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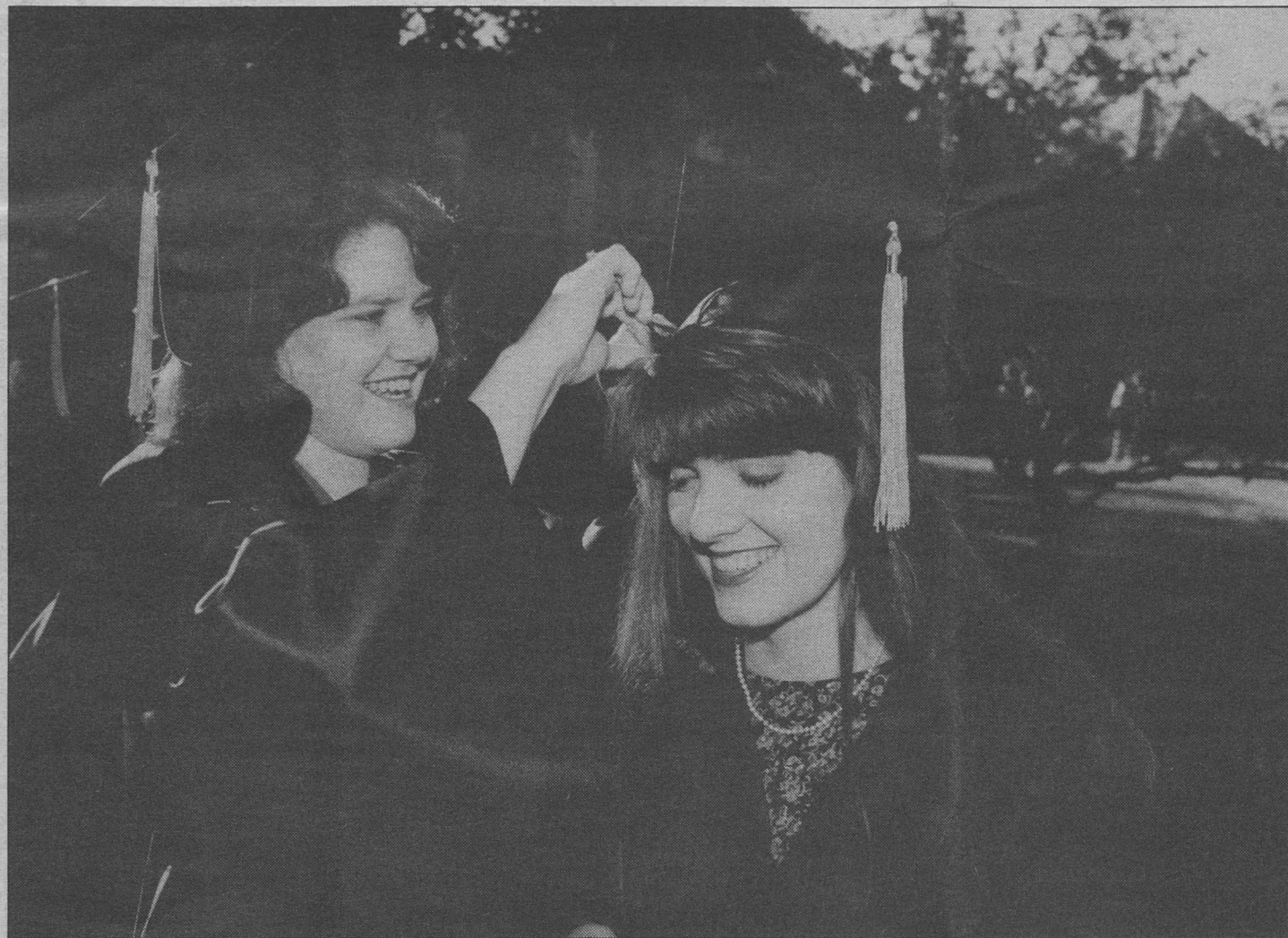
Washington University Record, June 3, 1993

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Stacy Sarver (left) helps Rebecca Durr prepare for Washington University's 132nd Commencement. Sarver and Durr, both undergraduates, were among 2,234 students who received degrees May 14.

Environmental responsibility

Raven urges graduates to be pioneers in advancing global stability

On May 14 Peter Raven, Ph.D., director of the Missouri Botanical Garden and Washington University Engelmann Professor of Botany, presented the 132nd Commencement address at Washington University. He also received an honorary doctor of science degree. Raven, an impassioned advocate for the preservation of biological diversity, urged the 2,234 graduates to recognize their dependence on global stability. Following are excerpts from his address, "Attitudes and Alliances: Shared Dependencies and Responsibilities for the Environment."

"Now, in the days when the University was established, the world had a quarter of its present population, and the United States about 24 million people about to engage in a great civil war and to emerge from that war to become the most prosperous nation on earth. There seemed no reason to believe that natural resources were not unlimited. Goods were durable and relatively expensive; most of them were recycled to some extent; the streams were clear; and the notion that people together could change the characteristics of the atmosphere, or threaten millions of species of living organisms on earth, would have seemed utter fanta-

sies, even if it had occurred to anyone in those distant times."

Population continually growing

"And by the time the University had moved out here 50 years later, the United States had tripled in size and had reached about 5 percent of the world population, consuming about 25 percent of the world's resources, causing about 25 percent of the pollution in the world and a relationship that has existed through all the time since."

"We, in America, who enjoy a standard of living 20 to 30 times as high [as other nations] must recognize our dependence on global stability, on access to resources and trade, to maintain ourselves and our institutions. We have more to fear from these basically unstable global conditions than anyone on earth, whether we recognize our connection with them or not."

"Our consumption of a vastly disproportionate share of the world's resources, coupled with rapid population growth in many regions, is threatening the world's capacity to maintain itself as a stable and a sustainable place. Our future welfare,

in fact, depends on our ability to act quickly and decisively. It does not depend on the acceleration rate of our automobiles, the number of television sets we own, the amount of tax we pay or the quality of our vacations."

Quality of life is up

"In the United States, we are consuming a great deal more than we have at any time in the past. But as the quality of our lives have increased, we here pay lower taxes

Continued on page 6

Ter-Pogossian receives Gairdner award

Michel M. Ter-Pogossian, Ph.D., has been awarded the 1993 Gairdner Foundation International Award for his pioneering work in developing positron emission tomography (PET).

The award is given annually to recognize outstanding contributions to medical science. Of the 230 scientists to receive this Canadian award, 40 have subsequently received the Nobel Prize. Ter-Pogossian is one of five recipients and will receive the award Oct. 22 in Toronto.

Ter-Pogossian, professor of radiation sciences at Washington University's Mallinckrodt Institute of Radiology, is internationally recognized for developing the PET scanner and for introducing the use of some short-lived radioactive isotopes in biomedical research. Isotopes are used to track the path of biologically important materials such as oxygen and nitrogen in living tissue. Their application has contributed to the understanding of fundamental processes such as metabolism and circulation in the brain. Ter-Pogossian was one of the first to use these isotopes for studies of the brain.

As a result of research on radioactive oxygen by Ter-Pogossian and his colleagues in the early 1960s, Washington

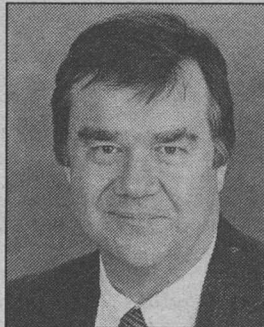
Thach appointed graduate dean of Arts and Sciences

Robert E. Thach, Ph.D., professor of biology, has been appointed dean of the Graduate School of Arts and Sciences, effective July 1, 1993, according to William H. Danforth, chancellor of Washington University.

Thach succeeds Edward N. Wilson, Ph.D., dean of the Graduate School of Arts and Sciences since 1983. Wilson will return to the Department of Mathematics as a full-time professor beginning July 1.

"Professor Thach is a wonderful teacher, a respected scholar and scientist, and a leader who will bring his many talents to bear on the important mission of the Graduate School of Arts and Sciences," said Chancellor Danforth.

"I look forward to working with Bob. He has



Robert E. Thach

long experience as a mentor of graduate students in his field, and he has a strong commitment to the support of excellent education in all areas of the Graduate School," said Martin H. Israel, Ph.D., dean of the Faculty of Arts and Sciences.

Thach came to Washington University in 1970 as associate professor of biological chemistry in the School of Medicine. In 1972, he was named professor of biological chemistry in the School of Medicine, a title he still holds, and in 1977 he was appointed professor of biology on the Hilltop Campus. He was chair of the Department of Biology from 1977 to 1981. During his 23 years at Washington University, Thach has been director of the Graduate Program in Molecular Biology in the Division of Biology and Biomedical Sciences from 1974 to 1977, and director of the Center for Basic Cancer Research, from 1972 to 1977. Since 1983, he has been coordinator of the Program for Special Major in Biochemistry and Molecular Biology.

He is a highly regarded scientist who has made significant contributions to

Continued on page 6

University Medical Center was the first medical facility in the United States to install a cyclotron, which produces radioactive isotopes. A second cyclotron was installed in the late 1970s.

In the early 1970s, Ter-Pogossian led a team of Mallinckrodt Institute investigators



Michel M. Ter-Pogossian

in developing the first PET scanner. PET scanners trace the path of radioactive pharmaceuticals in the body and produce images of metabolic activity. The images give investigators information about how the body works, rather than what it looks like. PET is particularly useful for studying normal and abnormal physiology in the brain and heart. Studies using the technology have led to a better understanding of memory, language, aging, lung and heart function, and diseases such as cancer, depression, multiple sclerosis, Alzheimer's and Parkinson's.

