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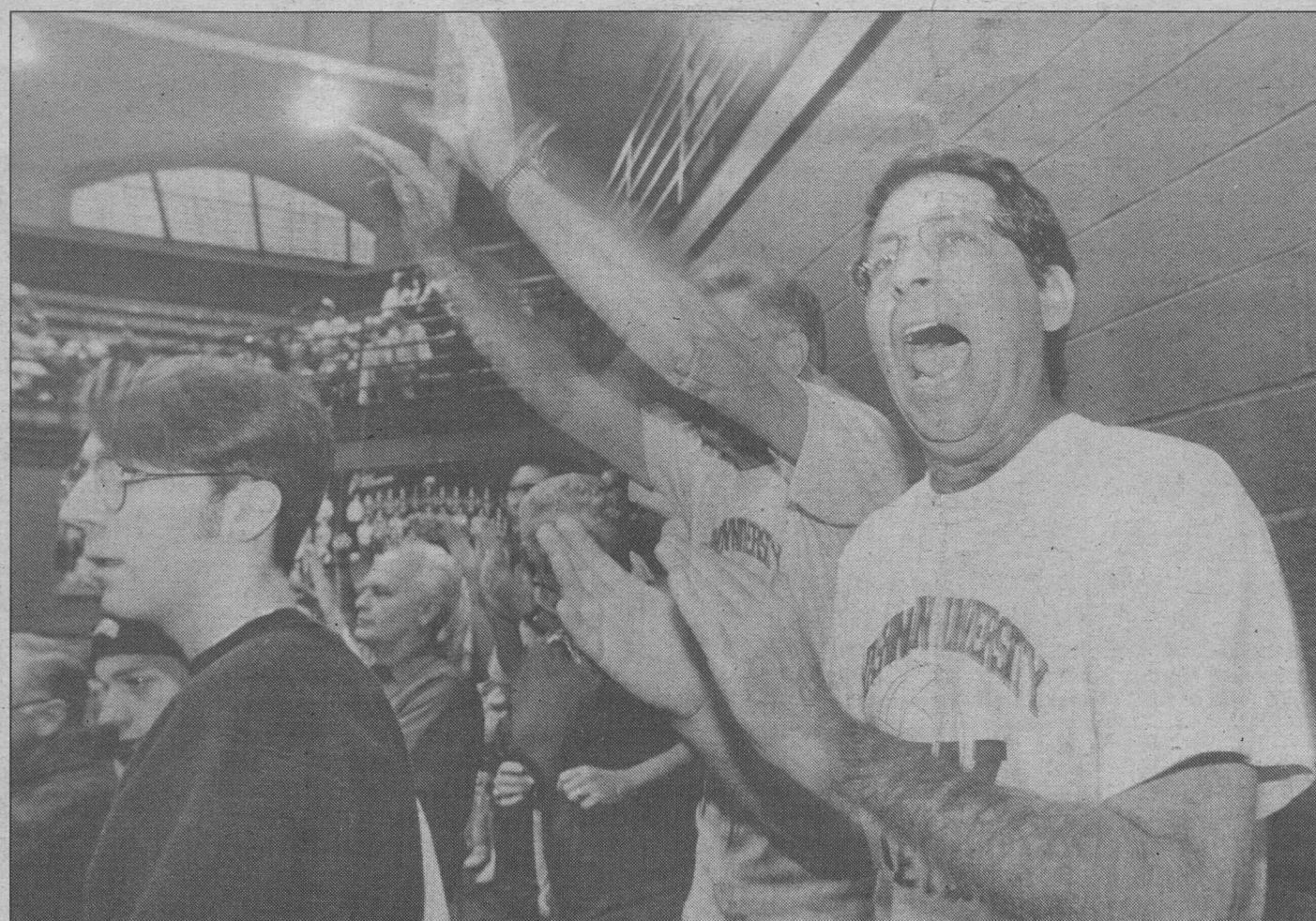
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Record

WASHINGTON
UNIVERSITY
IN ST. LOUIS

Vol. 18 No. 10 Oct. 28, 1993



Parents Weekend drew some 500 families to campus. Buz Gitlin, right, and Cy Albers, hands in air, cheer on their daughters, Nikki Gitlin and Amy Albers, who played in last Saturday's volleyball victory over Columbia College.

