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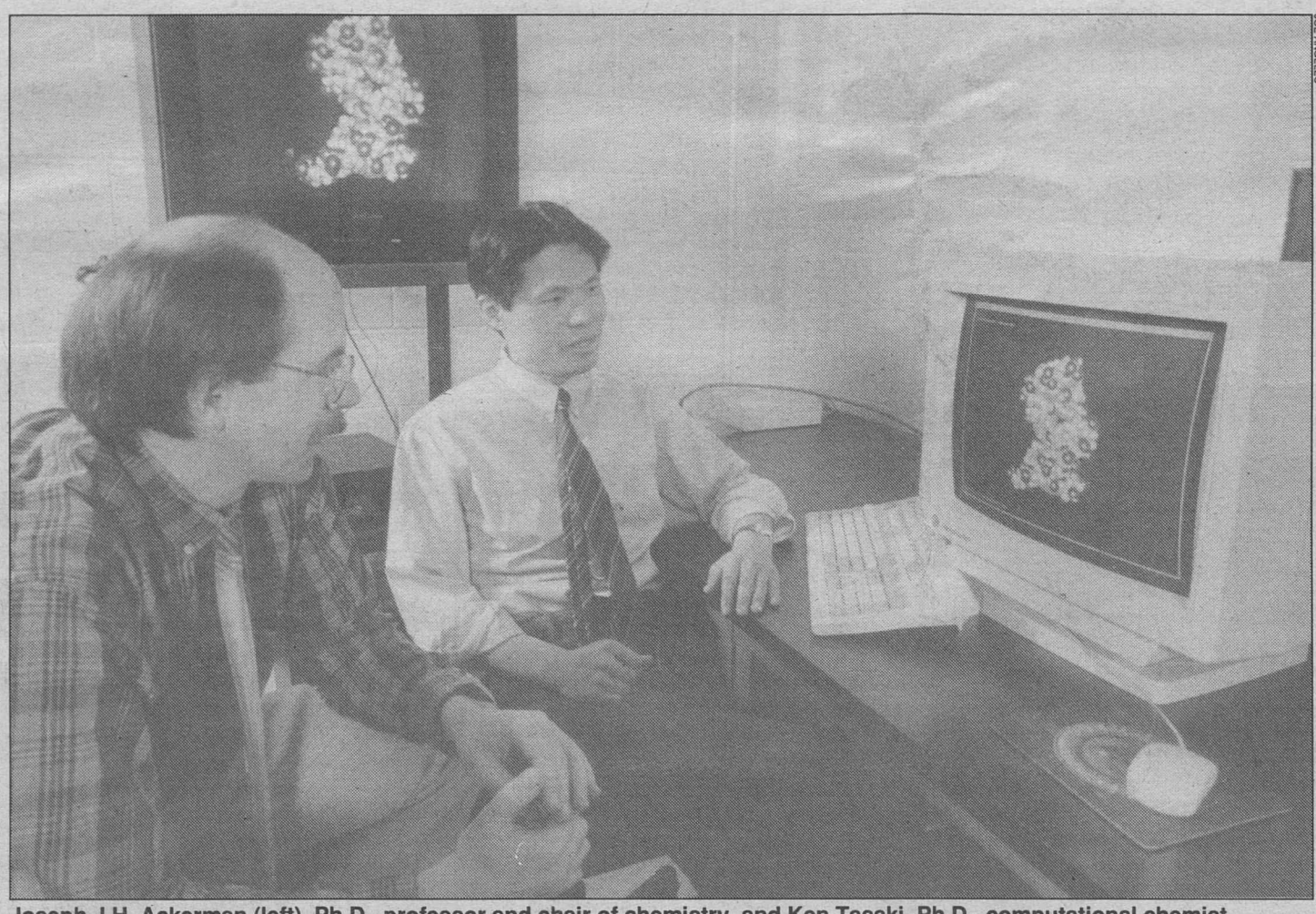

JOE ANGELES

Joseph J.H. Ackerman (left), Ph.D., professor and chair of chemistry, and Ken Tasaki, Ph.D., computational chemist, examine the changing form of a DNA molecule. At the new Center for Supercomputing in Chemistry in 429 McMillen Hall, researchers are able to create movies of high-tech dimensions.

State-of-the-art

Supercomputing center solves research problems, assists teaching

Washington University inaugurated a new section of the electronic information superhighway when the Center for Supercomputing in Chemistry at Washington University officially opened in a ceremony Feb. 4 at 429 McMillen Hall.

The center, the only one of its kind in Missouri, is funded by the National Science Foundation and the Whitaker Foundation. While the center is housed in the Department of Chemistry, it is available to all University faculty, some of its students, and to anyone in the world with Internet access. Other Washington University programs that impact the information superhighway include: the Department of Computer Science's "wuarchive," the most popular archive on the 15-million-user Internet, and Project Zeus, the campus-wide research program exploring the many possibilities of ultra-fast, fiber optic switching systems, the system of the future for the Internet; the Department of Electrical Engineering's Magnetic and Information Sciences Center, which deals with data storage on the superhighway; and the Department of Earth and Planetary Science's NASA Geoscience Node, which makes planetary images available to Internet users.

Ken Tasaki, Ph.D., Washington University computational chemist, is the center's new director. The chemistry department and other Washington University faculty and students will use the center for molecular modeling and analysis, computational analysis, and graphics for research and teaching. The five work stations are connected to an ultra-fast, parallel processing computer from Silicon Graphics Inc. called Power Challenge. A parallel computer simultaneously divides different computational tasks among more than one processor.

The Silicon Graphics Inc. Power Challenge is a unit similar to those used in the entertainment industry for animation. (Special effects in "Jurassic Park" and "Terminator 2" were done with Silicon Graphics Inc. computing). The Power Challenge is so swift that it can compute at a rate of 160 megaflops. While that term may conjure images of the Olympics, it is computer jargon for how many calculations the machine can do in one second. A megaflops ("flops" is floating operations per second, or calculations per second) is one million calculations per second. In a few months, the Power Challenge will be upgraded to handle 350 megaflops. It has 128 megabytes of memory.

Scientists already are using the center for analyzing sunlight-damaged DNA, for instance, and for molecular modeling to develop drugs. Eighteen different software packages are available for the workstations, ranging from molecular modeling packages and programs that can analyze nuclear magnetic resonance and X-ray spectroscopy data to statistical analyses and graphical mathematics packages for a variety of research problems.

"One of the key thrusts of modern chemistry is the integration of high-performance computing to solve research problems and assist in teaching," said Joseph J.H. Ackerman, Ph.D., professor and chair of the chemistry department. "We're now meeting that need with this first-rate facility. While it is designed to serve our department, we want to share with the whole University and the broader community."

Tasaki said the center doesn't have nearly the computing power found at the four National Science Foundation-sponsored supercomputer centers, but that it is capable of handling diverse tasks very efficiently. The multi-million dollar na-

Continued on page 6

National Cancer Institute official joins faculty

Daniel C. Ihde, M.D., deputy director of the National Cancer Institute (NCI), joined the School of Medicine faculty on Feb. 15 as professor of medicine and director of a new Division of Medical Oncology within the Department of Medicine. Ihde also will serve as director of the Barnard Cancer Center.

Ihde has worked at NCI for 20 years, beginning as a clinical associate in 1973.


Daniel C. Ihde

He became a senior investigator at the NCI Veterans Administration Medical Center in 1975 and later was named deputy chief of the Naval Medical Oncology Branch at the National Naval Medical Center. He has served as deputy director of NCI since 1991 and has been editor-in-chief of the Journal of the National Cancer Institute since 1988.

Ihde was formerly a professor of medicine at the Uniformed Services University of the Health Sciences in Bethesda, Md., and was a member of its faculty from 1981 to 1991. He served as director of the hematology/oncology division at that institution for three years. In addition, he was an assistant professor of medicine at Georgetown University from 1978 to 1983. Ihde conducts research focused on cancer staging evaluation, chemotherapy and combined modality treatment of patients with lung cancer and other malignancies.

He received his bachelor's degree from Eastern New Mexico University in 1964 and earned his medical degree from Stanford University in 1969. He trained in internal medicine at the New York Hospital and Memorial Sloan-Kettering Cancer Center in New York, then completed fellowships at Memorial Sloan-Kettering Cancer Center and the National Cancer Institute in Bethesda, Md.

Student recruitment given campus-wide help through cluster

As part of a series on the University Management Team, the following article focuses on the efforts of the Admission-Financial Aid Cluster. Earlier articles have outlined the work of the management team and the Administrative Services Cluster. A future issue will detail the efforts of the Student Experience Cluster.

While undergraduate admission and financial aid have a long tradition of close working ties at Washington University, only recently have these areas joined forces in a new, more formal, more comprehensive effort. A new approach to recruitment, one that involves the entire campus, is under way.

The Admission-Financial Aid Cluster is the group charged to facilitate the process of matching prospective students and their families with Washington University. This was the first of three formal clusters created about a year ago by the University Management Team, a group of 75 administrators from the University's central administration or Central Fiscal Unit (CFU) and the schools. The University Management Team organized the three clusters to help participants better understand the teaching and research needs of the University and, in the process, to find better ways of serving Washington University's students, faculty and staff at a lower cost. The other two clusters are the Administrative Services Cluster and the Student Experience Cluster.

"In a way, the need for this cluster has always existed," said Dennis Martin, assistant provost and director of financial aid and co-chair of the Admission-Financial Aid Cluster. "The interaction of admission and financial aid in this way began in the 1980s. The need for financial aid and admission to work hand-in-hand is more pressing than ever before."

"We knew from the beginning that it felt right, that this was something that was going to continue," said Harold Wingood, dean of undergraduate admission and cluster co-chair. "Once it started, we wondered how we ever did without it. We found that there was some duplication going on in recruitment, which was inefficient. Working together we can do a better job."

The key, Wingood and Martin said, was expanding their group to include administrators from almost every area of the University. In addition to admission and financial aid, the cluster includes representatives from the deans' offices of each undergraduate school, Student Affairs, Facilities Planning and Management, the Office of Public Affairs, the Department of Athletics, the Office of Residential Life, Alumni and Development, and others.

"This activity brings people from all parts of the University together to reach

Continued on page 6

In this issue ...

Medical Update

Tricky tuberculosis organism tackled by scientists

School of Medicine researchers have discovered one of the ways the tuberculosis organism thrives in humans.