Ter-Pogossian has conducted research at

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Preventing transmission: AIDS vaccine to be used in HIV-infected pregnant women, as part of a national trial Page 2

Mapping genes: Helen Donis-Keller, Ph.D., is a major player in the School of Medicine's Human Genome Project Page 3

Honoring staff: Employees were recognized for their contributions to Washington University during Staff Day '93 Page 5

Medical Update



Henry J. Kaplan, M.D., professor and head of the Department of Ophthalmology, left, and Thomas G. Little, business manager, review remodeling plans in a recently renovated conference room on the seventh floor of McMillan Hospital Building. The Washington University Eye Center has completed the second part of a three-phase renovation that began three years ago. The most recent improvements modernized the seventh-floor clinical area and increased the number of examination rooms from 15 to 20. Seven physician's offices also were updated. The Department of Ophthalmology occupies just over five floors of the Maternity and McMillan buildings. The 10th, 11th and 12th floors, which consist of laboratories and office space, already have been renovated, and modernization of the first floor begins in July. The improvements were necessary because the number of faculty in the ophthalmology department has nearly tripled within the last five years. After July 1, there will be 19 full-time clinical faculty and 17 full-time research faculty.

Researchers discover link to respiratory failure in newborns

School of Medicine researchers have discovered a fatal genetic disorder responsible for a form of respiratory failure in full-term newborns.

The disorder, congenital alveolar proteinosis (CAP), always strikes newborns. Despite intensive medical therapy, all infants who have been diagnosed with CAP have died of respiratory failure within the first year of life. Although the incidence and cause of CAP were unknown prior to these studies, researchers suspected the disorder was caused by an inborn error of surfactant metabolism. The lung produces several types of surfactant apoproteins that organize lipids and proteins in the airway and prevent the lung from collapsing during the expiratory phase of breathing.

Washington researchers, led by Harvey R. Colten, M.D., professor and head of the Department of Pediatrics, have found that CAP can be caused by a deficiency of surfactant protein B (SP-B). "A common problem in premature infants is the inadequate maturation in the production of these surfactant apoproteins," Colten says. "This can lead to severe respiratory problems."

The genetic defect was discovered in a full-term baby who was admitted to St. Louis Children's Hospital with respiratory distress. The family history revealed that 19 years earlier the mother had given birth to a baby who had died of respiratory distress. An autopsy on that infant showed alveolar proteinosis and SP-B deficiency.

Colten says the research team, which includes scientists from Johns Hopkins University, St. Louis University, Pennsylvania State University and the University of San Diego, is working to further characterize SP-B deficiency at the molecular level. "We now have evidence that the disease can be diagnosed antenatally, and that the deficiency is associated with an abnormality in surfactant secretion and metabolism," Colten says. "We are now working out the molecular basis for this disease in order to provide a method for detecting causes of the abnormal gene."

AIDS vaccine to be tested in pregnant women

Researchers at the School of Medicine are taking part in a national trial of an AIDS vaccine to be used in pregnant women already infected with HIV, the virus that causes AIDS. The study, which is being done in cooperation with St. Louis University, will evaluate a candidate vaccine for its safety and potential to stimulate anti-HIV immune responses in pregnant women and to prevent HIV transmission to their babies.

A genetically engineered surface protein of HIV is being used in the trial. Researchers say they hope the vaccine, which is not produced from an infectious, live virus, will boost certain immune responses in participants.

"The vaccine will be given to mothers in the hopes of boosting the mother's immunity and consequently preventing the virus from infecting the baby," said William G. Powderly, M.D., assistant professor of medicine at Washington University and director of the school's AIDS Clinical Trials Unit. "The partnership between the two universities for this important study involves St. Louis University enrolling pregnant women and administering the vaccine. Once the baby is born, Washington University will evaluate and care for both mother and child."

Approximately one-third of infants born to HIV-infected women get the virus,

said Robert B. Belshe, M.D., professor of internal medicine and director of the Division of Infectious Diseases and Immunology and the Center for Vaccine Development at St. Louis University.

"Transmission of HIV from infected women to their babies is one of the ways the AIDS virus is spreading in the United States," he said. "Unfortunately, it is one of the fastest growing ways of AIDS transmission. In addition, AIDS is a major cause of orphans in the country when both parents die of AIDS."

Each woman will receive at least four or five immunizations. The first booster will be given between the 16th and 24th week of pregnancy. Thereafter, monthly doses will be given until the end of pregnancy.

Dowton to revise and implement curriculum as associate dean for medical education

S. Bruce Dowton, M.B., B.S., associate professor of pediatrics and assistant professor of genetics, has been named associate dean for medical education at the School of Medicine.

The appointment was announced by William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine. Dowton, who is director of the Division of Medical Genetics in the Department of Pediatrics, will continue in that role.

"Bruce Dowton is an outstanding teacher and very knowledgeable about curriculum. I am most pleased that someone with his talent will guide the medical education program at Washington University," said Peck.

In the newly created position, Dowton will oversee all matters pertaining to medical education at Washington University. One of his long-term projects will be to revise and implement a medical curriculum to better meet the challenges of educating medical students into the next century. Although Dowton says it will take several years to plan and launch a new curriculum, he expects pilot pro-

grams for the revised guidelines to begin this fall.

"We feel it is time to develop a creative medical school curriculum to ensure we are meeting the challenges confronting our students of today and physicians and physician/scientists of tomorrow," says Dowton. "We have such exceptional students at Washington University with diversified attitudes and interests that we need to continually enhance the curriculum to respond to their changing needs."

In his new position, Dowton will work closely with Morton E. Smith, M.D., associate dean for continuing medical education and postgraduate education, and Mabel L. Purkerson, M.D., associate dean for curriculum.

Dowton came to Washington University in 1986 as an assistant professor in the departments of genetics and pediatrics. He was named associate professor of pediatrics in 1993. As director of the Division of Medical Genetics, Dowton is involved in the clinical care of families and children with a variety of inherited or congenital diseases. His research interest is in regulation of gene expression.

Vision Center offers employee discounts

The Barnes Vision Center located on the main level of Barnes Hospital's West Pavilion is offering Washington University Medical Center employees a 20 percent discount on all purchases.

The center offers more than 1,100 styles of frames, quick turnaround on prescription lenses, eye examinations and contact lens fittings by a staff optometrist. Family members of medical center employees also are eligible for the discount program.

The center is open from 8:30 a.m. to 5 p.m. Monday through Friday, and from 8 a.m. to noon on Saturdays. The center is staffed by board-certified opticians.

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Executive Director,
University Communications: Judith Jasper
Executive Editor: Susan Killenberg
Editor: Deborah Parker, 935-5235, Box 1070
Editor, Medical news: Kleila Carlson,
362-8261, Medical School Box 8065
Assistant Editor: Carolyn Sanford,
935-5293, Box 1070

Contributing writers: Jim Dryden, Gerry Everding, Tony Fitzpatrick, Nancy Galofre, Jim Keeley, Rozanne Kennedy, Juli Leistner, Dave Moessner, Joni Westerhouse and Mike Wolf

Photographers: Joe Angeles, Tom Heine, David Kilper and Herb Weitman

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Washington
WASHINGTON UNIVERSITY IN ST. LOUIS

Washington People

Donis-Keller maps causes of genetic diseases

Helen Donis-Keller's story should be required reading for anyone considering a career change. One of the world's most respected geneticists, Donis-Keller almost didn't become a scientist. Following four years of college studies in graphic design, she landed a job with Lakehead University in Thunder Bay, Ontario. By making classes available at low cost, the university encouraged employees to pursue their educations. When she wasn't busy designing brochures and newsletters, Donis-Keller, who had only taken a single science class in high school and none in college, began exploring. She found a new life.

"An entire new world opened up to me," she says. "I realized that I wanted to know about the chemistry of living things."

After earning bachelor's degrees in biology and natural science at Lakehead, Donis-Keller applied to Harvard University. At age 27, with a 6-year-old daughter in tow, she started graduate school. Her doctoral adviser, Walter Gilbert, Ph.D., was working on the new deoxyribonucleic acid (DNA) sequencing method for which he would win the 1980 Nobel Prize for Chemistry. "Being a first-year graduate student and a single mother was an extraordinary challenge," she recalls. But, she adds, the work hasn't been without its rewards.

Now 45, Donis-Keller and her research group are credited with locating the gene that causes cystic fibrosis, a debilitating disease that affects 30,000 young Americans. After she mapped the gene to chromosome seven, other researchers were able to clone the gene. The work has led to diagnostic screening tests, and gene therapy studies are now being conducted. Perhaps someday, a cure will result.

Professor of surgery and genetics at the School of Medicine, Donis-Keller is a major player in one of the most ambitious research initiatives in history: mapping the human genome, the complete set of genetic instructions that make up a human being. In 1987 Donis-Keller's research group reported the first genetic linkage map of the human genome. It was a landmark paper and a crucial step in the project's goal of identifying the genes that cause the 4,000 known hereditary diseases.

The current estimate is that human beings have about 100,000 genes that carry the blueprints for life. Genetic information is encoded in a four-letter alphabet of nucleotides, in a long strand of DNA. The specific sequences of the DNA "base pairs" spell out who and what humans are. This chain of DNA is split among 22 pairs of chromosomes, with the chromosomes that code for sex making the 23rd pair (X and Y). Half of the genetic information comes from the mother; half from the father.

If chromosomes carried nothing but genes, the job of mapping a gene to a specific chromosome would be much simpler. The problem is that DNA appears to be about 90 percent intervening nucleotide sequences of unknown function. Finding the sequences that make up the genes among the three billion total "base pairs" is like looking for a single page in a specific volume in a library full of uncataloged books. Donis-Keller's genetic linkage map operates as a sort of card catalog.