Hot findings

Researcher says fever's purpose is to warm peripheral, not core, tissues

Your mother starved you when you had it, Peggy Lee crooned a famous song about it and the medical profession still doesn't know exactly why you get it.

Now, a Washington University immunologist provides insights into fever that neither Mom nor the good doctor ever hinted at. Writing in a recent issue of the *Journal of Immunology*, Daniel F. Hanson, Ph.D., visiting professor of biology, shows that: (1) fever involves a wide temperature range, not just anything over 98.6 degrees Fahrenheit (F); (2) the initial rallying of our immune response to infection is temperature-dependent, not the actual work of lymphocytes, the body's self-defense cells; and (3) the thermometer numbers aside, fever's useful purpose is to warm peripheral tissues and not core tissues.

Peripheral tissues, with their attendant lymph nodes and capillaries, comprise about half of the immune system and are housed in the outer two centimeters of the body just below the skin. Core tissues are deeper in the center of the body, and it is their temperature that is usually measured when we're feeling feverish.

"The true purpose of fever may be to warm the peripheral tissues, not the core," Hanson says. "The traditional dividing line of 98.6 degrees F between normal and febrile temperatures is not that simple. Body temperature is not just a single number on a thermometer, but an entire distribution of

temperatures throughout the body. The distribution has one shape when you're healthy, and several other possible shapes when you're ill.

"In health, temperatures that permit the most efficient immune responses are restricted to certain portions of the immune system, whereas, during fever, those portions are expanded by enlarging the distribution of permissive temperatures. In effect, elevated temperatures temporarily increase the size and quickness of the immune system and the resultant immune response."

Once infection has a foothold in the body, hormones from defending cells called macrophages spill into the blood and travel all the way to the hypothalamus in the brain, signaling a rise in temperatures — fever — throughout the body. This warms the core of the body, as everyone knows, but it also warms the cooler peripheral tissues. According to Hanson, it is in the warming of these cooler portions that fever has its impact on the immune system.

Hanson made his *in vitro* observations by subjecting incubated mouse spleen cells to a 10-degree variation while providing them with artificial stimuli similar to the bacteria or viruses that cause infection. The range of temperatures was 29 degrees Celsius (C) to 39 degrees C (from 84.2 degrees F to 102.2 degrees F), analyzed in two degrees C increments. The range was meant to simulate temperature range from normal skin on the low end up to a temperature clearly

indicative of fever on the high end. He then observed differences in the resulting cell division and in the formation of new killer T-cells, the lymphocyte cells that defend us against many viruses, cancers and some bacteria. It is the first study to use mature cells to measure such a response as well as the first to test the immune system over such a wide range of temperatures. He also measured the effects of these same temperatures on the function of already formed

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Lützeler named Rosa May Professor

Paul Michael Lützeler, Ph.D., professor of German and comparative literature and director of the European Studies Program, will be formally installed Thursday, Nov. 4, as the Rosa May Distinguished University Professor in the Humanities, according to Chancellor William H. Danforth.

"He (Lützeler) is a scholar with worldwide involvement," Danforth said. "He is very well known and respected, especially in German academic circles."

Lützeler assumes the named professorship vacated by the retirement of Egon



Schwarz, Ph.D., who is now emeritus. Schwarz had held the professorship since February 1976. As part of the installation ceremony, Lützeler will give an inaugural lecture at 7:30 p.m. Nov. 4 in McMillan Hall, Room 149. His talk is titled "The European American Karl Postl/Charles Sealsfield on Europe and the United States in the 1820s." Free and open to the public, the lecture is being given in memory of Otto Heller, a Washington University professor who

Student recruitment panel encourages more faculty involvement

Increasing faculty involvement was one of several suggestions for improving Washington University's recruitment process that were discussed during a recent meeting.