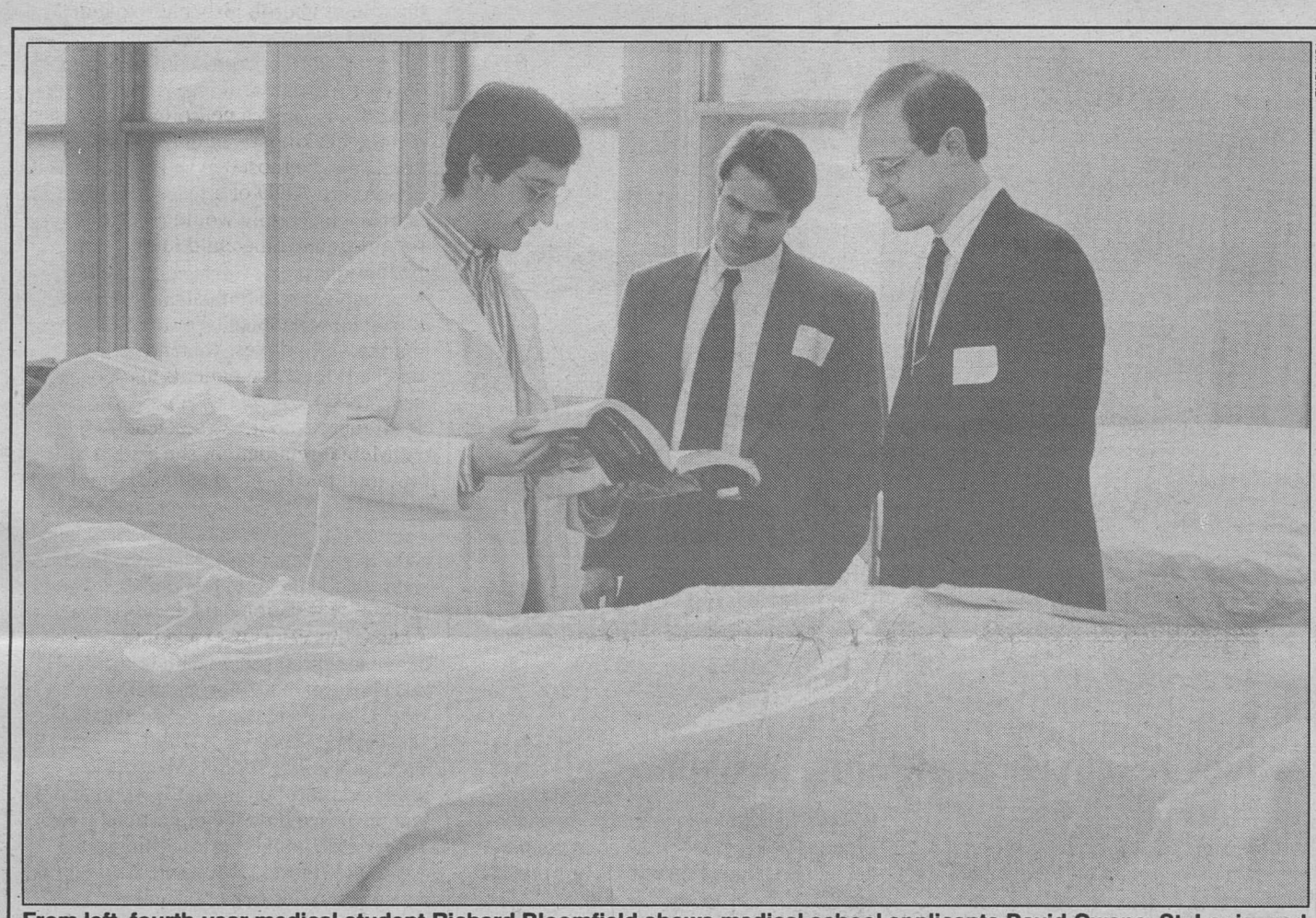
When a person is infected with *Mycobacterium tuberculosis*, the bacteria make their way into macrophages, immune system cells designed to engulf and eventually digest invading bacteria. Through centuries of trial-and-error, *Mycobacterium tuberculosis* has developed a series of largely inscrutable tricks that allow it to survive and even thrive inside this hostile environment.

Now, an article in the Feb. 4 issue of the journal Science by Sheila Sturgill-Koszycki, graduate student in molecular microbiology; and David G. Russell, Ph.D., associate professor of molecular microbiology; brings to light one of the strategies *Mycobacterium tuberculosis* uses to redesign the environment inside the macrophage, making it more to its liking. Russell and colleagues from the departments of Medicine and Cell Biology and Physiology at the School of Medicine have revealed that *Mycobacterium tuberculosis* is able to modulate the acidity of its living space within macrophages.

Once the bacteria are "safely" within the macrophage, they reside in a membrane-bound compartment, or vacuole, which under normal circumstances would acidify and digest the invading bacteria, much like food in a stomach. Russell has shown that *Mycobacterium tuberculosis* prevents acidification of its vacuole by excluding the enzyme responsible for the acidification process. Preventing the vacuole from acidifying blocks the activity of digestive enzymes, which normally would kill and degrade the bacteria. The mechanism responsible for the bacteria's ability to exclude the acidifying enzyme from its vacuole is not fully understood and is being studied.

Given the rapid resurgence of tuberculosis (TB) cases in the United States, understanding the basic cellular biology of TB infection has a new sense of urgency. Though this work is not likely to lead to a new drug or to improve treatment of patients with tuberculosis, Russell said it makes a contribution to understanding how this dangerous bacterium continues to thrive within humans.

A "Perspectives" article written by Stanford University's Stanley Falkow, M.D., also appears in the journal and further underlines the importance of this line of research. He writes: "Dissection of the mechanisms of persistence of this organism, as illustrated by the work of Sturgill-Koszycki et al., is central to our understanding of the biology of the host-pathogen interaction and of the evolution of tuberculous disease." Falkow adds that such studies "may also have a key to preventing one of the more insidious causes of human morbidity and mortality."



TOM HEINE

From left, fourth-year medical student Richard Bloomfield shows medical school applicants David Owens, St. Louis, and Brian Batdorf, San Diego, Calif., an anatomy atlas students use in their human dissection class.

University physicians among the best in America

The School of Medicine has some of America's best and brightest doctors, according to a new and select directory of leading physicians in the United States and Canada. The directory, which will be published this month, includes 95 School of Medicine physicians.

The book was compiled by asking doctors across the country to recommend a specialist to whom they would send a relative or friend. After one year and more than 13,000 phone calls and 11,000 letters, 7,200 physicians were selected in more than 350 areas of medical expertise.

In addition to the 95 physicians from Washington University, 31 doctors from St. Louis University and 13 from the University of Missouri School of Medicine, Columbia, were chosen.

The book, titled *The Best Doctors in America,* is published by Woodward/White Inc., of Aiken, S.C. The following School of Medicine physicians are listed: Gerald Andriole, urology; Leonard Berg, neurology; Nancy Bridges, pediatrics; George Broze Jr., medical oncology/hematology; William Catalona, urology; Ralph Clayman, urology; Barbara Cole, pediatrics; Harvey Colten, allergy and immunology; Joel Cooper, thoracic surgery; James Cox, thoracic surgery; Philip Cryer, endocrinology and metabolism; Philip Custer, ophthalmology;

Ralph Dacey Jr., neurological surgery; Louis Dehner, pathology; Philip R. Dodge, neurology; W. Edwin Dodson, neurology; Arthur Eisen, dermatology; T. Bruce Ferguson Jr., thoracic surgery; John Fredrickson, otolaryngology; Andrew Galakatos, obstetrics and gynecology; Edward Geltman, cardiovascular disease; Joel Goebel, otolaryngology; Perry Grigsby, radiation oncology; Samuel Guze, psychiatry;

William Hart Jr., neurology; Bruce Haughey, otolaryngology; Jacques Herzog, otolaryngology; Daniel Ihde, medical oncology/hematology; Henry Kaplan, ophthalmology; Michael Kass, ophthalmology; James Keating, pediatrics; Saulo Klahr, nephrology; Ira Kodner, colon and rectal surgery; Allan Kolker, ophthalmology; Phillip Korenblat, allergy and immunology;

Nicholas Kouchoukos, thoracic surgery; William Landau, neurology; Demetrios Lappas, anesthesiology; Stephen Lefrak, pulmonary and critical care medicine; Philip Ludbrook, cardiovascular disease; Rodney Lusk, otolaryngology; Susan Mackinnon, plastic surgery; Susan Mallory, dermatology; Paul Manske, hand surgery; Jeffrey Marsh, plastic surgery;

Richard Mattison, psychiatry; Gerald Medoff, infectious diseases; Benjamin Milder, ophthalmology; Tom Miller, nuclear medicine; Joanne Mortimer, medical oncology/hematology; Harlan Muntz, otolaryngology; Robert Myerson, radiation oncology; J. Gail Neely, otolaryngology; Jeffrey Norton, general surgery; R. Joseph Olk, ophthalmology; T.S. Park, neurological surgery; G. Alexander Patterson, thoracic surgery;

Jay Pepose, ophthalmology; Carlos Perez, radiation oncology; J. Julio Perez Fontan, pediatrics; Robert Perrillo, gastroenterology; Clayton Perry, orthopedic surgery; Alan Pestronk, neurology; William Powderly, infectious diseases; William Powers, neurology; Arthur Prensky, neurology; Henry Royal, nuclear medicine; Stuart Sagel, radiology; Julio Santiago, pediatrics;

Perry Schoenecker, orthopedic surgery; James Schreiber, obstetrics and gynecology; Alan Leigh Schwartz, pediatrics; Robert Senior, pulmonary and critical care medicine; Penelope Shackelford, pediatrics; Deborah Shure, pulmonary and critical care medicine; Gregorio Sicard, general surgery; Barry Siegel, nuclear medicine; Thomas Fugate Smith, allergy and immunology; Nathaniel Soper, general surgery; Thomas Spray, thoracic surgery; Gregory Storch, pediatrics;

Steven Strasberg, general surgery; Ronald Strickler, obstetrics and gynecology; Robert Strunk, allergy and immunology; J. Regan Thomas, otolaryngology; John Trotter, neurology; Teresa Vietti, pediatrics; Todd Wasserman, radiation oncology; John Watkins, pediatrics; Paul Weeks, plastic surgery; Samuel Wells Jr., general surgery; Neil White, pediatrics; Mark Wick, pathology; and Leo Whiteside, orthopedic surgery.

Video addresses animal research

"Lives in the Balance," a video that addresses the value of animal research, will be presented for faculty, staff and the general public at 12:30 p.m. Feb. 21 and 4 p.m. Feb. 24 in Wohl Auditorium.

Prepared by the Office of the Vice Chancellor for Animal Affairs with the support of the Office of Medical Public Affairs, the video's main purpose is to educate the public about the use of animals in biomedical research and the vital contribution animals make toward saving and improving human lives.