A genetic linkage map helps geneticists determine where genes are located by tracing characteristics that are passed from generation to generation. Scientists know that separate traits often are inherited together. Because they so often appear together, the genes for such related traits probably reside in proximity to one another on the same chromosome, with relatively few intervening pairs. For example, in her search for the gene that causes cystic fibrosis, Donis-Keller was able to restrict her investigations to a section of the DNA chain in which traits co-inherited with the disease had already been mapped. She used these markers like a sophisticated card catalog that led her to the appropriate floor and wing of the genome library.

"Helen is one of the most outstanding geneticists working today," says Mary-Clair King, Ph.D., professor of genetics and epidemiology at the University of California, Berkeley, and the first person to map a gene for breast cancer. "Her contributions are enabling us to identify a large number of genes for human traits ranging from manic depression to cancer."

Donis-Keller, who came to Washington University in 1989, was the coordinating editor of an updated linkage map that appeared in the Oct. 2, 1992, issue of *Science*. Because it was the longest article in the journal's history, and one of the most comprehensive, *Science* took the unprecedented step of issuing a supplement containing the full-length version in addition to the published article. "It

was a monumental effort, a major achievement in cooperation," says Donis-Keller, who oversaw the collaboration involving more than 20 laboratories worldwide.

"It was an opportunity to put all of the maps together in one place in a uniform, standardized format. This is a biological tool that can be used by a large number of groups for mapping chromosome deletions and for doing linkage experiments to try to recognize disease genes," she says.

But that doesn't mean the mapping project has come to

She plans to develop a formal mentoring program to help junior faculty hit the ground running. Such programs are rare in clinical departments, she notes.

"Often, when doctors finish residencies, they may not have done research for several years. Research science changes quickly. They need a period of shelter in the lab to allow themselves to become readjusted. At this crucial stage in their career, they need a lot of mentorship." Mentors can help them polish laboratory skills, learn the ins and outs of grant writing, and, most importantly, help them choose their first projects wisely.

"Defining those initial projects is important," Donis-Keller says. "They need to define a project that they realistically can handle, that will build upon the institution's resources, that will lead to other avenues of research, and that will enable them to stay competitive. Mentors can provide this kind of help."

She also is working to help young scientists cope with the increasingly complex ethical questions raised by medical research.

"The science is moving very fast. Almost every day you open the newspaper and see that another genetic disease has been mapped or cloned. We can now often develop tests for diseases to predict who is likely to develop them, but not be able to do anything to prevent them." This knowledge is posing troubling new questions that have psychological, social and legal implications.

To help come to terms with those questions, Donis-Keller serves on the National Academy of Sciences Committee on Assessing Genetic Risk. The task force is debating such questions as the appropriateness of genetic testing, who should have access to such information, the impact of such testing on health insurance and whether certain tests should even be undertaken. The committee, composed of geneticists, lawyers, insurance industry experts and medical ethicists, will issue a book aimed at informing policymakers, researchers and the public about the implications of genetic research. The book, which Donis-Keller is co-authoring, also will include specific recommendations for national policies to deal with issues that arise from genetic research.

"Even though we are all the same species, our DNA varies in some places," Donis-Keller stresses. "It is important to realize that everyone has a genetic liability."

Donis-Keller's interest in ethics isn't confined to the national arena; it also finds an outlet closer to home. For the past two years, she has taught a graduate course in ethics at

the medical school. This year, she and Joe Henry Steinbach, M.D., professor of anesthesiology, have expanded the course, to create a program for research ethics education. One component consists of small groups that develop scenarios to debate ethical questions. The topics include issues that research scientists must confront daily, including the rights and responsibilities of collaborators, student-mentor relationships and weighing social and economic values in choosing research projects.

"It is important for students to talk about the issues during this stage of their training," she says. "They should be better prepared when they have to make such judgments. Experience will help them better understand the ramifications of their decisions."

Donis-Keller also has a game plan to reach young scientists long before they start medical school. In fact, one of her pet projects could reach children before they even get to kindergarten. She and her team are developing computer games with a decidedly genetic twist. The Nintendo-type games, complete with animation, color, sound and the all-important scoring of points, are in the planning stage and will be piloted at the St. Louis Science Center.

"Video games are part of the culture, so we decided to take advantage of it. Why not teach kids what DNA is in the process? We plan to follow later with more formal computer learning, but for now my target is just to get them interested."

Donis-Keller says she believes that it is her responsibility as a scientist to help the public appreciate the value of science in their everyday lives.

"Scientists tend to be perceived as nose-to-the-grindstone folks because we tend to closet ourselves in laboratories," she says. "We need to reach out more to the community, to interest the public in the benefits and the wonders of the scientific enterprise."

She admits that one of her motives is to attract creative new talent to the field of genetic research. It is quite clear that Donis-Keller hasn't lost sight of the "human" in the human genome project.

"The ultimate goal is improving human health care," she says. "It will take a long time, but the best hope of actually curing many diseases is understanding what causes them."



“... The best hope of actually curing many diseases is understanding what causes them.”

an end; in fact, Donis-Keller expects to have an entirely new map completed this fall. Genetic mapping, she explains, is much like mapping political boundaries — it is constantly undergoing change.

"It is so exciting to be in genetics right now. We're going to learn so much in the next 10 or 15 years, and it will completely change how we perceive patient care in the future," she says. A herald of that change can be found in Donis-Keller's recent accomplishment: In October, she became director of the newly created Division of Human Molecular Genetics in the Department of Surgery. The division will focus on genetic mapping and molecular genetic studies of diseases with heritable components, including breast cancer, prostate cancer, schizophrenia and multiple endocrine neoplasias. A major emphasis will be solid tumors, including Donis-Keller's own work on an inherited form of thyroid cancer. Someday, she says, genetics will be an inextricable part of all medical specialties. "It's very practical as part of modern medical care to be concerned about molecular changes."

The division also will provide support services, including a tissue bank that will archive tumors from various surgeries. Donis-Keller sees the new division as a resource for physicians who want to research the diseases they treat.

"It's one of my personal goals to help young physician/scientists who want to straddle both worlds, to create an atmosphere where they get support from researchers who do this full-time, like me. There are insights that physicians have that Ph.D.'s will never have, and vice versa."

Calendar

June 3–July 3



Exhibitions

"Van McElwee Retrospective." Exhibit features works of Van McElwee, WU lecturer in performing arts. Opening Reception: 6 to 8 p.m. Friday, June 4. Exhibition continues through July 31. First floor gallery, Forum for Contemporary Art, 3540 Washington Ave. Free. Hours: 10 a.m.-5 p.m. Tuesday-Saturday. For more info., call 935-4660.

"Kim Merker: Contemporary Handpress Printer." Through June 25. Special Collections, Level 5, Olin Library. Hours: 8:30 a.m.-5 p.m. weekdays. For more info., call 935-4670.

"Goddesses, Queens and Women of Achievement on Coins and Medallions From the Wulfin and Bixby Collections." Through July 3. Gallery of Art, lower gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. Closed Mondays. For more info., call 935-4523.

"Tales and Traditions: Storytelling in 20th-century American Craft." Through June 16. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. Closed Mondays. For more info., call 935-5490.



Films

Tuesday, June 8

7:30 p.m. Summer School Foreign Film Series presents "Song of China (*Tianlun*)" (Chinese with English subtitles). Room 219 South Ridgley Hall.

Wednesday, June 9

7:30 p.m. Summer School American Film Series presents "Fatal Attraction." Room 219 South Ridgley Hall.

Tuesday, June 15

7:30 p.m. Summer School Foreign Film Series presents "Dreams of Hind and Kamilia" (Egyptian with English subtitles). Room 219 South Ridgley Hall.

Wednesday, June 16

7:30 p.m. Summer School American Film Series presents "High Noon." Room 219 South Ridgley Hall.

Tuesday, June 22

7:30 p.m. Summer School Foreign Film Series presents "At (*The Horse*)" (Turkish with English subtitles). Room 219 South Ridgley Hall.

Calendar guidelines

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

Calendar submissions should state time, date, place, sponsor, title of event, name of speaker(s) and affiliation, and admission cost. Quality promotional photographs with descriptions are welcome. Send items to Deborah Parker at Box 1070 (or via fax: 935-4259). Submission forms are available by calling 935-5235.

The deadline for all entries is noon Tuesday one week prior to publication. Late entries will not be printed. The Record is printed every Thursday during the school year, except holidays, and monthly during the summer. If you are uncertain about a deadline, holiday schedule, or any other information, please call 935-5235.

Wednesday, June 23

7:30 p.m. Summer School American Film Series presents "Gold Diggers of 1933." Room 219 South Ridgley Hall.

Tuesday, June 29

7:30 p.m. Summer School Foreign Film Series presents "The Makioka Sisters" (Japanese with English subtitles). Room 219 South Ridgley Hall.

Wednesday, June 30

7:30 p.m. Summer School American Film Series presents "Glory." Room 219 South Ridgley Hall.



Lectures

Thursday, June 3

Noon. Dept. of Molecular Biology and Pharmacology seminar, "Pancreatic Triglyceride Lipase and Catalysis at an Interface." Mark E. Lowe, asst. prof., WU Dept. of Pediatrics. The Philip Needleman Library, Room 3907 South Bldg.

Friday, June 4

9:15 a.m. Pediatric Grand Rounds, "Immune Mediated Peripheral Nervous System Disease," Anne M. Connolly, instructor in pediatrics and neurology, WU School of Medicine; Division of Neurology, St. Louis Children's Hospital. Clopton Aud., 4950 Children's Place.

Noon. Dept. of Cell Biology and Physiology seminar, "Manipulation of Wound Healing With Growth Factors," Jeffrey M. Davidson, Dept. of Pathology, Vanderbilt U. School of Medicine. Room 423 McDonnell Medical Sciences Bldg.