The purpose of the meeting, which was led by Provost Edward S. Macias, Ph.D., was to discuss strategies to attract the best students to Washington University. The meeting was held in Simon Hall's May Auditorium.

"The recruitment of freshmen is vitally important to our community," said Macias, as he welcomed representatives from the Student Admission Committee (SAC), faculty and staff who attended the meeting. "A sizable and well-qualified applicant pool and freshman class are critical to the institution's ongoing success."

Macias said the Washington community "pulled together" in an unprecedented manner last October during the presidential debate. He said that same spirit of cooperation continued during "April Welcome," a University-wide effort that offered admitted prospective students the opportunity to experience a typical day on campus. Last year's remarkable recruiting efforts, he noted, resulted in an excellent first-year class of 1,254 students.

But the University faces challenges ahead and needs to further enhance the recruiting process, said Macias. "We need to continue to be receptive to campus visitors. That personal touch makes a big difference. We need to go that extra mile to make campus visitors welcome." He added that the "best recruiters are our own students. We need to make the experiences of our current students as productive and positive as possible. Our overall goal is to enroll the best students for Washington University."

Macias introduced a panel of speakers who addressed different components of student recruitment. The panelists were: Larry Kindbom, head football coach; James E. McLeod, dean of the College of Arts and Sciences; Jane Schoenfeld, associate dean of undergraduate admission; Debra H. Wingood, director of the Alumni

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founded the Department of German some 100 years ago, and in honor of Liselotte Dieckmann, Ph.D., professor emerita of German and comparative literature, and Egon Schwarz.

Lützeler joined the Washington University faculty in 1973. Since then he has served on many University committees and is now chair of the Senate Council.

Among Lützeler's specific contributions to the field is his 17-volume critical edition of Hermann Broch's works. Broch was a leading avant-garde novelist and intellectual of the 1930s and 1940s who fled to America when Hitler invaded Austria in 1938. Lützeler also is the author of five books on German and European literature, including an award-winning extensive biography of Broch.

Chair of the Department of German from 1983-88, Lützeler established the University's European Studies Program 10 years ago. In addition, he has organized seven international symposia at Washington University, and he was instrumental in bringing the Goethe Institute to St. Louis. He served as editor of *The German Quarterly* for a three-year term.

He also established the Center for Contemporary German Literature at Washington University in 1984. This center receives annual fellowships from the Max