"For too long, we have allowed the 'animal rights movements' to erode public support of biomedical research," said Theodore J. Cicero, Ph.D., associate vice chancellor and associate dean for animal affairs. "This video is part of the University's proactive stance in educating the public about the necessity of research involving animals as a means of alleviating human disease and suffering."

The 15-minute video features comments from faculty members, including William A. Peck, M.D.; Penelope G. Shackelford, M.D.; Peter B. Corr, Ph.D.; Cicero; David W. Scharp, M.D.; Garland Marshall, Ph.D.; and James L. Cox, M.D.

In addition to educating the public, the screening is being held to let faculty and staff know they can request the video. After the screening, the video and a companion brochure will be used as a resource for an informal speakers bureau on animal research.

Record

Editor: Deborah Parker, 935-5235, Box 1070
Executive director, University Communications: Judith Jasper
Executive editor: Susan Killenberg
Editor, medical news: Diane Duke, 362-9662, Medical School Box 8065
Assistant editors: Carolyn Sanford, 935-5293; Susannah Webb, 935-6603, Box 1070
Production: Galen Harrison
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Washington
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Washington People

Link between brain, behavior invigorates Deuel

Ruthmary Deuel, M.D., chose medicine over philosophy in her junior year at Mount Holyoke College in South Hadley, Mass. It was a difficult choice between Aristotle and zoology. She always had been intrigued with philosophy and language, in addition to her interest in science.

But in many ways, Deuel has not left philosophy behind. As she studies the relationship between the brain and behavior, she philosophizes every day in her job as a pediatric neurologist.

"One of the things that made me a neurologist was an interest in epistemology, the theory of knowledge. How do you know what you know?" said Deuel.

This question surfaces often as Deuel studies the biology of thinking and behaving. Her subspecialty in pediatric neurology is cognitive and behavioral problems. She studies selective developmental delays in thinking and a condition commonly referred to today as "attention deficit disorder" or ADD.

Deuel's path to becoming a pediatric neurologist is a circuitous one. After deciding in college that she did not want to become a professor of philosophy at a women's college, which might have been a predictable choice for the time, she applied to medical school. And because she decided late in her college career to go to medical school and was not sure she would be accepted, she also applied for a Fulbright scholarship in philosophy.

Deuel was accepted into medical school and also was awarded the Fulbright. The College of Physicians and Surgeons of Columbia University in New York allowed Deuel to defer her admission, so she accepted the Fulbright and spent a year in Germany studying the philosophers Martin Heidegger and Immanuel Kant.

When Deuel returned to New York and started medical school, she decided to specialize in psychiatry. But after completing medical school in 1961 and beginning a residency in psychiatry at the University of Chicago, she discovered on a neurology rotation that neurology truly was her calling. Deuel was greatly influenced by a famous pediatric neurologist, Douglas Buchanan.

"I discovered that neurologists were perfectly good psychiatrists. They recognized emotional and thought disorders quite well. But they also had a wonderful body of knowledge about the nervous system that psychiatrists didn't have to know," Deuel said.

So Deuel did a year of a pediatric internship and then began a pediatric neurology residency at Boston Children's Hospital.

Deuel's parents were not thrilled that she wanted to become a doctor, but not for the same reasons some of her friends' parents objected. They were concerned financially about being able to send her to medical school because they had two younger children. Deuel's mother was a high school art teacher and book illustrator and her father was an Episcopalian minister who began working for the New York City prison system when Deuel was 10 years old. In the end, one of Deuel's aunts helped with tuition, she got a scholarship, and as Deuel tells it, she did not drive her family into the poor house or herself into large amounts of debt.

"Now that I look back on how my parents thought, it was a great exception. Many of my friends' dads thought a woman going to medical school was an unnatural thing," Deuel said.

Deuel thinks one of the reasons she became interested in medicine was a female pediatrician she had as a child, when doctors still made house calls. Deuel had the measles and although she was recovering, her doctor insisted on coming by every day to visit her.

"My mother worked, and the pediatrician didn't like the idea that I was at home all by myself," Deuel said. "Needless to say, I didn't have any major health problems, but I kind of got interested in her work."

When Deuel talks about her work, her enthusiasm is obvious. Her neatly kept office is filled with medical journals. Toys for her patients cover the top of a filing cabinet.

She takes seriously the task of figuring out why children are having problems learning or functioning.

Deuel dislikes using the term attention deficit disorder because she believes it has become a blanket term for many problems. "What I study is related to brain dysfunction but not in the simple-minded straightforward way that has permitted people to label up to 20 percent of the population as having this problem," she said.

In her practice, Deuel has seen many children who have problems with attention, but she does not automatically prescribe medication. In many instances, she said, a child has a language disorder or dyslexia that is adding to the inattention. In other cases, a teacher does not understand the child or perhaps the child's home life is crumbling. "Most often there is a problem with attention, but it needs to be explored further to figure out what is causing the problem," Deuel said.

TOM HEINE

Stephanie Beaver, 4, turns the tables on pediatric neurologist Ruthmary Deuel, M.D., and tests her reflexes.

> "Many of my friends' dads thought a woman going to medical school was an unnatural thing."

One of her favorite stories of mislabeling involved a third-grader who was brought to her because he "came down" with attention deficit disorder. "Usually it starts in the first-grade. But this child was doing fine and getting good grades and then suddenly he got this dreadful disease," Deuel said. "I was very suspicious that this was due to the environment."

In this instance, two of the little boy's classmates had threatened his life and he was afraid to tell anyone. He was racked with anxiety at school and was having problems concentrating.

Deuel called his teacher, who did a little detective work, and she discovered what was going on in the boys' bathroom and on the playground.

At the other end of the age spectrum, Deuel also has done some Alzheimer's research. She became interested in this area because she was studying apraxia, a condition that makes a person unable to do certain voluntary motor activities even though they have the strength. One example is using a knife and fork. People with Alzheimer's in its later stages generally have apraxia.

Philip R. Dodge, M.D., professor emeritus of pediatrics and neurology who teaches at the School of Medicine, has known Deuel for 25 years. "She is one of the few people in the Department of Neurology who is very skilled in behavior as it relates to the brain. She has a particular interest in apraxia and is well recognized for this in the neurological community at large," said Dodge. "She is extremely bright and has a very inquiring mind."

Since Deuel began studying cognitive and behavioral problems in the 1970s, the role of neurologists has expanded, she said. Neurologists now are responsible for more primary care of people with chronic disabilities. When she entered the field, a neurologist's primary job was making a diagnosis. Once a child was diagnosed, whether it was with epilepsy or ADD or another disorder, the neurologist simply would recommend medication for the child to the primary pediatrician.

"Today, I think in part because we have more treatment options and specialized techniques, we tend to follow and care for those patients and not just say, 'Okay, I made the diagnosis and that is all there is to it,'" said Deuel.

Mental retardation, she said, is still not treatable by medication except in very few cases. However, neurologists and rehabilitation specialists have learned about educational means to optimize behaviors in children with mental retardation, and according to Deuel, this effort is expanding.

Magnetic resonance imaging (MRI) and positron emission tomography (PET) also have changed the field of neurology. Because of these techniques, neurologists now can look at a very detailed morphology of the brain and can even see how the brain functions under certain waking conditions.

In the future, Deuel said, how the brain promotes behavior will be definitively figured out, which will help in the clinical management of many disorders that now are called "neurobehavioral." Some of these disorders are autism, developmental language disorders and ADD.

Being able to use new treatments is one of the satisfying parts of Deuel's job. "You can say, 'Well, I've been seeing you since you were 2 years old for your epilepsy and now you're 15. You haven't had a seizure in three years and you don't have to see me anymore. Hooray for you!'" she said. "We didn't tend to do so much of that in the distant past."

Although she enjoys treating patients and teaching, research makes Deuel most passionate about her work. "It is the best fun of all," she said. "When I first started out, I was going to discover the world. But the further along you go, it becomes very clear that you can only put a little piece in place, not a great big piece. But I love the fact that I can add to the larger picture."

As medicine has changed, however, Deuel has encountered some roadblocks. She calls the payment system for patient care "incredibly baroque" and says healthcare professionals and patients waste hours trying to figure out how to get insurance to pay for what the patient needs. Deuel says health insurance companies have an intrinsic conflict of interest because they have to pay if the patient is going to be cured but not if the patient dies.

Deuel is concerned because she believes the art of medicine is not factored into the actuarial tables that are used by insurance companies and may be used under the new Clinton health plan.

"Medicine is not an actuarial science, but it's being imposed upon us so that we can't use our art anymore. What statistics can't do is precisely cover the needs of each individual patient," she said. "It's a far cry from what that doctor who visited me daily could do, both in terms of incredibly increased capacity to cure, and incredibly decreased personal contact."

— Diane Duke

Calendar

Feb. 17-26

Exhibitions

"The Near Distance: James McGarrell's St. Louis Years" by McGarrell, prof. emeritus of art. Through March 27. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. 935-5490.

Films

Thursday, Feb. 17

7 and 9 p.m. Filmboard Classic Series. "Roman Scandals" (1933, B&W). Room 100 Brown Hall. Cost: $3. **For 24-hour Filmboard hotline, call 935-5983.**

Friday, Feb. 18

7 and 9:30 p.m. Filmboard Feature Series. "El Mariachi" (1993), in Spanish with English subtitles. (Also Feb. 19, same times, and Feb. 20 at 7 p.m.) Room 100 Brown Hall. Cost: $3.

Midnight. Filmboard Midnight Series. "Jailhouse Rock" (1957, B&W). (Also Feb. 19, same time, and Feb. 20 at 9:30 p.m.) Room 100 Brown Hall. Cost: $3.

Tuesday, Feb. 22

7 p.m. Chinese Film Series. "Old Well" (1987), with English and Japanese subtitles. Room 219 South Ridgley Hall. 935-5156.

Wednesday, Feb. 23

7 and 9 p.m. Filmboard Foreign Series. "Black Girl" (1965, B&W), in French with English subtitles. (Also Feb. 24, same times.) Room 100 Brown Hall. Cost: $3.

Friday, Feb. 25

7 and 9:30 p.m. Filmboard Feature Series. "Zou Zou" (1934, B&W), in French with English subtitles. (Also Feb. 26, same times.) Room 100 Brown Hall. Cost: $3.

Midnight. Filmboard Midnight Series. "Little Shop of Horrors" (1986). (Also Feb. 26, same time.) Room 100 Brown Hall. Cost: $3.

Lectures

Thursday, Feb. 17

Noon. Genetics seminar. "Sequencing the Genome of *C. Elegans*: A Progress Report," Rick Wilson, research asst. prof., Dept. of Genetics. Room 816 McDonnell Medical Sciences Bldg. 362-7072.