4 p.m. Division of Hematology/Oncology seminar, "HOX 11: Gain and Loss of Function Models of a Homeobox Gene," Stan Korsmeyer, prof., WU depts. of medicine and molecular microbiology. Room 8841 Clinical Sciences Research Bldg.

Monday, June 7

10 a.m. Molecular Cell Biology and Biochemistry Program thesis defense, "Structure of *E. coli* Phosphoglycerate Dehydrogenase, an Allosterically Regulated Enzyme," David J. Schuller, WU graduate student. Room 521 Medical Library Bldg.

4 p.m. Graduate Program in Immunology Seminar, "Interleukin 8 and Related Cytokines: Structures, Receptors and Functions," Marco Baggiolini, director, Theodor Kocher Institute, U. of Bern, Switzerland. Third Floor Aud., St. Louis Children's Hospital, 400 S. Kingshighway.

7 p.m. Biophysical Evenings, "Modeling the Stability of Mutant Proteins," Jay Ponder, asst. prof., WU Dept. of Biochemistry and Molecular Biophysics. Room 423 McDonnell Medical Sciences Bldg. (Dinner: 6:30 p.m.)

Tuesday, June 8

Noon. Radiology Research Division Brown Bag Seminar, "Management of Spastic Cerebral Palsy," T.S. Park, prof., WU Dept. of Neurology and Neurological Surgery. Room 482 Old Children's Hospital.

Friday, June 11

7:30 a.m.-5 p.m. Office of Continuing Medical Education seminar, "Alzheimer's Disease: Advances in Diagnosis and Treatment '93," Raj Nakra and Kathleen Mann Koepke, program directors. (15.25 credit hours AMA Category 1.) Adam's Mark Hotel, 4th and Chestnut. Cost before June 4: \$150 for physicians; \$75 for physicians in training and allied health professionals. Cost after June 4: \$200 for physicians; \$100 for physicians in training and allied health professionals. For more info., call 362-6893 or (800) 325-9862.

9:15 a.m. Pediatric Grand Rounds, "Why Do Neuroblastomas Regress?" Garrett H.

Brodeur, assoc. prof. of pediatrics and genetics, WU School of Medicine; Division of Hematology/Oncology, St. Louis Children's Hospital. Clopton Aud., 4950 Children's Place.

Thursday, June 17

7:30 a.m.-5:30 p.m. Office of Continuing Medical Education Seminar, "State of the Art Clinical Symposium on Allergic Diseases," Phillip E. Korenblat, program chairman. (8.5 credit hours AMA Category 1.) Ritz-Carlton Hotel, St. Louis. Cost: \$30 in advance; \$40 at the door. For info., call 362-6893 or (800) 325-9862.

Friday, June 18

9:15 a.m. Pediatric Grand Rounds, "Child Abuse: Does History Match Physical Examination?" Stephen Ludwig, prof. of pediatrics, U. of Pennsylvania School of Medicine; division chief, general pediatrics, The Children's Hospital of Philadelphia. Clopton Aud., 4950 Children's Place.

Monday, June 21

10 a.m. Dept. of Electrical Engineering seminar, "Generation, Shaping, Transmission and Crosstalk of Picosecond Electrical Pulses," Eikichi Yamashita, prof. of electrical engineering, dean of graduate school, University of Electro-Communications, Tokyo, Japan. Room 305 Bryan Hall.

Tuesday, June 22

Noon. Radiology Research Division Brown Bag Seminar, "Detection of Viable Myocardium Oxidative Metabolism With PET," Robert J. Gropler, asst. prof., WU Dept. of Radiology. Room 482 Old Children's Hospital.

Friday, June 25

9:15 a.m. Pediatric Grand Rounds, "Cerebral Blood Flow and Metabolism in Newborn Infants," William J. Powers, assoc. prof. of neurology and radiology, WU School of Medicine. Clopton Aud., 4950 Children's Place.

Tuesday, June 29

Noon. Radiology Research Division Brown Bag Seminar, "Proton Spectroscopy of Brain Tumors," Mike Crowley, instructor, WU Dept. of Radiology. Room 482 Old Children's Hospital.

Campus Y sponsors summer classes

From participating in aerobic exercises, to learning to keep your car running well, to interpreting the mystery of dreams, Campus Y summer classes offer something for everyone. Following is a list of the classes.

"Aerobics - STEP Workout" featuring warm-ups, intense calisthenics, an aerobic workout and cool-downs — all done to music, will be held from 4:30 to 5:30 p.m. on Tuesdays and Thursdays from June 8-July 8 and from July 13-Aug. 12 in Room 100 Mallinckrodt Center. The cost is \$25 for students, \$30 for faculty and staff, and \$35 for non-students.

"Razzamajazz With Steps," which includes stretching, cardiovascular conditioning and body-toning exercises, will be offered from 5:30 to 6:30 p.m. on Mondays and Wednesdays from June 7-July 7 and from July 12-Aug. 11. The cost is \$25 for students, \$30 for faculty and staff, and \$35 for non-students.

"Self-Defense Training for Women" will be held from noon to 1 p.m. on Thursdays from June 10-July 15 in Lambert Lounge, Rooms 303-304 Mallinckrodt Center. The cost is \$30 for students, \$36 for faculty and staff, and \$42 for non-students.

"Basic Auto Care" will be offered from 5:30 to 7:30 p.m. on June 8-July 20 in the meeting room of the Campus Y, located in Umrath Hall's east basement. The cost is \$35 for students, \$39 for faculty and staff, and \$44 for non-students.

A "Dreams/Interpretation Workshop" will be offered from 7 to 9 p.m. on July



Miscellany

Wednesday, June 9

9 a.m.-4 p.m. Dept. of Athletics is sponsoring the Bears' 1993 Children/Youth Summer Program: Kindbom-Meyer Football Passing Camp (Session I). Through June 11. (Session II: June 14-16.) For boys entering 7th through 12th grades. Cost: \$70. For more info. and registration, call 935-5220.

Sunday, June 13

9 a.m. -1 p.m. International Student Resource Group to view The International Air Show, a series of exhibits at Scott Air Force Base. Buses will leave Stix International House promptly at 9 a.m. for Scott Air Force Base and will return by 1 p.m. Cost: \$4. Participants must pay by June 11. For more info., call 935-5910.

Monday, June 14

9 a.m.-4:45 p.m. Dept. of Athletics is sponsoring the Bears' 1993 Children/Youth summer program: Basketball Camp for boys and girls, ages 10-15. Through June 18. Cost: \$105. For more info., call 935-5220.

Wednesday, June 16

8 a.m. International Writers Center and Left Bank Books present a 24-hour marathon reading by local writers and performers of James Joyce's *Ulysses*. Left Bank Books, 399 N. Euclid Ave. For more info., call 935-5576.

Monday, June 21

9 a.m.-noon. Dept. of Athletics is sponsoring the Bears' 1993 Children/Youth summer program: Soccer Camp for boys and girls, ages 7-15. (Also offered 1-4 p.m. or 9 a.m.-4 p.m.) Through June 25. (Another session will be offered July 12-16.) Cost: \$60 per week for morning or afternoon sessions; \$105 for all-day session. The dept. also is sponsoring various Hit Volleyball Camps for youths from June 27-July 9. For info., call 935-5220.

6 and 7 at Stix International House, 6470 Forsyth Blvd. A "Developing Intuition Workshop" will be held at the same time and location on July 1. The cost for the dreams workshop is \$10 for students and \$15 for faculty, staff and non-students. The cost for the intuition workshop is \$8 for students and \$10 for faculty, staff and non-students.

"Cooking-Indian Cooking" will be held from 6:30-8:30 p.m. on Wednesdays — June 9, 16 and 23, in the Campus Y meeting room. The cost is \$22 for students, \$27 for faculty and staff, and \$32 for non-students.

"Aikido," a Japanese martial art class, will be held from June 7-July 9 and from July 12-Aug. 13 at the St. Louis Ki Society School, 6006 Pershing Ave. Several days and times are available. The cost is \$35 for students, \$40 for faculty and staff, and \$45 for non-students.

"Acupressure (Shiatsu)," a class for increasing energy, improving posture and relieving stress, will meet from noon to 1 p.m. on Thursdays from June 10-July 8 in the Women's Building Lounge. The cost is \$30 for students, \$35 for faculty and staff, and \$42 for non-students.

A "Swedish Massage Therapy for Couples Workshop" will be held from 9 a.m. to 5 p.m. on June 19 and July 17 in the Women's Building Lounge. The cost for both sessions, which includes lunch, is \$60 per couple.

To register for the classes or obtain more information, call the Campus Y at 935-5010.

Staff Day



Employees enjoy Staff Day 1993 food, festivities

For Kerry Lewis, the highlight of Staff Day happened by accident. Lewis, a machine operator in the Copy Shop, entered the arts and crafts show and did not win a prize. But "I checked my horoscope, and it said I would have a second chance. So I entered the drawing for the trips." Lewis did get a second chance — he walked away with a trip to Santa Monica, Calif. "This was my first full day at Staff Day. I had a great time."

The lucky winner of the other trip, which was to Chicago, Ill., was Glen Horton, assistant director of general services. "I'm really excited about the trip to Chicago," Horton said. "I haven't been to Chicago since I was 17 — in the Navy." Like Lewis, Horton enjoyed the May 17 Staff Day festivities. "I always enjoy Staff Day. I've gone since I started working here, back in 1981," he said.

Chancellor William H. Danforth gave the authority to hold an annual Staff Day in 1975 as a way to honor the staff's contributions to the Hilltop Campus.

In addition to the arts and crafts show, the other Staff Day events included various interdepartmental sports competitions, such as softball and volleyball, and games such as Q and A, a quiz game set up like College Bowl; a Forest Park bike ride; swimming, wallyball and racquetball opportunities that individuals could take advantage of on their own; and an art and architectural campus walk.