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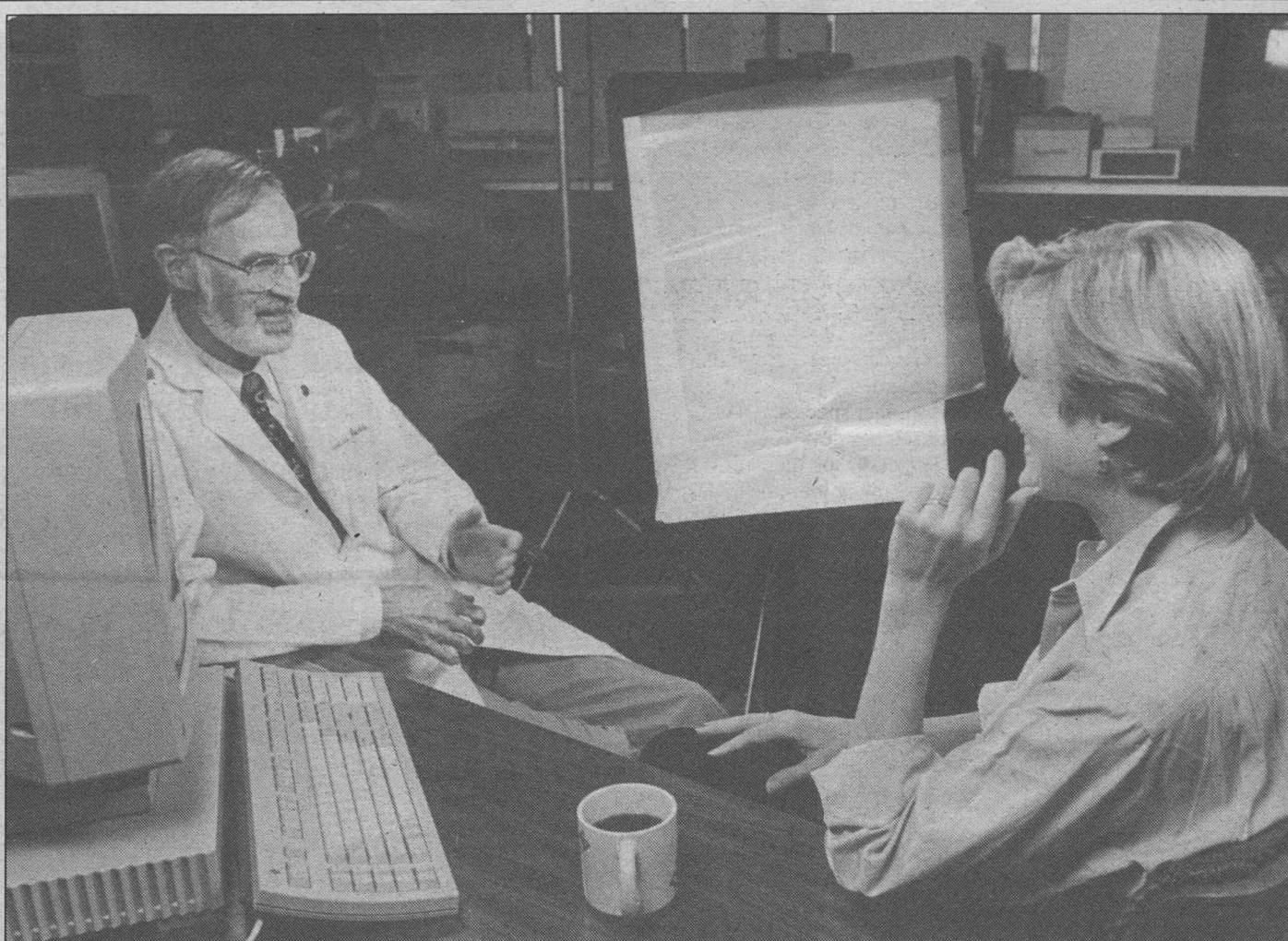
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Providing answers: School of Medicine opens first psychiatric genetic counseling center to help families affected by mental illness *Page 2*

'Infectious optimism': Colleagues say John Atkinson's upbeat attitude is key to his success as a researcher, teacher and care provider *Page 3*

Founders Day: Washington University will honor six alumni and three members of the University community for their contributions *Page 7*

Medical Update



Diane Sawyer was on campus last week to interview Marcus Raichle, M.D., a professor of neurology. Sawyer is doing a segment on brain research for PrimeTIME LIVE, one of ABC's weekly newsmagazines.

McCartney named assistant dean for management services

Denise A. McCartney has been named assistant dean for management services at the School of Medicine.

In her new role as assistant dean for management services, McCartney will be responsible for human resources, including payroll/appointments, affirmative action, gifts/grants and contracts. She also will serve as a liaison between the central administration and departments by advising the central administration on the operational impact of policies and procedures at the departmental level. Additionally, she will help coordinate activities and implement policies and procedures in the central administration.

McCartney's appointment was announced by Lee Fetter, associate vice chancellor and associate dean for administration and finance of the School of Medicine.

"Denise will fill a critical senior position vacated last year. We conducted an extensive national search for an experienced manager that understands the complex academic medical organization. Denise is highly qualified on both counts," said Fetter. "Her unique background at Washington University School of Medicine as well as at Barnes Hospital makes her appointment a timely addition to our administrative team in this dynamic environment."

McCartney joined the Washington University Medical Center in 1984 as a manager in the Barnes Hospital clinical laboratory. She also has served as the director of business and budgets at the Irene Walter Johnson Institute of Rehabilitation. Since 1992, she has been the administrative director of rehabilitative services at Barnes Hospital.

