applications; and assisting the administrator in the administration of grant awards.

Technology-transfer policy to be updated — from page 1

Transferring technology from campuses to corporations generally involves obtaining legal protection for intellectual property in the form of patents, copyrights or trademarks and then licensing that intellectual property to a company for further use and development. The inventor and the University share in any licensing income.

The ad hoc committee is made up of faculty from diverse areas such as earth and planetary sciences in Arts and Sciences, engineering, medicine and business. Among the issues members will consider are conflicts of interest and the distribution of revenue derived from technology transfer.

The University's policy needs to be updated because of vast technological advances, Cicero said.

"Our policies are outdated," he said. "Science and technology have changed

so dramatically in the last 15 years that we need to keep pace."

Changing legislation also has spurred a need to review the policy, Cox said. He cited the Bayh-Dole Act of 1980, which mandates that institutions receiving federal research funds ensure a quick transfer from the "bench" to practical applications.

"The policy as it exists at the University was developed in the early 1970s at the time when technology transfer was not nearly as important an issue," said Cox, who has 40 years of experience in technology transfer. "It's getting increasingly important."

The first of the committee's monthly meetings will be held late this month. A draft policy is expected to be submitted to the University administration in four to six months.

— Martha Everett

Loan program to encourage homeownership in Skinker-DeBaliviere, Forest Park Southeast

In a separate plan to encourage homeownership in the neighborhoods bounded by Skinker Boulevard, Delmar Boulevard, DeBaliviere Avenue and Forest Park Parkway and in the Forest Park Southeast neighborhood (bounded by Kingshighway Boulevard, U.S. 40/Interstate 64, Vandeventer Avenue and the Missouri-Pacific railroad tracks) near the Washington University Medical Center, the University is offering loans to full-time faculty and staff who wish to purchase single-family or duplex homes in the neighborhoods.

The loans are fully forgivable if the property is kept for five years. The limit for these loans is either 5 percent of the sale price or \$4,000, whichever is less.

"We want to continue to attract University families to the Skinker-DeBaliviere and Forest Park Southeast neighborhoods because they are convenient and desirable places to live," Executive Vice Chancellor Richard A. Roloff said. "Through encouragement of single-family homeownership, the University believes the Skinker-DeBaliviere and Forest Park Southeast neighborhoods will remain strong."

WU to purchase apartment buildings — from page 1

Roloff added: "Washington University believes in the vitality and stability of the neighborhoods surrounding our campuses. We want to see neighborhoods preserved and strengthened in ways that continue their strong sense of community. Their permanence benefits the University as well."

Washington University has enjoyed a mutually beneficial relationship with the Skinker-DeBaliviere neighborhood for more than a quarter-century. The area long has been popular with University students

and faculty members and represents some of the most desirable housing available in the region to members of the University community.

"We have been extremely pleased with Parkview Properties and their management. The change to University ownership should add services that our student tenants will find valuable," said George Burris, director of off-campus housing. "And as rents increase throughout the region, we want to provide affordable and convenient housing for our students."

FISCAL '96 TECHNOLOGY-TRANSFER STATISTICS

In the last four years, there has been steady growth in all areas of Washington University's technology-transfer program. Fiscal year 1996¹ was a particularly good year. All numbers that year were up from the previous fiscal year, and licensing income increased dramatically — more than doubling the fiscal year 1995 total. Here are some statistics for fiscal year 1996:

There were 218 total active licenses on file, and 53 of them were new licenses or license-option agreements.

A total of 44 patent applications were filed. Of those, 31 were new patent applications and 13 were patent applications for improvements to previously patented technologies.

Twenty patents were issued.

Licensing income was \$9.2 million² — up \$5.7 million from fiscal year 1995's total of \$3.5 million.

¹ Fiscal year 1996 ran from July 1, 1995, to June 30, 1996.

² According to the University's current technology-transfer policy, 50 percent of licensing income goes to the inventor, 45 percent goes to the University, and 5 percent goes to the University's research office.