Per tradition, Staff Day began with a staff service award and recognition ceremony held in Edison Theatre. During opening remarks at the ceremony, Gloria W. White, vice chancellor for human resources and affirmative action officer, said, "It is always a privilege to be able to thank the staff. They make the University run in so many different ways."

Following the ceremony, staff members enjoyed a buffet lunch and socialized with each other in Bowles Plaza.

At the end of the day, winners were announced in the arts and crafts, sports, and game competitions. The victorious sports teams received trophies, and the arts and crafts winners received plaques.

In the arts and crafts competition, Dolores Sawchak, an assistant accountant in the School of Engineering and Applied Science, captured first-prize honors for her Barbie Victorian Bride Doll. Gay Youngman, a cataloger for Olin Library, won second place for her work titled "The Quilt," and Bill Wibbing, a librarian supervisor for Olin Library, won third prize for his work titled "Needlepoin."

In the softball competition, Accounting Services beat Olin Library. Residential Life defeated Information Systems in the volleyball competition.

In the Q and A game, Stix Figures, a team representing the Stix International House, successfully battled Baker's Dozen, an Olin Library team named after Shirley K. Baker, dean of the Washington University Libraries.

Reflecting on Staff Day, White said that more individuals commented on the event than ever before. "People seem to think this was the best one. We haven't received any complaints yet."

Staff Day was organized by the Human Resources Committee, which is chaired by Mazie L. Moore. The other committee members are: Linda A. Balagna, Jim R. Burmeister, Olivia J. Hill, Martha A. House, Barbara B. McKay, Steven J. Rakel, Josephine H. Simpson and Virginia F. Toliver.



Good food, along with fun and games, were the highlights of Staff Day '93, which honored the efforts of Hilltop staff. The buffet (top) was set up in Bowles Plaza, where staff members socialized as they lined up to get their complimentary meals. Olin Library's Charles Harris (above right) slides past Accounting Services' Tom Rocchio during the softball finals. Although the Olin team scored here, Accounting Services won the game. An elated Vanessa Jackson (above left), a counselor with Student Counseling Service, screams Bingo! during Staff Day festivities.

Employees receive service awards during ceremony

Employees who have worked at the University for 10, 15, 20 and 26 years received service awards at a ceremony held in Edison Theatre on Staff Day.

Employees with 26 years of service each received a watch with the University seal on the face. Employees who have served 20 years received paperweights with a Washington University seal and employees with 15 years of service received walnut bookends decorated with a bronze University seal. Those with 10 years of service received silver cross pen and pencil sets with the Washington University seal.

Those receiving service awards were:

26 years of service: Joe Kastner, Maintenance; Sue Mack, Business Affairs; Marianna Mercurio, Olin Library; Judy Richardson, Health Service; Carol Shearrer, School of Business; Bill Smith, Information Systems; Christine Smith, School of Fine Arts; and Audrey Whittenberg, Computing Facilities.

Observatory announces 1993 summer hours

Anyone who wants to visit the moon, Mars, Jupiter and Saturn can get a lot closer this summer at the Washington University Observatory, which will be open to the public. The observatory, located atop Crow Hall, is open at 8:30 p.m. every Thursday, weather permitting, until one week prior to Labor Day. Entry to the observatory is available through the south door of Crow Hall.

Admission is free. For more information, call 935-6276 during business hours.

20 years of service: Arlene Boulding, Counseling Service; Joyce Edwards, Graduate School of Arts and Sciences; Helen Flatau, Health Service; Martha House, Copy Center; Lynn Imergoot, Athletics; Terrence Keegan, Olin Library; Yvonne Norman, Campus Police; Jane Nothaker, Treasurer's Office; Richard Schmaeng, Physics; David Tanner, Physics; Donna Williams, Engineering and Policy; and Myron Wilson, Euclid Power Plant.

15 years of service: Arza Allison, Maintenance; Sheila Andrew, College of Arts and Sciences; Bobby Carlson, Post Office; Jesse Goree, Maintenance; Myrna Harbison, Computer Science; David Kilper, Public Affairs; Gordon Mason, Maintenance; Sharon Quinn, Accounting Services; Sara Schottmueller, Campus Bookstore; Gilbert Schroeder, Maintenance; Willie Scott, Maintenance; David Straight, Olin Library;

David Swoboda, Copy Shop; Al Toroian, Public Affairs; Sylvia Turnbough, Human Resources; W. Davis Van Bakergem, School of Architecture; Roscoe Vollmar, Tyson Research Center; Margaret Watkins, Graduate School of Arts and Sciences; Rodney Wegermann, Olin Library; Wilma Whitworth, Tyson Research Center.

10 years of service: Helene Abrams, Romance Languages; Cynthia Alverson, Undergraduate Admission; Frederick Anderson, Biology; Anne Biehl, Bookstore; Anita Bledsoe, Chancellor's Office; Caroline Boswell, Development Services; William Buckner, Central Stores; Garrie Burr, Correspondence Center; Cheryl Casanova, Psychology; Jean Chou, Accounting Services; Donald Clayton, Medical Public Affairs; Phyllis Craig, Accounting Services;

Carol Doelling, School of Social Work; Michael Dyer, Biology; Ida Early, School of Business; John Foote, Physics; Margaret Fuller, Computer Science; Elizabeth Fyfe, Germanic Languages and Literatures; John Hansford, University Relations; Marcia Hayes-Harris, Residential Life; Curt Hartog, School of Technology and Information Management (STIM); Debora Hawkins, Olin Library; Karl Helms, Euclid Power Plant; Patricia Howard, University College;

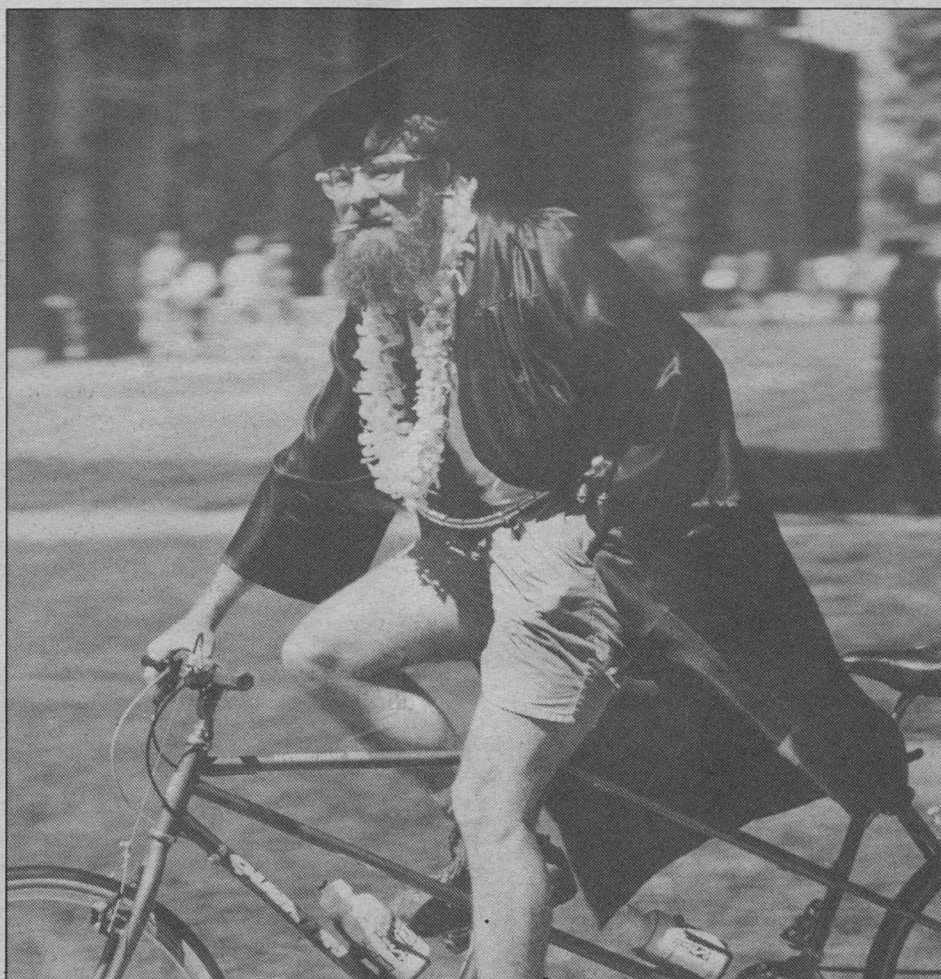
Lucy Hubert, Mathematics; Starla Johnston, Athletics; Terry Keebler, Maintenance; Joseph Ketner, Gallery of Art; Susan Killenberg, Public Affairs; Thomas Kirk, Maintenance; Karen Kiske-Zimmerman, Women's Studies; Steven Kraushaar, Public Affairs; Victor Lynn, School of Business; Faith Maddy, Alumni and Development Programs; Susan McLaughlin, STIM; David Million, Power Plant; Pamela Molesky, Central Stores; Lois Newell, Accounting Services; Karen Rensing, Economics; Joanne Roman, Accounting Services; Rick Schlattmann, Maintenance; Scott Seely, Computer Integrated Management Center;

Alice Sinak, Olin Library; Lanna Skadden, School of Business; Jane Smith, University College; Phyllis Smith, Student Activities; Harriet Solomon, Alumni and Development; Hannelore Spence, Germanic Languages and Literatures; Virginia Toliver, Olin Library;

J. Michael Touhey, Planned Giving; Shirley Webber, University College; Barbara Weston, School of Law; Annie Williams, Olin Library; Terry Wirtel, Human Resources; and Joe Worlund, Athletics.