McCartney received her bachelor's degree in medical technology from the University of Missouri in 1978 and a master's of business administration from the University of Missouri in 1984.

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Assessing the risk

University opens nation's first center for psychiatric genetic counseling

A new mental health program designed to provide genetic counseling, education and support services to families affected by mental illness has opened at the School of Medicine.

Called the Center for Psychiatric Genetic Counseling, the program is the first of its kind in the United States. It offers individualized risk assessment, genetic counseling and referrals for people with a family history of mental illness, such as depression, manic depressive illness or schizophrenia. Such information is useful to a person who wants to determine his or her own risk of mental illness. Genetic counseling information is particularly useful to expectant parents who are concerned about risks to their unborn child.

"The increasing amount of genetic research into mental illness has created a need for psychiatric genetic counseling," says Steven O. Moldin, Ph.D., assistant professor of psychiatry at the School of Medicine and director of the new center.

"Individuals and families affected by psychiatric illnesses often ask what the genetic connections mean to them. We can determine their risks, and we can explain what this means," Moldin says. "We can then offer people support to deal with the stress and challenge associated with having a family history of mental illness. Most are relieved by this kind of information since their risk is often lower than they think."

Moldin uses complex mathematical models to calculate the risk of developing mental illnesses. Unlike diseases such as Huntington's or cystic fibrosis where a single gene is the culprit, in mental illness several genes are involved in the heritability of disorders.

Moldin says he expects many of his patients will be expectant parents who have a history of mental illness or who have family members with mental illness. "We know there is a genetic component to these disorders," Moldin says, "but just having a genetic predisposition is not enough to cause a disease such as schizophrenia."

With schizophrenia, the risk of developing the disease is about 1 percent in the

general population. If a parent has the disease, the risk of passing it to a child is about 13 percent. When both parents have the disease, the risk rises to about 46 percent.

Exact figures are computed following a detailed family medical history. The data gathered then is entered into a computer program that can assess risk of mental disorders. Moldin also will discuss the environmental and lifestyle factors that are known to play a role in the development of mental disorders.

"If you have a 10 percent risk of developing schizophrenia at some time in your

life, those are pretty good odds. You only have a one in 10 chance of developing the disorder," Moldin says. "But, we know that using drugs like PCP, amphetamines

and cocaine can trigger a schizophrenia-like reaction in the brain, and that can be a factor in development of the disease. We would certainly warn genetically predisposed persons that their risk would rise dramatically if they used such substances."

For more information about the Center for Psychiatric Genetic Counseling, call 454-3635.

— Jim Dryden

"The increasing amount of genetic research into mental illness has created a need for psychiatric genetic counseling."

— Steven O. Moldin

Kahl named associate dean for student affairs

Leslie E. Kahl, M.D., has been named associate dean for student affairs at the School of Medicine.

Kahl is replacing Patricia L. Cole, M.D., an assistant professor of medicine. Cole is returning full time as director of the cardiac catheterization laboratory in the Department of Medicine's Division of Cardiology.

Kahl's appointment was announced by William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine. Kahl will be assisted by Cathy Lazarus, who has served as assistant dean for student affairs for the past year.

"Dr. Kahl is an outstanding teacher, clinician and role model for medical students," said Peck. "Under her leadership, and with the capable assistance of Dr. Lazarus, the student affairs program at WUMS is in very good hands."

In her new role as associate dean for student affairs, Kahl will be responsible for dealing with students' academic affairs, assisting them with financial aid, reviewing clerkship reports and supervising operation of Olin Residence Hall. She will continue to be involved in patient care, teaching and re-

search. Her research interests focus on connective tissue diseases, especially lupus.

Kahl joined the medical school faculty in the Department of Medicine's Division of Rheumatology in 1987 and last year was named clinical section head of that division. She received the Distinguished Service Teaching Award for 1992-93 from the Class of 1995 in the School of Medicine. She has been a coursemaster in rheumatology since 1992 and was appointed to the Introduction to Clinical Medicine Course Reorganization Committee this year.