Noon. Pediatrics research seminar. "Cellular Determinants of the Fate of Mutant α_1 Antitrypsin in the ER," David H. Perlmutter, prof., depts. of Pediatrics and Cell Biology and Physiology. Third Floor Aud., St. Louis Children's Hospital. 454-6128.

1:10 p.m. George Warren Brown School of Social Work lecture. "Issues in Healthcare: The NASW Perspective," Ann Abbott, president, National Association of Social Workers, Washington, D.C. Brown Hall Lounge. 935-4909.

2 p.m. Electrical engineering colloquium. "Heterogenous Concurrent Computing With PVM: Recent Developments and Future Trends," Validy Sunderam, asst. prof., Dept. of Math and Computer Science, Emory U., Atlanta, Ga. Room 305 Bryan Hall. (Refreshments: 1:45 p.m.) 935-4830.

2:30 p.m. Molecular microbiology and microbial pathogenesis program thesis defense. "Characterization of a Hemagglutinin Expressed by an Avian Pathogenic *E. Coli,"* David Provence, student, Division of Biology and Biomedical Sciences. Room 322 Rebstock Hall.

4 p.m. Biology and biomedical sciences student-organized seminar. "Testing the Adaptive Significance of Phytochrome Mediated Responses to Vegetation Shade," Annie Schmitt, Brown U., Providence, R.I. Room 322 Rebstock Hall. 935-6815.

4 p.m. Chemistry seminar. "Structural Transformations in Semiconductor Nanocrystals," Paul A. Alivisatos, prof. of chemistry, U. of California, Berkeley. Room 311 McMillen Lab. (Coffee: 3:40 p.m. outside Room 311.) 935-6530.

4 p.m. Earth and planetary sciences colloquium. "Nitrogen Isotope Variations in Tree Rings and Applications to Studies of Forested Ecosystems," Simon R. Poulson, postdoctoral research assoc., U. of Wyoming, Laramie. Room 362 McDonnell Hall. 935-5610.

Friday, Feb. 18

9:15 a.m. Pediatric Grand Rounds. "From Strychnine to Seizures: Understanding Epilepsy Through 'Reverse Genetics,'" Stephen G. Ryan, asst. prof. of pediatrics and cellular and structural biology and chief, Division of Pediatric Neurology, U. of Texas Health Science Center, San Antonio. Clopton Aud., 4950 Children's Place. 454-2713.

Noon. Cell biology and physiology seminar. "Working in the Mouth of the K Channel: From Gene Extraction to Molecular Dentistry," Rolf H. Joho, assoc. prof., Dept. of Cell Biology and Neuroscience, U. of Texas Southwestern Medical Center, Dallas. Room 423 McDonnell Medical Sciences Bldg. 362-6944.

12:30 p.m. Microbial pathogenesis seminar. "Poliovirus Receptor Interactions," Vincent Racaniello, prof., Dept. of Microbiology, College of Physicians and Surgeons, Columbia U., New York. Room 775 McDonnell Medical Sciences Bldg. (Refreshments: 12:15 p.m.) 362-2746.

3 p.m. Mathematics analysis seminar. "Potential Theory and Sharp Probability Estimates," Robin Pemantle, asst. prof. of math, U. of Wisconsin, Madison. Room 199 Cupples I Hall. 935-6760.

4 p.m. Anatomy and neurobiology seminar. "Are Microtubules Transported During Nerve Outgrowth," Paul C. Bridgman, assoc. prof., Dept. of Anatomy and Neurobiology. Room 928 McDonnell Medical Sciences Bldg. 362-7043.

4 p.m. Music lecture. "Friends and Relations: Approaches to the Total Chromatic," Andrew Mead, assoc. prof. of music theory, U. of Michigan School of Music, Ann Arbor. Room 8 Blewett Hall. 935-5581.

Saturday, Feb. 19

9 a.m. Saturday morning neural sciences seminar — Early Events in Neuronal Development. "Candidate Genes and Candidate Experimental Approaches in the Analysis of CNS Development," David I. Gottlieb, prof., Dept. of Anatomy and Neurobiology and assoc., prof., Dept. of Biochemistry and Molecular Biophysics. Erlanger Aud., McDonnell Medical Sciences Bldg. 362-0261.

11 a.m. University College Saturday Seminar. "Race, Poverty and Environmental Justice," Richard Lazarus, prof. of law. Room 362 McDonnell Hall. 935-6788.

Monday, Feb. 21

12:30 p.m. School of Medicine public screening. "Lives in the Balance" is a 15-minute video addressing the value of animal research. (Also Feb. 24 at 4 p.m.) Opening remarks by Theodore J. Cicero, assoc. vice chancellor and assoc. dean for animal affairs. Wohl Aud, 4960 Children's Place.

4 p.m. Biology seminar. "Proteins Determining the Heterochromatic State in Drosophila Chromosomes," Joel Eissenberg, assoc. prof. of biochemistry and molecular biology, St. Louis U. School of Medicine. Room 322 Rebstock Hall. 935-6287.

Tuesday, Feb. 22

12:10 p.m. Physical Therapy Brown Bag Research Seminar. "Prehension in Elderly and SDAT (Senile Dementia of the Alzheimer's Type) Patients," Virginia Buckles, research asst. prof., Dept. of Neurology, Jewish Hospital. Room B104 Classroom C, Boulevard Bldg. 286-1400.

4 p.m. Anatomy and neurobiology seminar. "Dynamic Maps in Visual Cortex," Bruno Olshausen, postdoctoral fellow, Dept. of Anatomy and Neurobiology. Room 206 Crow Hall. 362-7043.

5:05 p.m. Central Institute for the Deaf seminar on progressive sensory loss. "Noise-induced Progressive Hearing Loss: An Overview," William W. Clark, research assoc., Dept. of Otolaryngology, and Barbara A. Bohne, prof., Dept. of Otolaryngology. (Refreshments: 4:45 p.m.) Second Floor Aud., Central Institute for the Deaf. 652-3200.

8 p.m. Writer's colloquium. Directed by Alan Shapiro, Visiting Hurst Professor, Dept. of English. Hurst Lounge, Room 201 Duncker Hall. 935-5190.

Wednesday, Feb. 23

7:30 a.m. Obstetrics and Gynecology Grand Rounds. "Cervical Ripening: Advances in Pre-induction of Labor," William F. Rayburn, John W. Records Chair, prof. and chief, Dept. of Maternal-Fetal Medicine, Oklahoma Health Science Center, Oklahoma City. Medical Staff Conference Hall, Regional Medical Center. 454-7886.

11 a.m. Psychology, neurology and radiology colloquium. "PETting of Memory Processes and Memory Systems," Endel Tulving, prof. emeritus in psychology, U. of Toronto, and Tanenbaum Chair in Cognitive Neuroscience, Rotman Research Institute, North York, Ontario. Room 162 McDonnell Hall. 362-3317.

4 p.m. Physics colloquium. "Modern Tests of the Universality of Free Fall," Eric Adelberger, physics prof., U. of Washington, Seattle. Room 204 Crow Hall. (Coffee: 3:30 p.m., Room 245 Compton Hall.) 935-6252.

7:30 p.m. Visiting arts lecture. Frida Baranek, a professional artist from Brazil. Sponsored by School of Fine Arts. Steinberg Hall Aud. 935-6571.

Thursday, Feb. 24

Noon. Genetics seminar. "Presentation of a Tumor-associated Antigen to Cytotoxic T Lymphocytes," Ted Hansen, prof., Dept. of Genetics. Room 816 McDonnell Medical Sciences Bldg. 935-2072.

Friday, Feb. 25

9:15 a.m. Pediatric Grand Rounds. "Mental Health Screening By Pediatricians," Richard E. Mattison, Blanche F. Ittleson assoc. prof. and director, Division of Child Psychology. Clopton Aud., 4950 Children's Place. 454-2713.

Noon. Assembly Series Lock and Chain Lecture. "Really Rosie: From the Page to the Stage," Maurice Sendak, children's author and illustrator. Sponsored by Libraries' Bookmark Society, Assembly Series, Fine Arts Council, Women's Society, Campus Bookstore and Student Union. Graham Chapel. 935-5285.

Noon. Cell biology and physiology seminar. "Regulation of G Protein and Map Kinase Signalling Pathways in Yeast," Kendall J. Blumer, asst. prof., Dept. of Cell Biology and Physiology. Room 423 McDonnell Medical Sciences Bldg. 362-6950.

Saturday, Feb. 26

11 a.m.-12:30 p.m. University College Saturday Seminar. "The Endangered Species Act: A Biological Perspective," Barbara A. Schaal, assoc. prof., Dept. of Genetics, prof. and chair, Dept. of Biology. Room 362 McDonnell Hall. 935-6788.

Music

Saturday, Feb. 19

8 p.m. Vocal jazz concert. "Lauren Loves George!" — A tribute to the musical genius of George and Ira Gershwin. Performance features Lauren Wilson, staff member and jazz vocalist, and special guest Jeannie Trevor, a top St. Louis jazz vocalist. Graham Chapel. 935-5581.

Sunday, Feb. 20

2:30 p.m. Symphony orchestra concert. Program is directed by Dan Presgrave, instrumental music coordinator, and includes Felix Mendelssohn's overture to "Hebrides," Peter Tchaikovsky's "Symphony No 5 in e minor" and Sergei Rachmaninoff's "Piano Concerto No. 3 in d minor." Graduate student David Wang will be the featured soloist. Saint Louis Art Museum Theatre. 935-5581.

Friday, Feb. 25

8 p.m. Graduate recital. Performance features soprano Krystiane Cheetham, graduate student, singing selections by Wolfgang Mozart and Richard Strauss. She will be accompanied by graduate student Paul Bertagnolli on the clarinet and vocal coach Gail Andrews on the piano. Graham Chapel. 935-5581.

Performances

Friday, Feb. 18

8 p.m. Performing Arts Dept. presentation. "Bad Blood," written by Griselda Gambaro, Latin America's foremost contemporary woman playwright, and directed by Annamaria Pileggi, artist-in-residence in drama. (Also Feb. 19, 25 and 26, same time, and Feb. 20 at 7 p.m.) Cost: $7 for the general public; $5 for senior citizens, WU faculty, staff and students. Drama Studio, Room 208 Mallickrodt Center. 935-6543.

Saturday, Feb. 19

7 p.m. Edison Theatre student production. "Black Anthology 1994," a dramatic production presented for Black History Month. Cost: $7 for the general public; $5 for senior citizens, WU faculty, staff and students. Edison Theatre. 935-6679.