During Commencement, John L. Trowbridge, (above) sports an old Chinese saying on his cap. The saying states that "All things in the universe come from being. And being comes from non-being." He received a bachelor's degree in philosophy and East Asian studies. Afterward, Christopher O. Wallace (right), hurries, via his bicycle, to the School of Fine Art's reception held in Brown Hall. He received a bachelor's degree in photography last December.



Conference highlights women brass players

More than 200 musicians from around the world were on campus May 28-June 1 to attend the first International Women's Brass Conference. The Department of Music was a conference sponsor.

The conference was significant because it highlighted "the growing number of women who are playing brass instruments professionally in the United States and elsewhere," said Jeffrey Kurtzman, Ph.D., professor and chair of music. "In the past, women were not generally viewed as typical brass players." Though the number has increased over the past 20 years, still only one of 50 brass players with major American orchestras is female, according to the St. Louis Post-Dispatch.

The conference featured classical and jazz concerts, master classes, lectures, presentations and forums by a roster of musicians that included Susan Slaughter, principal trumpet, Saint Louis Symphony Orchestra; Arnold Jacobs, tuba, a retired member of the Chicago Symphony Orchestra; Abbie Conant, solo trombone, Munich Philharmonic; and Julia Studebaker, first horn, Royal Concertgebouw, Orchestra of Amsterdam.

A rousing jazz concert in Edison Theatre kicked off the conference on May 28. The performance was a tribute to Melba Liston, trombone player and arranger for such musical greats as Dizzy Gillespie, Billie Holiday, Quincy Jones, Betty Carter and Charles Mingus.

The workshop segment of the conference began on May 29 when Susan Slaughter, founder and president of the International Women's Brass Conference, presented her opening remarks. Slaughter began organizing the conference three years ago, partly to address issues unique to women brass players, although the conference also is open to men, and several of the presenters and panelists at the conference were men.

The conference ended on a positive note, much like the way it began, with a grand finale concert in Graham Chapel. Satisfied but exhausted organizers are planning to sponsor another conference within three years.

Ter-Pogossian — from page 1

Washington University for 43 years. He joined the faculty in 1950 as an instructor and became a professor in 1963. He has received several honors, including the Paul C. Aebersold Award, the highest recognition for science given by the Society of Nuclear Medicine; the Georg Charles de Hevesy Nuclear Medicine Pioneer Award; the Herrman L. Blumgart, M.D., Pioneer Award; and the Amy Bowles Lawrence Distinguished Scientist in Research Medicine Award. He has published more than 250 papers and book chapters. Ter-Pogossian is a charter member of the American Nuclear Society, a fellow of the American Physical Society, a member of the Institute of Medicine of the U.S. Academy of Sciences and a past trustee of the Academy of Sciences of St. Louis. He has served on several advisory committees of the Department of Energy and the National Institutes of Health.

A native of Berlin, Ter-Pogossian attended the Sorbonne and the Institute of Radium in France before completing his master's and doctoral degrees in nuclear physics at Washington University.

Thach — from page 1

molecular biology. In 1993, he was elected to the rank of Fellow by the American Association for the Advancement of Science. An author or co-author of nearly 100 technical papers, Thach also is a member of the American Society of Biological Chemists, the American Society for Virology and the New York Academy of Sciences.

Thach graduated summa cum laude from Princeton University with a bachelor's degree in chemistry in 1961 and received his Ph.D. in biochemistry from Harvard University in 1964. Thach was associate professor of biochemistry and molecular biology at Harvard University before coming to Washington University.

27 faculty members earn emeritus rank

A total of 27 members of the Washington University faculty have earned emeritus rank. Through teaching, scholarship and service, these individuals have enriched the University. Following is a list of the faculty members who attained emeritus rank.

Elmer B. Brown
Professor of Medicine and Associate Dean for Continuing Medical Education and Postgraduate Education
At Washington University since 1954

Janina M. Brajtburg
Research Associate Professor of Medicine
At Washington University since 1968

Greta H. Camel
Assistant Professor of Medicine
At Washington University since 1953

Richard de Charms
Professor of Education
At Washington University since 1957

Philip R. Dodge
Professor of Pediatrics and Professor of Neurology
At Washington University since 1967

Leonard W. Fabian
Professor of Anesthesiology
At Washington University since 1971

Thomas B. Ferguson
Professor of Surgery (Cardiothoracic Surgery)
At Washington University since 1953

David A. Gee
Professor of Health Administration (Jewish Hospital)
At Washington University since 1957

Sidney Goldring
Professor of Neurological Surgery
At Washington University since 1949

Robert O. Gregory
Professor of Electrical Engineering
At Washington University since 1955

Fred J. Hodges III
Professor of Radiology
At Washington University since 1980

Edwin T. Jaynes
Wayman Crow Professor of Physics
At Washington University since 1960

Mohamed A. Marzouk
Professor of Restorative Dentistry
At Washington University since 1973

James J. McGarrell
Professor of Art (Painting)
At Washington University since 1981

Patricia A. Parsons
Professor of Pediatric Dentistry
At Washington University since 1960

David P. Pascoe
Associate Professor of Audiology
Department of Speech and Hearing
Faculty of Arts and Sciences
At Washington University since 1974
(Emeritus retroactive to July 1, 1989)

David J. Pittman
Professor of Psychology
At Washington University since 1958

Peter N. Riesenber
Professor of History
At Washington University since 1960

Charles L. Roper
Professor of Surgery (Cardiothoracic Surgery)
At Washington University since 1954

Egon Schwarz
Professor of German and Rosa May Distinguished University Professor in the Humanities
At Washington University since 1961

Philip T. Shahan
Assistant Professor of Clinical Ophthalmology and Visual Sciences
At Washington University since 1945

Eugene Soviak
Associate Professor of History
At Washington University since 1969

Arthur W. Stickler Jr.
Assistant Professor of Clinical Ophthalmology and Visual Sciences
At Washington University since 1948

Ruediger Thalmann
Professor of Otolaryngology
At Washington University since 1963

James C. Warren
Professor of Obstetrics and Gynecology and Professor of Biochemistry and Molecular Biophysics
At Washington University since 1971

Murray L. Wax
Professor of Anthropology
At Washington University since 1973

H. Frank Winter
Professor of Physiology in Biomedical Science
At Washington University since 1965

Changing world demands responsible consumption of resources — from page 1

than the citizens of any industrialized country except Japan, although we feel limited and oppressed by the taxes that we do pay. We here have borrowed and spent four and a half trillion dollars to enrich ourselves momentarily and are running at a current deficit of \$300 billion a year, all the while waiting for our economy to take off without any pain or sacrifice of any kind on our parts."

"Over the past 40 years, we've lost a fifth of the world's topsoil, destroyed a significant fraction of the ozone layer that protects us from cancer-causing ultraviolet radiation, set the world on a course towards significantly warmer temperatures because of atmospheric changes that we have launched, cut down about a third of the world's forests without replacing them, put millions of species of plants, animals and fungi, and microorganisms at risk, risen to a level of

consuming as a human race 40 percent of everything that the world produces, with our population still rising rapidly."

"Apparently being the wealthiest people who ever existed on earth is not enough. Not enough to allow us to deal with our children's health, to deal with the condition of our cities, to deal with true racial equity, or with the problem of passing on a sustainable environment for the future. We want and we feel that we deserve more and we don't want anyone to remind us of the cost."

"No matter how far or how fast we travel, how much we accomplish, or how many things we possess, in this context we should also be asking ourselves do we listen carefully to one another, respect and encourage creativity in one another, nurture and love one another. If we do, we shall be happy and ever-growing members of commu-

nities that contribute as much as possible to advancing the human prospect."

Limited planetary resources

"Futurists generally agree on only one point, that the world of the future will be radically different from that of the present. To deal with that world, we must think of ourselves as pioneers. Just as surely as those who rolled from here in their covered wagons to an uncharted but promising future at the time that this University was being established, so we are moving on together confronting many seemingly insurmountable problems, but also with unlimited opportunities. The world is one, and the sustainable resources of our common planetary home are limited."

"Understanding and accepting our environment as the only possible context for our lives will enable us to realize that the laws of what we call economics merely allow us to understand some equivalencies of commodities on a short-time scale and not to extend the limits of the earth itself..."

Introducing new faculty members

The Record is running a series profiling new faculty on the Hilltop and Medical campuses.

Paul J. Goodfellow, Ph.D., associate professor in the Department of Surgery/Division of Molecular Genetics, comes to the School of Medicine from the University of British Columbia, where he was an assistant professor in the Department of Medical Genetics. He received his bachelor's degree from Queen's University in 1978, his master's degree from the University of Tennessee in 1980 and his doctorate from Queen's University in 1985.

Jeffrey A. Norton, M.D., professor of surgery, comes to the School of Medicine from the National Institutes of Health's National Cancer Institute, where he was senior investigator of the surgical branch and head of the surgical metabolism section. Norton received his bachelor's degree from Dartmouth College in 1969 and his medical degree from the State University of New York, Upstate Medical College, in 1973. He is chief of endocrine and oncologic surgery at the medical school.

Robert W. Thompson, M.D., assistant professor of surgery, comes to the School of Medicine from the University of California, San Francisco, where he was a clinical instructor of surgery. He received his bachelor's degree, magna cum laude, from Hope College in 1979 and his medical degree from the University of Michigan in 1983.

Applicants sought for Fulbright awards

Applications are now being accepted for the 1994-95 Fulbright Scholar Program for scholars ranging from junior faculty to professors emeriti. Professionals outside the academic arena, in addition to independent scholars, also are encouraged to apply.

The application deadline is Aug. 1. To fulfill the program's basic eligibility requirements, applicants must be American citizens and have a doctorate or comparable professional qualifications.

Through the Fulbright Scholar Program, approximately 1,000 grants are available for research, research and lecturing, or university lecturing in nearly 135 countries. Research opportunities range from two months to a full academic year. Many assignments are flexible, based on the needs of the grant recipient.