Friday, Feb. 25

8 p.m. Edison Theatre "OVATIONS!" series presentation. "Really Rosie," a play by Maurice Sendak, author and illustrator, whose extraordinary children's books have been transformed into musical theatre. (Also Feb. 26 at 2 and 8 p.m.) Cost: $20 for the general public; $15 for senior citizens, WU faculty and staff; and $10 for students and children. Edison Theatre. 935-6543.

Miscellany

Friday, Feb. 18

8:30 p.m. A Celebration of Jewish Women. Features speaker Blu Greenberg, internationally acclaimed feminist scholar. Continues through Feb. 19. "From Mild Mannered Yeshiva Girl to Orthodox Feminist: An Odyssey" begins at 8:30 p.m. Discussion preceded by 5:45 p.m. Shabbat services (reform, conservative and orthodox) and 6:30 p.m. dinner. Cost: $8.50; $6 for Hillel members. "The Jewish Tradition on Women: Is There a Clear Stance?" will be held Feb. 19. Preceding the discussion, a men's service will be held in the library and a women's service will be held in the auditorium at 9:30 a.m. (Lunch included.) Cost: $6; $3 for Hillel members. Pre-paid reservations for meals due by noon, Feb. 17. "Jewish Unity: What Divides and Binds Us?" begins at 8:30 p.m. Feb. 19 at Hillel Center. Cost: $5; free for students.

All discussions and services held at Hillel Center, 6300 Forsyth. For more info. and to make reservations, call 726-6177.

Saturday, Feb. 19

9 a.m.-noon. University College Skill Development Workshop. "The Craft of Writing: Grammar and Usage," Tatnall Warner, St. Louis Post-Dispatch news editor. Seminar will review basic rules of grammar, word forms and punctuation. Cost: $25. Room 115 Cupples I Hall. 935-6788.

9:30 a.m. International Student Resource Group Tour. Bus leaves Stix International House for the Fox Theatre tour. 935-4787.

1 p.m. Performing Arts symposium. "Bad Blood," the production being presented on Feb. 19, 20, 25 and 26, is the topic of discussion. Drama Studio, Room 208 Mallinckrodt Center. 935-5858.

2-5 p.m. Edison Theatre and Dance St. Louis audition. Twenty male and female athletes are needed to audition for David Dorfman's "Out of Season," the athlete's project to be performed with Dorfman Company April 22-24 in Edison Theatre. Sweat pants and sneakers or other loose-fitting clothes are recommended. Auditions will be held at the Women's Bldg. dance studio. Registration begins at 1:30 p.m. 935-6518.

Sunday, Feb. 20

5:30 p.m. Woman's Club dinner dance. "Southwestern Night" will be held at the Jersey Lil Saloon, 4920 Northrup (just north of Hwy. 44 at Kingshighway). Southwestern dress is encouraged and guests are welcome. Line-dancing with instruction is featured along with traditional dancing. Dinner catered by KC Masterpiece. Cost: $25. 863-4853.

Thursday, Feb. 24

7:30 p.m. Feminist Reading Group discussion. Susan Sherwin's book, *No Longer Patient: Feminist Ethics and Health Care,* will be discussed. Women's Bldg. Lounge. 935-5102.

Friday, Feb. 25

4:45 p.m. International Student Resource Group Tour. Bus leaves Stix International House for a tour of the Chrysler Corporation Assembly Plant in Fenton. 935-4787.

Calendar guidelines

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

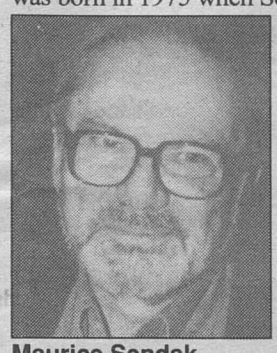
Calendar submissions should state time, date, place, sponsor, title of event, name of speaker(s) and affiliation, and admission cost. Quality promotional photographs with descriptions are welcome. Send items to Judy Ruhland at Box 1070 (or via fax: 935-4259). Submission forms are available by calling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

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

Children's author Maurice Sendak discusses creation of 'Really Rosie'

Author Maurice Sendak will explain how he transformed two of his books into musical theatre in the Lock and Chain Lecture at noon Feb. 25 in Graham Chapel. His talk, "Really Rosie: From the Page to the Stage," is part of the University's Assembly Series. Washington University identification will be required for admittance, with the public being accommodated only if seats remain at noon.

"Really Rosie," an animated TV special, was born in 1975 when Sendak adapted his books *The Sign on Rosie's Door* and *The Nutshell Library.* In 1980 "Really Rosie" became an off-Broadway musical hit. Now it has been redesigned and directed for the first time by Sendak. The Night Kitchen, a children's repertory company Sendak formed in 1990, will perform "Really Rosie" Feb. 25-27 in Edison Theatre.



Maurice Sendak

Sendak generally is acknowledged as the leading visionary in children's literature today. For more than 40 years, the books he has written and illustrated have nurtured children and adults alike and have challenged established ideas about what children's literature is and should be. His more than 80 books, including his latest bestseller, *We Are All in the Dumps With Jack and Guy,* have sold more than seven million copies worldwide in more than a dozen languages.

Winner of the 1964 Caldecott Medal for most distinguished picture book of the year for *Where the Wild Things Are,* Sendak, in 1970, also became the first American illustrator to receive the Hans Christian Andersen Award, given "in recognition for an author or illustrator's entire body of work." In addition, he has received the American Book Award and the Laura Ingalls Wilder Medal. In 1990 he became the first recipient of the Empire State Award for Excellence in Literature for Children.

In the performing arts, Sendak has designed many highly acclaimed productions, including Mozart's *The Magic Flute* and *Idomeneo,* Janacek's *The Cunning Little Vixen,* and Tchaikovsky's *The Nutcracker* ballet for both theatre and film.

The lecture is co-sponsored by the University's Assembly Series, Libraries' Bookmark Society, Council of Students of Arts and Sciences, Lock and Chain, Student Union and Women's Society. For more information, call 935-4620.

Adjusting to life in a new country is theme of 'New Kid' production

Edison Theatre will present "New Kid," a play about Nick and his mother, immigrants from the imaginary land of "Homeland," and their struggles to adjust to life in a new country.

The play, part of the "ovations! for young people" series, will be held at 2 p.m. March 6 in Edison Theatre. The play is performed by the Green Thumb Theatre for Young People.

One of the largest obstacles for Nick and his mother is language. In the play Nick and his mother speak English and the other characters speak "Gibberish." Through this theatrical device the audience experiences with the "Homelanders" the frustrations and pain of being an outsider looking in. By the play's end, however, both Nick and the audience members figure out the meanings of several "Gibberish" words.

The "Gibberish" language created by the Green Thumb ensemble is actually a combination of nonsense words, numerous foreign languages and some broken English.

In the play, Nick goes to his new school and meets two children named Mencha and Mog. Mog, the school bully, harasses Nick because he is different. Mencha gradually discovers that, although they speak a different language and have different customs, she and Nick also have many similarities. As Nick and Mencha's friendship grows, the audience sees how tolerance and acceptance develop from understanding and knowledge.

Green Thumb Theatre for Young People, based in Vancouver, British Columbia, was established in 1975 to develop original, topical plays for young audiences with an emphasis on enlightenment, entertainment and education. In its 19-year existence, the company has addressed such issues as illiteracy, racism, environmental concerns and AIDS awareness. Green Thumb plays have been staged by 200 theatre companies worldwide and translated into Chinese, Danish, French, German, Hebrew, Japanese and Spanish. This is the group's first visit to Edison.

Tickets are $8 and can be purchased at the Edison box office or through Metrotix, at 534-1111.

For more information, call 935-6543.

'Stage Left' presents whirlwind one-man version of Shakespeare's 'The Tempest'

An 80-minute one-man version of Shakespeare's "The Tempest," which the Seattle Times described as "incredible, elegant, guerrilla, gonzo, in-your-face theatre," will be performed at 8 p.m. March 5 and 7 p.m. March 6 in the Drama Studio, Room 208 Mallinckrodt Center.

The performance by Fred Curchack, titled "Stuff As Dreams Are Made On," is part of Edison Theatre's "Stage Left" series, which offers unusual performing arts events in the intimacy of the drama studio.

Mel Gussow of The New York Times described "Stuff" as "one of the year's 10 most noteworthy plays ... when Mr. Curchack is on stage, imagination knows no limitations."

Using masks, dolls and a shadow play, Curchack recreates — with considerable artistic license — Shakespeare's tale of magic and intrigue. Curchack uses a white mask and top hat to portray the magician Prospero; a dimestore doll to portray his daughter, Miranda; and a teeny doll's head and Neapolitan accent to portray Ferdinand, Miranda's love interest.

In addition to playing all the roles, Curchack also does sound and lighting. The lighting primarily is achieved with a floor lamp, some cigarette lighters and a flashlight.

"In the most stunning effect," writes the Minneapolis Star-Tribune, "using only the flashlight, he creates a golden ball that his silhouette catches, rolls up and down his arm, cradles and juggles, then tosses up and catches again as it explodes into shards of sparkling light."

Curchack has created more than 40 original theatre performances, 20 of which are solo works. "Stuff" received the gold medal at the International Festival of Solo Theatre in Belgrade and the American Theatre Wing Award for Design. It was chosen as "one of the most noteworthy theatre productions of 1989" by The New York Times. Curchack also has received the San Francisco Critics' Award, Hollywood Drama Logue Award, National Endowment for the Arts fellowships and a Guggenheim fellowship.

Tickets are $12 for the general public; $10 for senior citizens and Washington University faculty and staff; and $8 for students. Tickets are available at the Edison box office or through Metrotix, at 534-1111. For more information, call 935-6543.

Sports

Men's Basketball

Last Week: Missouri-Kansas City 81, Washington 75; Washington 104, Carnegie Mellon 66; Washington 98, Emory 65

This Week: Friday, Feb. 18, vs. Brandeis, 7:30 p.m., Field House; Sunday, Feb. 20, vs. New York University, 3 p.m., Field House

Season Record: 15-7 (8-3 UAA)

Washington University's men's basketball team concluded its road season with a pair of University Athletic Association (UAA) victories last week, giving the Bears a 6-1 league record away from home this season. The six victories tie the UAA record set by Emory University in 1989-90. The Bears also equalled a school record with nine road wins overall.

Washington began its final road trip of the season with a non-conference contest at the University of Missouri-Kansas City, an NCAA Division I team. The Bears battled back from a 50-35 halftime deficit to trail by only two points midway through the second half. Washington, however, could get no closer than four points in the closing seconds. Sophomore forward Brent Dalrymple, Des Peres, Mo., who averaged 20.7 points and 9.3 rebounds on the Bears' three-game road trip, led Washington with 20 points and 11 rebounds. Last year, the Kangaroos dealt the Bears a 101-62 defeat.

The Bears wrapped up the road swing with convincing victories over Carnegie Mellon University, 104-66, and Emory, 98-65. The 38-point win over Carnegie Mellon avenged an 82-80 overtime loss to the Tartans on Jan. 30 in St. Louis. Dalrymple scored 24 points and grabbed 9 rebounds. The Bears sank 14 of 23 three-point field goals against Carnegie, establishing a UAA single-game record. Versus Emory, sophomore guard Gene Nolan, Chicago, drilled seven three-point field goals and finished with a game-high 21 points.

Women's Basketball

Last Week: Washington 75, Carnegie Mellon 56; Washington 76, Emory 73

This Week: Friday, Feb. 18, vs. Brandeis, 5:30 p.m., Field House; Sunday, Feb. 20 vs. New York U., 1 p.m., Field House

Season Record: 19-3 (10-1 in UAA)

Exploding for 27 points in the last nine and a half minutes of the game, senior Sarah Goldman, Nashville, Tenn., tied the UAA single-game record by totaling 36 points in the Bears' narrow three-point win at Emory on Sunday. Included in Goldman's late flurry was an astounding eight-point play in which she made a layup, was fouled and made the subsequent free throw. She then added two free throws when a technical foul was assessed and canned her first career 3-pointer when the Bears were awarded possession. In the Bears' 19-point win at Carnegie Mellon on Friday, Goldman netted game-highs in four categories with 20 points, five rebounds, six assists and a career-high seven steals.

The Bears, ranked eighth in Division III by Don Hansen's Basketball Gazette, will meet New York University on Sunday in a showdown for the UAA crown. Both teams enter the weekend with one loss in league play—the Bears' defeat coming in a 14-point decision at New York University a month ago.

Men and Women's Track and Field

Last Week: at University of Chicago Invitational — Men: 1st of 4 teams, Women: 2nd of 4

This Week: Saturday, Feb. 19, at Southern Illinois University-Carbondale Open, 10 a.m., Carbondale, Ill.

Five women's school records fell and a freshman mark came down on the men's side as both Bear teams performed admirably at Saturday's University of Chicago Invitational. Freshman Alyce Nelson, Oberlin, Ohio, began the record-setting afternoon by tying Washington's indoor mark with a 4'11" effort in the high jump. Freshman Carrie Woods, Hinsdale, Ill., then toppled Renee Graham's 1986 record in the 55-meter high hurdles — the oldest in Washington's women's books — with a 9.38 second effort. Senior Tirzah Wilson, Benton Harbor, Mich., broke her own indoor record with a 7.70 second showing in the 55-meter high hurdles, but saw her 200-meter dash record erased as senior Genevieve Melton, Poughkeepsie, N.Y., posted a 28.12 second performance. The final women's mark to fall was in the 20-lb. weight throw, a new event in which senior Christel Willis, Oxford, Mass., threw a distance of 10.18 meters. Freshman Keith Lit, Southampton, Pa., won the 1,500-meter run with a time of 4:06.94 to secure the top rung on the freshmen charts and rank fifth on the Bears' all-time list.

JOE ANGELES

Malcolm Early, a senior mechanical engineering major, explains the hybrid electric vehicle to students at Rockwood Valley Middle School. A team of Washington University engineering students is designing the alternative fuel vehicle to compete in a nationwide contest this June. Electric power show great promise for environmentally friendly vehicles.

Cluster develops innovative ways to attract prospective students — *from page 1*

one of our highest priorities — recruiting the best students for Washington University," said Provost Edward S. Macias, Ph.D.

Meeting bi-weekly, the 33 members of the Admission-Financial Aid Cluster are taking a close look at how the University attracts and recruits prospective students and have discovered that the process could be streamlined. The cluster also has invented original ways to attract prospective students to campus, including the successful monthlong April Welcome program and minority recruitment weekends.

"It is our sense that the Admission-Financial Aid Cluster can help attract students to the University who are intellectually engaged, interesting, fun and exciting to have on campus," Wingood said.

Last spring's April Welcome brought 889 prospective students to campus and, according to the admission staff, contributed to last year's 14 percent increase in acceptances. Students and their parents came from 45 different states to spend a typical spring day on campus, where they sat in on classes, slept in residence halls and met with faculty. The program was unique in that students could visit any time during April and were given individual itineraries. Both Wingood and Martin attribute the success of April Welcome to the cooperation of each member of the Admission-Financial Aid Cluster. In addition to improving recruitment efforts, April Welcome achieved the University Management Team's goal of opening new lines of communication between the central administration and the schools.

"Every single individual in the cluster had some direct impact on the success of April Welcome. That's the whole point," Wingood said. "The financial aid staff made itself even more available. The admission office was open seven days a week and offices were on phone duty eight hours a day the entire month. The public affairs office promoted it. Faculty and deans were available for lunches with the students. Everybody helped out."

Another very visible outgrowth of the Admission-Financial Aid Cluster is the two minority recruitment weekends this month. For the first time, leaders of five multicultural student groups — with the support of the cluster — banded together to plan weekends that would showcase the diversity of Washington University to prospective minority students. Earlier this month, more than 50 visiting students took part in lectures, luncheons, parties and other activities that highlighted the University's diverse population. The admission staff expects about 180 prospective minority students to take part in the second multicultural weekend, scheduled for Feb. 17-20.

"The multicultural preview weekends are a student-developed program that fit right in with the cluster's across-the-campus approach," Martin said. "We were aware that we had to do more to recruit talented minority students. In fact, every college like us is trying to increase the number of minority students who enroll.

> "It is our sense that the Admission-Financial Aid Cluster can help attract students to the University who are intellectually engaged, interesting, fun and exciting to have on campus."
>
> **— Harold Wingood**

However, none have gone about it in this way. It is a testament to our current students and the sense of community at Washington University that we are able to do something like this and have it work."

Less visible outgrowths of the Admission-Financial Aid Cluster include a seminar for faculty and staff on financial aid and financing a Washington University education. In addition, staff from the offices of Undergraduate Admission, Financial Aid, the Registrar and Student Accounting are meeting routinely to discuss ways of improving how they provide services.

"One group, the Nuts and Bolts Committee, comprised of staff from these offices, is making real strides in learning from one another, is making immediate improvements in processes as discussions go on, and is developing longer range recommendations for improved service to students," Martin said. "It's exciting to see this work."

In the future, Wingood said the Admission-Financial Aid Cluster will play an even more important role in the overall operation of the University.

"The most important thing about our cluster is that it helps our offices and the University manage change," Wingood said. "Admission and financial aid issues are changing for the better. Our market position is getting stronger. The financial aid situation, while presenting significant challenges, is being managed well. We want to make sure we are moving in the right direction as our results improve. Input from people in the cluster will help in dealing with those changes."

— Susannah Webb

Supercomputing excites faculty, students — *from page 1*

tional supercomputer centers are at the University of Illinois, Urbana-Champaign, the University of California, San Diego, Cornell University and the University of Pittsburgh. Tasaki also noted that while researchers at one of the national supercomputer centers may have to wait weeks for a job to get done because of an increasing number of users, jobs at the Washington University facility would have a typical waiting period of several minutes because of fewer users.

"The center offers state-of-the-art number-crunching and graphics capabilities to Washington University, the region and, with the link to Internet, the world," said Tasaki. "Researchers in industry as well as universities now can save time and money in drugs/material design by using computers to avoid long hit-and-miss processes. There is a huge potential for the center because advancing research can improve local and regional economies. We're offering the resources to all who are interested."

Tasaki said researchers around the country already are using the center, which has been operating on a limited basis since last fall. Other Washington University departments that will use the center include Biology, Mechanical Engineering, Physics and the School of Medicine. Workshops are held regularly at the center. More than a dozen Macintosh PCs linked to the center are housed in an adjoining room, where students, under their teachers' guidance, have been able to access the center's graphics programs.

"Students who have used the center are excited about seeing the results of their work," Tasaki said. "The graphics, for instance, can actually show different conformations of DNA molecules and their fluctuations, helping students gain greater understanding than they might find in a traditional textbook. The center's graphic workstations also can show interactions between a protein and a drug molecule in real-time, helping researchers comprehend protein and biopolymer dynamics visually."

The center also is multimedia, Tasaki said, with a video board combined with a wide-screen television and videocassette recorder that permits movie-making of high-tech dimensions. While the movies' plots can't match those involving Arnold Schwarzenegger, the displays — the image of water molecules in ice and the crystalline structures of molecules, for instance — have never been seen in quite the same way before.

"The center's potential is broad and its emergence is timely," said Tasaki.

— Tony Fitzpatrick

Biology professors named AAAS fellows

David L. Kirk, Ph.D., professor of biology, and Barbara A. Schaal, Ph.D., associate professor of genetics and professor and chair of biology, have been elected to the rank of fellow of the American Association for the Advancement of Science (AAAS). They will join 247 new AAAS fellows from throughout the world at a Feb. 20 ceremony during the 1994 AAAS Annual Meeting in San Francisco.

Kirk and Schaal have been elevated to this rank because of their efforts toward advancing science or fostering applications that AAAS deems scientifically or socially distinguished.

David L. Kirk

Kirk is a specialist in developmental biology and genetics. AAAS is honoring him for his leadership in establishing the organism Volvox as a model for understanding the molecular basis for the evolution of multicellular organisms with differentiated germ cells. He came to Washington University in 1969 as assistant professor of biology.

Schaal, chair of biology since 1993, is being honored for her studies of the evolutionary processes in plants through the techniques of molecular biology. She applies molecular genetic techniques to the study of plant evolution, with special emphasis on native (non-crop) species. Schaal began her career at Washington University in 1980.

Barbara A. Schaal

Founded in 1848, AAAS represents the world's largest federation of scientists and has more than 137,000 individual members. The association publishes the weekly, peer-reviewed journal Science.

Sandra M. Moore elected to Board

Sandra M. Moore has been elected to a four-year term on the Washington University Board of Trustees, Chancellor William H. Danforth has announced.

Gov. Mel Carnahan appointed Moore as director of the Missouri Department of Labor and Industrial Relations on Dec. 17. Prior to that she was an administrative judge for the Equal Employment Opportunity Commission in St. Louis.

Sandra M. Moore

Moore received a bachelor's degree in urban and regional planning from Washington University in 1976 and a juris doctorate from the School of Law in 1979. She is a past president of the Washington University Black Alumni Council.

She succeeds John K. Wallace Jr., chairman of the Regency Group in St. Louis.

Moseley-Braun keynotes scholarship dinner

Sen. Carol Moseley-Braun, D-Ill., the first African-American woman elected to the U.S. Senate, will be the keynote speaker during the sixth annual scholarship celebration sponsored by Washington University's Black Alumni Council. A champagne and punch toast will be held at 6 p.m., followed by the dinner and program at 7 p.m. on Saturday, Feb. 26, at the Stouffer Concourse Hotel, 9801 Natural Bridge Road.