Scholars in nearly all disciplines may apply. In certain cases, the program allows scholars to propose their own research projects.

For more information, call Michele Shoresman, Ph.D., associate director of international studies, at 935-5958.

Rich Berens, Scott Wolf earn All-America honors

Junior Rich Berens, and Scott Wolf, a senior at Washington University, have earned Intercollegiate Tennis Association All-America honors following their performances at the recent National Collegiate Athletic Association's Division III National Championships.

Berens, the fourth seed in the 64-player singles field, was upset in the third round of the tourney, falling 6-3, 6-2 to Chris Sadayasu of Claremont-Mudd College in California. Berens reached the round of 16 with straight-set victories over Denison's Brian Maebius, 6-4, 6-3, and Ohio Wesleyan's Kevin Hinkle, 6-1, 6-1.

In the doubles competition, Washington's number-one duo, Berens and Wolf, reached the quarterfinals before losing to Massachusetts Institute of Technology — Alan Walpole and Jay Muelhoefer, 6-2, 6-4.

Berens, earning All-America honors in singles and doubles, finishes the season with a 12-4 singles mark. Wolf, a GTE Academic All-America candidate, earned All-America doubles honors.

For The Record

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

Of note

Marybeth Brown, Ph.D., assistant professor of physical therapy, received a \$71,242 grant from the National Institute on Aging for a research project titled "Simulated Bedrest and Treatment Effects on Aging Muscle." ...

Robert Lee, Ph.D., assistant dean for minority student affairs at the School of Medicine, received a \$25,000 grant from the National Center for Research Resources for a project titled "Minority High School Student Research Apprentice Program." ...

A book of poems written by **Carter Revard, Ph.D.**, professor of English, was named a finalist for the 1993 Oklahoma Book Award. Revard's book, written in 1992, is titled *Cowboys and Indians, Christmas Shopping*. The finalist announcement was made during a dinner held in Oklahoma City's National Cowboy Hall of Fame. ...

Christine Ruane, Ph.D., assistant professor of history, received a grant from the International Research and Exchanges Board to travel to Moscow and St. Petersburg, Russia, this summer. She will collect archival material for her book on the history of Russia's fashion industry. ...

Nobuo Suga, Ph.D., professor of biology, received the third Sparks Award in Integrative Neurobiology from the University of Alabama. He received the award during a presentation at the university's Neurobiology Research Center.

Speaking of

During Chemical Career Day held at Southern Illinois University in Edwardsville, **James K. Bashkin, Ph.D.**, assistant professor of chemistry, gave an invited presentation on "Academia vs. Industry." ...

Diane E. Beals, Ed.D. assistant professor of education, co-presented two papers at the Society for Research in Child Development's 60th anniversary meeting held in New Orleans. The papers were titled "Arboretum, Bureaucratic and Carbohydrates: Preschoolers' Exposure to Rare Vocabulary at Home," which she presented with Patton O. Tabors of Harvard University, and "The Where and When of Whys and Whats: Explanatory Talk Across Settings," which she presented with Jeanne M. De Temple of Harvard. ...

Jules B. Gerard, J.D., professor of law, delivered a paper titled "Planning and the First Amendment" at the American Planning Association meeting held in Chicago. ...

At the 29th meeting of the Midwest Business Administration Association held in Chicago, **Raymond L. Hilgert, D.B.A.**, professor of management and industrial relations, John M. Olin School of Business, presented three papers and chaired two sessions. His papers included presentations on Americans With Disabilities Act compliance, making business ethics presentations to community audiences and his reflections on being both an arbitrator and a professor. ...

Wendy Hyman-Fite, director of the English as a Second Language Program, and **Rosa B. Schuette**, assistant director, presented an invited session at the Teachers of English to Speakers of Other Languages' 1993 international conference held in Atlanta. Their interactive session was titled "Creating Your Own Cross-cultural Communication Case Studies." ...

Angela L. Miller, Ph.D., associate professor of art history and archaeology, presented a paper titled "The Soil of an Unknown America: New Worlds, Lost Empires and the Debate Over Cultural Origins" during the American Studies Association's annual meeting held in Costa Mesa, Calif. She also presented a paper on landscape taste and class formation during a session titled "Art in Bourgeois Society, 1790-1850: An International Perspective" at the British Association of Art Historians' conference in London. ...

During the International Congress on Schizophrenia Research held in Colorado Springs, Colo., **Steven O. Moldin, Ph.D.**,

assistant professor of psychiatry, presented a paper on "Bivariate Genetic Analysis of Schizophrenia: Increased Power for Linkage." ...

James S. Schilling, Ph.D., professor of physics, delivered an invited presentation titled "Pressure Effects in High-T_c Fullerene and Other Superconductors" at the American Physical Society's spring meeting held in Seattle. ...

John S. Taylor, Ph.D., associate professor of chemistry, delivered the Plenary Lecture during the Pew Midstates Undergraduate Symposium held at Grinnell College in Iowa. His talk was titled "Unraveling the Molecular Pathway From Sunlight to Skin Cancer." He also delivered lectures on the same topic to members of the chemistry department at the University of Missouri-St. Louis and at the University of Maryland.

On assignment

During the fall 1993-94 semester, **Andrew D. Dimarogonas, Ph.D.**, William Palm Professor of Mechanical Design, will serve as the Russell Severance Springer Professor of Mechanical Engineering at the University of California, Berkeley. As part of his one-month stay, Dimarogonas will deliver a lecture on "A Multivalued Number Algebra-based Exhaustive Mechanical Design Compiler." He also will present a series of four lectures on "The Origins of Engineering," which will be published in the Springer Lecture Series. ...

R. Joseph Oik, M.D., associate professor of clinical ophthalmology and visual sciences, was a guest lecturer at the International Symposium of Indo-cyanine Green Angiography held in New York. He also served as course director for the Great American Ophthalmic Conference and Exposition held in Orlando, Fla.

Varner honored at plant biology symposium

Scientists throughout the country convened at Washington University May 27-29 to attend "The Past, Present and Future of Plant Biology, A Symposium to Honor Professor Joseph E. Varner."

The symposium was held to honor Varner, Ph.D., Charles Rebstock Professor Emeritus of Biology, for his 20 years on the Washington University faculty and for his vast influence in plant biology. The symposium was organized by David Ho, Ph.D., Danny Kohl, Ph.D., Himadri Pakrasi, Ph.D., and Barbara Pickard, Ph.D., members of the biology faculty.

Presenters were all associates of Varner during his 44-year career. They ranged from former Washington University biology faculty Roger Beachy, Ph.D., of the Scripps Research Institute, La Jolla, Calif., and Mary Dell Chilton, Ph.D., of Ciba-Geigy Inc., Research Triangle Park, N.C., to present faculty member Jacob Schaefer, Ph.D., Charles Allen Thomas Professor of Chemistry, and a host of scientists from diverse institutions. More than 200 people attended the three-day event, which featured a riverboat cruise and dinner on May 28 and a gala banquet on May 29.

Posters were presented and proceed-

To press

Jim S. Alexopoulos, data technician in earth and planetary sciences, and **William B. McKinnon, Ph.D.**, associate professor in the same department, co-authored an abstract titled "What Can We Learn About Impact Mechanics From Large Craters On Venus?" McKinnon presented the abstract during the Conference on Large Meteorite Impacts and Planetary Evolution held in Sudbury, Ontario, Canada. ...

C. Robert Almli, Ph.D., associate professor of occupational therapy, psychology and the neurosciences program, wrote an article on "Influence of Perinatal Risk Factors on Movement Patterns: an Animal Model and Premature-human Infants." The article was published in a 1993 book titled *At-risk Infants: Interventions, Families and Research*. N.J. Anastasiow and S. Harel are the co-editors. ...

Hsiu-Jeng Yeh, M.D., research instructor of medicine, published an article titled "Developmental Expression of the Platelet-derived Growth Factor Alpha-receptor Gene in Mammalian Central Nervous System" in the proceedings of the National Academy of Science. During the 22nd annual meeting of the Society for Neuroscience held in Anaheim, Calif., she presented a poster titled "Expression of the Pleiotrophin Gene in Developing Mouse Central Nervous System."

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. Items must not exceed 75 words. For information, call Carolyn Sanford at 935-5293.

ings of the symposium will be published in August.

Varner is renowned for his expertise in plant physiology and biochemistry. He came to Washington University as professor of biology in 1973. He was named Charles Rebstock Professor of Biology in 1974. He is an elected fellow of the American Association for the Advancement of Science and a member of both the National Academy of Sciences and the American Academy of Arts and Sciences.

During 1970-71 he served as president of the American Society of Plant Physiologists and he was president of the Society of Developmental Biology during 1986-87. He also was associate editor of the Plant Physiology journal from 1967 to 1984. He has been a member of peer review panels at the National Science Foundation, Department of Energy and the United States Department of Agriculture. He also has been a visiting professor at several American universities.

A total of 64 scientists have either received their doctorates under Varner's supervision, or else worked with him as postdoctoral students or as visiting scientists. He continues his research using new approaches to understand the structure and function of plant cell walls and the reactions of plants to stress.

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 (Medical School).

The Emergence of the African-American Artist: Robert S. Duncanson, 1821-1872 is the title of a new book by **Joseph D. Ketner**, director of the Gallery of Art. Known in the mid-19th century as the best landscape painter in the West, Duncanson fell into obscurity for nearly a century after his death. In this first full-length biography, Ketner restores the artist to his place in the history of American art. He explores Duncanson's role as an African-American artist in American society and reveals his lasting contribution to American landscape painting. The book features more than 130 samples of Duncanson's work, along with other African-American artists, and includes 20 color plates. (University of Missouri Press, Columbia and London)



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.