The event theme is "Celebrating the Change."

Tickets are $40. Proceeds will benefit the University's Washington-DuBois Scholarship for African-American students.

For more information, call 935-5645.

News Analysis

News Analysis contains excerpts from the For Expert Comment service. The service, which provides timely faculty comments to media across the country, is distributed by the Office of University Communications.

Flawed Superfund regulations damage economy, environment

Melinda Warren, assistant director of the Center for the Study of American Business, has conducted extensive research into federal regulation and its costs to business and taxpayers. She and James Lis, an adjunct research assistant at the center, have published a report on "Reforming Superfund," which is a federal legislation program designed to clean up toxic waste sites. The report analyzes Superfund legislation and offers suggestions to Congress, which is considering reauthorizing the program this year.

Melinda Warren

Superfund regulations have not only damaged economic growth, but they also have affected the sale of land that has never been home to any type of industry, Warren said. Companies are choosing sites that previously were open green spaces because they are so afraid of dealing with the cleanup of industrial sites and running headlong into the Superfund regulations, she said.

"Old sites in urban areas sit empty, not producing jobs or tax income, because no one wants to open the Pandora's Box of cleaning up the site," Warren said. "Companies are encouraged to build new facilities in previously undeveloped areas, or 'greenfields,' rather than redevelop former industrialized areas. It's (Superfund) a flawed system right now. The incentive is to try to blame others, rather than solve the pollution problems and move forward."

Warren cited the lawsuit between the CML Group, the parent company of the Nature Co. stores, and the Environmental Protection Agency (EPA), over an empty lot in New Hampshire. EPA is suing the environmentally friendly company for the cleanup costs of the lot contaminated by the land's previous owner. "CML Group Inc. had nothing to do with the pollution; it is simply the current owner of the property," according to the Center for the Study of American Business report.

In addition to the obvious expense of exorbitant litigation, Superfund regulations also are stifling business and economic growth. "Companies with even the potential of Superfund liability find that raising capital can be challenging, if not impossible," Warren said. "And without capital, companies simply cannot grow. A little trickle becomes a river after a while. It can force somebody out of business."

Warren said she believes the Clinton administration is ready to reform the Superfund law and hopes Congress is ready to take a hard look at the problems created by the Superfund regulations. "The Superfund law was well-intentioned legislation that has turned out bad," she said. "Lawmakers should take this opportunity to completely rewrite the Superfund law because the program costs the country both billions of dollars in expenses and causes uncertainties for American business."

For The Record

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

Of note

William R. Lowry, Ph.D., assistant professor of political science, received an Outstanding Teacher Award from the Women's Panhellenic Association. …

Catherine Rankovic, instructor in African and Afro-American studies, and **Qiu Xiaolong**, a doctoral candidate in the Joint Program in Chinese and Comparative Literature, received a Missouri Arts Council Writers' Biennial award. Each award winner receives a $5,000 prize. Rankovic was honored for her essay titled "Ode to Forgetfulness: A Serbian-American Memoir." Xiaolong was recognized for several of his poems. As winning writers, selections from their work will be included in an anthology published by the council this summer. …

L. David Sibley, Ph.D., assistant professor of molecular microbiology, received a $60,000 grant from the American Foundation for AIDS Research for a project on "Molecular Analysis of Toxoplasma Virulence." …

The Arts and Education Council of Greater St. Louis honored **Jarvis Thurston**, Ph.D., professor emeritus of English, and his wife, **Mona Van Duyn**, the first woman poet laureate of the United States who has a longstanding relationship with Washington University. The council presented St. Louis Arts Awards to the couple for "Excellence in the Arts." The awards program honors St. Louisans who have contributed to the arts with their talent, time, money and other resources.

Speaking of

William W. Clark, Ph.D., professor of physiological acoustics in the Department of Speech and Hearing at the Central Institute for the Deaf (CID) and a senior research scientist in the CID Noise Laboratory, delivered the keynote speech during a company safety meeting at Memco in St. Charles, Mo. His talk was titled "Effects of Noise on Hearing." …

Erna Olafson, Ph.D., Psy.D., special project coordinator in psychiatry, spoke on "The 'Backlash' in Historical Perspective" during the San Diego Conference on Responding to Child Maltreatment. The national conference was presented by the San Diego Children's Hospital in cooperation with the American Professional Society on the Abuse of Children and the California State Department of Social Services. …

Carlos A. Perez, M.D., professor of radiology at the School of Medicine's Mallinckrodt Institute of Radiology and director of the Radiation Oncology Center, spoke on "High Dose Rate Brachytherapy for Gynecological Cancers" during the 11th Asia Pacific Cancer Conference held in Bangkok, Thailand. He also delivered a speech titled "The Present Status of Radiation Therapy in the Treatment of Cancer" at the conference. …

Gerald R. Popelka, Ph.D., professor of audiology in the Department of Speech and Hearing at the Central Institute for the Deaf (CID) and director of professional education programs at CID, spoke on "Current Status of Otoacoustic Emissions" at Cardinal Glennon Children's Hospital in St. Louis.

To press

Richard Abrams, Ph.D., assistant professor of psychology, and **Alison Chasteen** and **Jay Pratt**, both psychology graduate students, have written an article titled "Rapid Aimed Limb Movements: Age Differences and Practice Effects in Component Submovements." The article will be published in the Psychology and Aging journal. …

Christopher Anderson, Ph.D., who received a doctorate in political science from Washington University last year, **Karl Kaltenthaler**, a doctoral candidate in political science, and **Wolfgang Luthardt**, Ph.D., former DAAD visiting associate professor in political science, edited *The Domestic Politics of German Unification*. The book is published by Lynne Rienner Publishers Inc. of Boulder, Colo., and London. Kaltenthaler, along with Anderson, wrote an article in the book titled "The Domestic Politics of the Post-unification Era: Politics, History and Economy." Kaltenthaler also wrote a piece on "Coping With The Legacy of East German Environmental Policy." …

The work of **Joan Hall**, associate professor of fine arts, is featured in *Artforms: An Introduction to the Visual Arts* published by HarperCollins of New York. Hall's work is included in the printmaking chapter of the book, which is in its fifth edition. Her 1992 wall piece titled "Debris" is cited for pushing the limits of a discipline like printmaking by using multiple printmaking techniques and a mixed media approach. "Debris" also is pictured in the chapter. …

Keith A. Hruska, M.D., Ira M. Lang Professor of Medicine, and **Jay Seltzer**, M.D., instructor of medicine, wrote an abstract titled "Performance of Diagnostic Battery for Recurrent Nephrolithiasis" that was published in the Journal of the American Society of Nephrology. Seltzer presented the abstract during the society's meeting held in Boston. …

Charles R. McManis, J.D., professor of law, published an article on "Intellectual Property Protection and Reverse Engineering of Computer Programs in the United States and European Community" in Vol. 8 of the High Technology Law Journal. The journal is published by the University of California, Berkeley, School of Law. He also delivered a speech on the topic of his article to the Bar Association of Metropolitan St. Louis' computer law and intellectual property sections. …

David Tab Rasmussen, Ph.D., associate professor of anthropology, edited a book titled *The Origin and Evolution of Humans and Humanness*, which is published by Jones and Bartlett of Boston and London.

Etc.

Four videos by **Van McElwee**, lecturer in performing arts, were shown at the Festival Mundial Do Minuto (The World Minute Festival) held in Sao Paulo, Brazil. McElwee's works titled "Bindu," "Folded Follies," "Reconstruction" and "Refraction" were shown at the festival, which showcased one-minute videos from around the world. "Folded Follies" also was shown at the Wexner Center for the Arts in Columbus, Ohio.

Guidelines for submitting copy:

Send your full name, complete title, department, phone number and highest-earned degree, along with a typed description of your noteworthy activity to For The Record, c/o Carolyn Sanford, Campus Box 1070, or p72245cs@wuvmd.wustl.edu. Items must not exceed 75 words. For information, call Sanford at 935-5293.

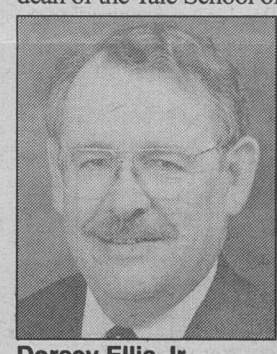
Dean Dorsey Ellis to help develop national corporate ethics program

Dorsey Ellis Jr., J.D., dean and professor of law, has been named to a court-appointed advisory panel to help develop a nationwide business ethics training program.

Clyde C. Cahill, a federal district judge based in St. Louis, formed the seven-member panel. In 1980 Cahill fined The Stanley Works, a tool company based in Connecticut, $5 million for fixing prices on architectural hinges. Cahill specified that $1 million of the fine be used to promote ethics in the corporate workplace.

Cahill has asked the panel to suggest ethics seminars, classroom instruction and other programs that will "encourage a better understanding and respect for the high principles of ethical conduct required of business executives and their advisers."

Cahill also appointed Guido Calabresi, dean of the Yale School of Law, to the panel, along with Henry Givens Jr., president of Harris-Stowe State College; Veryl L. Riddle, an antitrust lawyer for the Bryan Cave law firm in St. Louis; Deirdre O'Meara Smith, president-elect of the Bar Association of Metropolitan St. Louis; and Emory C. Turner, professor of accounting at St. Louis University.



Dorsey Ellis Jr.

University professors discuss America's foreign policies with 19 visiting European leaders

Policy issues between the United States and Europe were the focus of a daylong workshop held at Washington University on Feb. 7. Nineteen leaders representing 16 European countries and Canada participated in a dialogue with five Washington professors.

Paul Michael Lützeler, Ph.D., Rosa May Distinguished University Professor in the Humanities and director of the European Studies Program, organized the workshop. Highlights of the workshop included a luncheon address by Nobel Laureate Douglass C. North, Ph.D., Henry R. Luce Professor of Law and Liberty.

In addition to North, the other faculty participants were Lee Benham, Ph.D., professor, and John V. Nye, associate professor, both of the Department of Economics; Frances H. Foster, J.S.D., associate professor of law; and James W. Davis, Ph.D., professor of political science.

Nye, who spoke on "American Perspectives on the European Community," said many workshop participants saw a need to reform and deregulate the European economy. They were concerned, however, about the need to balance political stability with economic growth, he said.

Davis, who led the NATO discussion, said the European leaders expressed strong interest in expanding NATO east, so that countries such as the Czech Republic, Hungary and Poland could be included. The leaders also want the U.S. government to continue to play a strong leadership role throughout Europe, Davis said.

As part of their monthlong visit to the United States, the leaders will travel to Texas and California before returning later this month to Washington, where their trip began.

Introducing new faculty members

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

Douglas D. Robertson, M.D., Ph.D., assistant professor of radiology at the School of Medicine's Mallinckrodt Institute of Radiology, comes from Johns Hopkins Hospital and Medical School in Baltimore, where he was a radiology resident. Among his research interests are the application of advanced imaging, image processing, modeling and computer simulation to joint design replacements and the analysis of bone's response to changes in its mechanical environment. Robertson received a bachelor's degree in science from McGill University in Montreal, Canada, in 1976, a master's degree in physiology and biophysics in 1977, a medical degree in 1982 and a doctorate in physiology and biophysics in 1983, all from Georgetown University in Washington, D.C.

Opportunities & personnel news

Hilltop Campus

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

Curator

940113. *Gallery of Art*. Requirements: Master's degree in art history or master's of fine arts with emphasis on 19th- and 20th-century European and American art; museum or gallery experience; strong research, public speaking and writing skills. Resume required.

Administrator, Center for Mental Health Services Research

940136. *George Warren Brown School of Social Work*. Requirements: Master's of social work or related master's degree; knowledge of mental health services; excellent written and verbal communication skills; administrative competence; experience in grant writing and knowledge of the research process; two years professional experience, preferably in a management capacity in mental health. Resume required.

Counselor

940142. *Student Educational Service*. Requirements: Master's degree; experience in secondary, post-secondary or higher education preferred; knowledge of physiological testing; familiarity/experience with the problems of academically high-risk and disadvantaged students; familiarity with the problems of disabled students. Resume required.

Secretary/Receptionist, Part-time

940157. *Computer and Communication Research Center*. Requirements: Some college; typing 50 wpm with accuracy. Duties: Maintain calendars, schedules and files; make travel arrangements; type routine correspondence, classwork; assist in fiscal activities of center; assist in annual report preparation; assist in coordination of research progress reviews; coordinate center technical report distribution; coordinate mailings of networking and communications program; assist in departmental accounting procedures; maintain office supplies. Clerical tests required.

RN/LPN

940160. *Health Services*. Requirements: Registered nurse and/or licensed practical nurse for weekend infirmary duties. Schedule: (32 weekends), fall and spring semesters; may be eight or 12 hours from 7:30 a.m. Saturdays to 7:30 a.m. Sundays.

Administrative Secretary

940162. *Medical Alumni and Development*. Requirements: Three or more years office experience; some college, bachelor's degree preferred; typing 50 wpm with accuracy; word processing, data processing and overall computer skills; familiarity with Macintosh, Word and Excel preferred; good command of English language; ability to deal with multiple assignments and organize work to meet deadlines; ability to deal cordially, accurately and responsibly with public on the telephone, in the office and at special events; ability to work well with colleagues in promoting a team environment; attentiveness to detail. Clerical tests required.

Administrative Assistant

940163. *Undergraduate Admission*. Requirements: High school graduate, some college preferred; specialized secretarial or equivalent experience; typing 50 wpm with accuracy; ability to transcribe dictation; at least five years office experience, university experience preferred; Macintosh experience preferred; ability to deal with a staff of 12; excellent attendance record; flexibility, initiative and sense of humor essential. Clerical tests required.

Administrative Secretary

940164. *Tyson Research Center*. Requirements: Some college, bachelor's degree preferred; typing 40 wpm with accuracy; must handle cash receipts responsibly; gracious reception to all guests, co-workers, faculty, students, visitors, etc.; generous, cooperative, helpful attitude; ability to tolerate director's poor handwriting and chaotic schedule, which includes frequent absences; Washington University experience strongly desired. Clerical tests required.

Computer System Manager/ Programmer

940166. *Psychology*. Requirements: Bachelor's degree; good language and communication skills; VMS system management experience; VMS system programming skills in ADA and FORTRAN; IBM-compatible personal computer programming skills in C or C++. Resume required.

Programmer/Analyst II

940168. *Computing and Communications*. Requirements: Associate's degree, bachelor's degree preferred; knowledge and experience with administrative data processing; excellent organizational and communication skills. Resume required.

Admission Officer/Coordinator of Multicultural Studies

940169. *Undergraduate Admission*. Requirements: Bachelor's degree, graduate work preferred; commitment to the goals of a private, competitive university that is dedicated to teaching and research; sensitivity to the challenges associated with building a diverse community of undergraduate students is critical; ability to work hard and a willingness to devote long hours at key times of the year is very important; a sense of humor is essential; ability to balance a number of complex activities and set priorities; must be highly organized. Resume required.

PC Support Technician

940170. *School of Law*. Requirements: Associate's degree, extensive experience with IBM mainboards, add-on cards, hard disk drives, communication hardware and software; some network experience helpful; experience with a variety of PC-based software, specifically Wordperfect, Windows, spreadsheets, scanning (OCR) and data base; a strong DOS background; ability to stay on track regardless of interruption and to do so without prompting; ability to work independently for long periods without instruction; excellent verbal communication skills. Resume required.

Cashier

940172. *Accounting Services*. Requirements: High school graduate; one year cashiering or comparable cash handling experience; ability to organize and account for a heavy, steady volume of checks and cash with a high degree of accuracy; demonstrated customer-service skills, including the ability to be courteous under all circumstances; capable of learning two complex computer systems; flexibility to work additional hours as required; flexibility to work at Hilltop or Medical campus locations. Clerical tests required.

Admission Market Analyst

940174. *Undergraduate Admission*. Requirements: Bachelor's degree; thorough knowledge of SAS, spreadsheet, word processing and presentation software; must be comfortable with the principles of data base management and data manipulation; knowledge of mainframe and microcomputer systems and applications is essential. The market analyst will provide technical support to inform the development of a strategy to recruit and enroll undergraduate students. This position reports to the dean of Undergraduate Admission and will work closely with key administrators and faculty members. Resume required.

Administrative Assistant

940175. *George Warren Brown School of Social Work*. Requirements: Some college; typing 45 wpm with accuracy; personal computer proficiency, including word processing and spreadsheets; understanding of funding guidelines that apply to the preparation of proposals; ability to coordinate, write and proofread; above average knowledge of English grammar and spelling; self-study reaccreditation work. Clerical tests required.

Secretary

940176. *University College*. Requirements: Some college, associate's degree preferred; typing 50 wpm with accuracy; ability to handle multiple tasks and establish priorities under pressure; ability to meet public in a pleasant and professional manner; stamina; requires some hand deliveries of correspondence and packages across campus. Clerical tests required.

Technical Sales Specialist

940177. *Campus Stores*. Requirements: Some college, bachelor's degree preferred; knowledge of personal computers and popular software; experience using a variety of microcomputer peripherals, such as modems and printers; physically able to lift system components; able to work evening and Saturdays. Resume required.

Oiler

940179. *Euclid Power Plant*. Requirements: High school graduate; skill in the use of tools and equipment; a general understanding of power plant machinery; a history of dependability; mechanical aptitude; ability and willingness to follow instructions; one year experience as an oiler in a plant of comparable size or comparable work experience. Application required.

Medical Campus

The following is a partial list of positions available at the School of Medicine. Employees who are interested in submitting a transfer 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 I

940373-R. *Radiology*. Schedule: Part-time, 20 hours per week, flexible, Mondays through Thursdays. Requirements: High school graduate or equivalent; knowledge of medical terminology preferred; ability to perform accurate, precise work; ability to work well with others.

Secretary I

940443-R. *Medical Informatics*. Schedule: Part-time, 20 hours per week. Requirements: High school graduate or equivalent; some advanced secretarial training preferred; one year experience; typing 50 wpm; ability to use word processing equipment.

Secretary II

940458-R. *Radiology*. Requirements: High school graduate or equivalent; two years related experience preferred; excellent spelling and grammar skills; familiarity with dictaphone; typing 50 wpm.

Medical Research Technician

940468-R. *Pediatrics*. Requirements: Bachelor's degree, one year experience in a lab setting; ability to prepare buffers for electrophoresis; experience with molecular biologic techniques, such as blotting and hybridization preferred.

Secretary II

940486-R. *Neurology*. Requirements: High school graduate or equivalent; three to five years related experience, including grant applications; ability to communicate clearly and professionally; typing 60 wpm.

Medical Secretary I

940531-R. *Psychiatry*. Schedule: Part-time, 25 hours per week, days and hours flexible depending on work load. Requirements: High school graduate or equivalent; experience in medical setting and familiarity with grant applications and manuscript typing preferred; typing 65 wpm.

Insurance, Billing and/or Collection Assistant II

940540-R. *Otolaryngology*. Requirements: High school graduate or equivalent; one year related office experience; good interpersonal and organizational skills; familiarity with medical insurance claims, billing and collecting procedures; typing 30 wpm.

Medical Research Technologist

940571-R. *Biochemistry*. Requirements: Bachelor's degree with experience in performing independent studies in molecular biology; thorough knowledge of scientific theory; independent initiative and judgment.

Statistical Data Analyst

940580-R. *Psychiatry*. Requirements: Master's degree in math, computer science, data processing or related field; one to two years related experience; knowledge of WordPerfect, spreadsheets, LANS, DOS and UNIX; ability to use PC graphics packages for production of presentation-quality graphics and familiarity with large data base management.

Medical Research Technician

940581-R. *Pathology*. Requirements: Bachelor's degree with background in cell and molecular biology and/or biochemistry; one to two years lab experience; ability to work independently under guidelines from supervisor; tissue culture, protein purification, DNA and RNA analyses skills.

Medical Research Technician

940583-R. *Psychiatry*. Requirements: Bachelor's degree with knowledge of all theoretical aspects of molecular biology; interest in genetics; practical experience with PCR and DNA sequencing (automated DNA sequencer or manual gels) preferred.

Medical Research Technician

940586-R. *Cell Biology*. Schedule: Full-time with occasional evenings and weekends. Requirements: Bachelor's degree in biology, chemistry or related field; one to two years experience as a lab technician; knowledge of molecular biology; knowledge of techniques in working with DNA.

Employee retirement options to be discussed

All Washington University employees are invited to attend a March 4 presentation on retirement investment options. John H. Biggs, chairman and chief executive officer of TIAA-CREF, will discuss "Investment Options for Faculty and Staff" at 4 p.m. March 4 in Simon Hall's May Auditorium. The Office of Human Resources and the Washington University chapter of the American Association of University Professors are presenting the talk.

Biggs was formerly a Washington University vice chancellor and is now a member of the Board of Trustees. As chairman and CEO of TIAA-CREF, he presides over the organization that holds the retirement savings for many faculty and staff members.