Publications Coordinator

930199. *Undergraduate Admission.* Requirements: Bachelor's degree, master's degree preferred; ability to manage projects and the people working on them; ability to write clear and concise prose; experience as an editor and familiarity with design and layout are essential; ability to balance competing priorities, to work with University personnel at all levels, to negotiate with vendors, to work with very tight deadlines and to work independently and establish priorities quickly; sense of humor essential. Resume and three letters of recommendation required.

Receptionist/Appointment Secretary

930202. *Undergraduate Admission.* Requirements: High school graduate, some college preferred; must be flexible, even-tempered and eager to deal with the public; good sense of humor is a must; typing 40 wpm with accuracy. Clerical tests and three letters of recommendation required.

Executive Secretary

930203. *General Counsel's Office, Medical Campus.* Requirements: Some college preferred and one year's experience in a law firm strongly desired; must be self-motivated and able to perform duties with minimal supervision; typing 60 wpm with accuracy. Clerical tests and three letters of recommendation required.

Associate Director of CAIT

930204. *Center for the Application of Information Technology.* Requirements: Bachelor's degree in a pertinent field of engineering, business, information systems or finance, an advanced degree in engineering, business, information systems or finance is preferred; excellent communication skills; excellent marketing, general management and financial management skills; 10 years of applicable work experience in business or industry, with teaching experience as a component of the work experience; teaching experience is subject to review upon other attributes; the ability to plan, organize and lead special projects, and to facilitate. Resume and three letters of recommendation required.

University Communications Secretary

930205. *Office of Public Affairs.* Requirements: Ability to follow directions and be accurate; good verbal and written skills; ability to handle multiple tasks; ability to work for four people; completed secretarial training; ability to meet deadlines set by editor to ensure timely publication of Washington University Record; ability to prioritize tasks to ensure timely distribution of news releases, public service announcements, advisories, calendars of events and other public information communications to the media; ability to assume responsibility of documenting incoming notices of events from the Hilltop and Medical campuses for the Washington University Record and calendars; typing 50 wpm with accuracy. Clerical tests and three letters of recommendation required.

Senior News Editor

930206. *Office of Public Affairs.* Requirements: Bachelor's degree, additional preferred education or equivalent experience in journalism; excellent writing, interviewing and editing skills; knowledge of needs of working press and matching marketing skills. Resume and three letters of recommendation required.

CAIT Lab Systems Technician

930216. *Center for the Application of Information Technology.* Requirements: College work, associate's or bachelor's degree preferred; ability to program in a variety of computer languages; familiarity with DOS, OS/2, UNIX and Novell network preferred; experience with a wide range of computing systems, networks and peripherals, including capability to configure, support and administer a PC network. Resume and three letters of recommendation required.

Computer Specialist

930217. *Earth and Planetary Sciences.* Requirements: Bachelor's degree; knowledge of C programming, UNIX and MS-DOS; prefer familiarity with Macintosh and knowledge of TCP/IP and LocalTalk networking; fluent in English; self-motivated and capable of working under minimal supervision; able to interact well with faculty, students and staff; capable of independent problem-solving, both hardware and software. Resume and three letters of recommendation required.

Administrative Aide

930221. *Classics.* Requirements: Some college preferred; typing 50 wpm with accuracy; adaptability to diverse faculty; maturity and dependability; approximately 20 percent of time will be devoted to the Religious Studies Program. Clerical tests and three letters of recommendation required.

Scene Shop Supervisor

930222. *Performing Arts/Edison Theatre.* Requirements: Some college, bachelor's degree preferred. Duties: Supervise and train college work-study students in the safety and use of all power tools, lighting equipment and props in the scene shop; maintain and fix the power tools for the safety of the student CWS crews in the scene shop; aid road show carpenters with the running of CWS crews for loan-ins strikes on the Edison stage; price and order lumber, hardware and new equipment for the scene shop; review and approve biweekly payroll; substitute for Edison and Performing Arts Department's technical director when needed. Resume and three letters of recommendation required.

Associate Director of Development

John M. Olin School of Business. This is a challenging and permanent position in the office of University Relations. Candidates must have a bachelor's degree and at least four years of development or related experience. The school's development program covers a wide spectrum of activities, including major gifts, campaign planning, annual fund, scholarship program, and some alumni programs such as MBA reunions and alumni awards. Skills must be multifaceted and include excellent speaking, writing, organizational and sales and marketing skills. Salary is competitive. Application deadline is June 15, 1993. Send resume to: Karen Margo, Senior Director of Development, John M. Olin School of Business, Washington University, Campus Box 1210, One Brookings Drive, St. Louis, Mo. 63130

Associate/Assistant Director of Development

Arts and Sciences. This is a challenging and permanent position in the Department of Alumni and Development Programs. Qualifications include a bachelor's degree and three or more years experience in development for higher education or comparable activity. Knowledge of personal solicitation required; and gift planning experience helpful. Travel required. Salary is dependent on qualifications and experience. Interviews will begin immediately and continue until the position is filled.

Application deadline is June 18, 1993.

Send resume and names, addresses and phone numbers of three references to: John P. Pirozzi, Senior Director of Development, Arts and Sciences, Alumni and Development Programs, Washington University, Campus Box 1210, One Brookings Drive, St. Louis, Mo. 63130

Associate Director, Annual Giving Programs/Director

Reunion Class Gift Program. This is a challenging position in the Department of Alumni and Development Programs. Candidates must have a college or university degree and experience in alumni/development or related work. Responsibilities include planning, coordination, and overall execution of the University's Reunion Class Gift Program as well as involvement with the William Greenleaf Eliot Society programs. Preference will be given to candidates who have successfully planned and implemented Reunion Class Gift programs at private institutions and who have proven skills in successfully directing volunteers. Excellent writing, speaking, organizational skills, and a willingness to travel are essential. Salary is commensurate with qualifications and experience. Application deadline: June 30, 1993. Send resume, three references, and salary requirements to: Director, Annual Giving Programs, Alumni and Development Programs, Washington University, Campus Box 1210, One Brookings Drive, St. Louis, Mo. 63130

Medical Campus

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

Secretary II

930421-R. *Respiratory and Critical Care.* Requirements: High school graduate/equivalent with two years or more related experience, some college or business school training preferred; typing 60 wpm; experience on Macintosh, Microsoft Word.

Polysomnographer Aide

930440-R. *Neurology.* Schedule: Part-time, Monday-Friday, 7-11 p.m. Requirements: High school graduate/equivalent, prefer some college coursework in anatomy and physiology; must have the ability to communicate and work effectively with a variety of patients, family and staff.

Secretary II

930621-R. *Ophthalmology.* Schedule: Part-time, 20 hours per week. Hours will vary, depending on work load. Requirements: High school graduate/equivalent, two years college preferred; desire individual with two to five years secretarial experience; should be highly organized and have good communications skills; must be personable and be able to relate well with faculty, staff and trainees; typing 60 wpm.

Coding Specialist — Diagnostic/Medical

930712-R. *Internal Medicine.* Schedule: Hours 10 p.m.-7 a.m., including some weekends. Requirements: High school graduate/equivalent; two years related CPT and ICD-9 coding experience preferred; desire an accredited records technician or individual with similar clinical training or skill.

Programmer Analyst I

930742-R. *Surgery.* Requirements: Bachelor's degree in computer science or equivalent; one year full-time professional applications development experience; C programming, SQL database, Windows, Macintosh, Networking and 4 GL experience preferred; will maintain existing applications for departmental use as well as design new report formats, write programs and work with users.

Medical Secretary II

930766-R. *Rheumatology.* Schedule: Part-time 20 hours per week. Hours must include Tuesday from 8 a.m.-noon. Hours on Monday, Wednesday, Thursday and Friday are flexible. Requirements: High school graduate/equivalent with one year related experience; should have excellent interpersonal skills and the ability to relate effectively with physicians, non-physician health-care workers and patients; typing 60 wpm and experience on WordPerfect. Position is located at the St. Louis Veteran Affairs Medical Center.

IDX Scheduling Clerk

930796-R. *Cell/Molecular Neurobiology.* Requirements: High school graduate/equivalent; prefer one year office experience; individual with some billing experience preferred; must have experience with medical insurance claims and be familiar with medical terminology; typing 45 wpm.

Animal Caretaker

930815-R. *Comparative Medicine.* Schedule: Full-time, including some weekends, holidays and possible overtime. Requirements: High school graduate/equivalent; must be able to work with and handle animals; must have a valid driver's license and the ability to drive a truck or van; must be able to lift up to 50 pounds.

User Support Technician

930829-R. *Medical Library.* Requirements: Bachelor's degree in computer science or related field; good communication and organizational skills necessary; will provide end user support of PCs and Macintosh desktop workstations; includes software installations, configuration and troubleshooting of machines on a variety of network types such as Appletalk, Novell and TCP/IP; some UNIX and VMX system management duties.

Professional Rater I

930844-R. *Psychiatry.* Schedule: Full-time position, including occasional Saturdays and Sundays. Requirements: Bachelor's degree in psychology preferred; desire individual with counseling and/or social work experience. Position located at Boatmen's Bank on Lindell Boulevard.

Hilltop's no-smoking policy clarified

Provost Edward S. Macias, Ph.D., recently clarified the Washington University Hilltop Campus' no-smoking policy.

Under the policy, which complies with Missouri's Smoke-Free Air Act, all Hilltop Campus spaces are considered non-smoking unless otherwise indicated. For example, limited smoking areas are available in The Gargoyle, located in the basement of Mallinckrodt Center, and Holmes Lounge, which is located in Ridgley Hall. Staff from the Department of Facilities Planning and Management are posting appropriate no-smoking signs on the entrances to all University buildings.

In addition, departments may designate smoking areas in certain sections of a building, provided the departments are responsible for the spaces.