Kahl received her bachelor's degree from Stanford University in 1973 and her medical degree from Albany Medical College in 1978. She is a diplomate of the American Board of Internal Medicine and is board certified in internal medicine and rheumatology. She serves on the board of the Eastern Missouri Chapter of the National Arthritis Foundation and is co-chairperson of the Medical Advisory Board of the Missouri Chapter of the Lupus Foundation of America Inc. Kahl also is on the Fellowship Training Committee of the American College of Rheumatology.

Washington People

Atkinson mixes research, teaching, patient care

The immune system carries a powerful arsenal of weapons to fight the bacteria, viruses and other biological troublemakers that make their way into the body. But left unchecked, the immune system also can strike out against the body it is working to protect. This "friendly fire," or autoimmunity, is at the heart of many diseases such as rheumatoid arthritis and systemic lupus erythematosus.

Over the past 15 years, John Atkinson, M.D., has been working to understand what keeps the immune system under control. During that time, he has become a leader in uncovering the molecular bodyguards that enforce this control.

"One of the main reasons I think anyone gets into this kind of work is to try to discover things that will help us understand how our bodies work — with the hope that it may someday lead to better ways to treat diseases," says Atkinson, professor and head of the Department of Medicine. The answers he and others are finding now hold exciting implications for solving a wide range of medical problems, from organ transplantation to cancer therapy.

Atkinson was first drawn to the biological sciences as an 11-year-old in Topeka, Kan., when his sixth-grade teacher sparked his interest in studying birds. The ecological bent stayed with him for years; he spent several summers studying the purple martin and sparrow hawk. As a young adult, ornithology and basketball took up most of his energy, and he seriously considered becoming a coach or ornithologist. But after earning his bachelor's degree in biology from the University of Kansas in 1965, he decided on medical school instead. He earned his medical degree from the same institution in 1969.

After his residency at Massachusetts General Hospital, Atkinson went to the National Institutes of Health (NIH) to study a powerful effector arm of the immune system called the complement system. It was an exciting time to enter the immunology field, he says, because scientists were just starting to understand how the complement system works. This legion of about 29 proteins patrols the bloodstream, looking for foreign cells. When an invader is spotted, complement proteins swarm onto the unwanted invader, signaling other immune system cells to destroy it.

It also was becoming clear that the complement system could strike out against "self" cells. If left unchecked, those strikes cause the same destructive chain of events that kills viruses and bacteria. "There is a lot of power in the immune system to destroy cells the body sees as foreign. If that system gets out of control, it will wreak havoc," says Doug Lublin, M.D., Ph.D., assistant professor of pathology and medicine and a former postdoctoral fellow in Atkinson's laboratory.

At NIH, and three years later when Atkinson came to Washington University, he set out to explore how the complement system causes disease and how healthy cells avoid this damage. One of his main interests is the disease systemic lupus, which results when the body cannot properly dispose of foreign particles. His research has helped to explain that a complement protein called complement receptor 1, or CR1, is involved. In a healthy person, CR1 ferries infectious particles to the liver or spleen to be destroyed. If this process is somehow derailed, lupus results; the particles end up in the skin, kidneys and other tissues. Lupus patients can develop skin lesions, joint pain and inflammation, inflammation of the lining of the lungs and kidney disease. Atkinson has found that a partial genetic deficiency of the CR1 gene increases a person's risk for developing lupus.

Research by Atkinson and others suggests that body cells rely heavily on two complement proteins, called membrane cofactor protein (MCP) and decay accelerating factor (DAF), for protection from the immune system. Atkinson discovered MCP in 1985, and later cloned and sequenced the genes for both MCP and DAF. These proteins sit on the surface of human cells and ward off strikes from the complement system. Their protective ability may someday be harnessed to treat a host of medical problems.

Heart attacks are one possibility, Lublin says. During a heart attack, heart tissue becomes damaged, primarily from

lack of oxygen. But the complement system can cause additional injury because it sees these damaged cells as foreign and attacks them, he explains. Giving proteins such as CR1, MCP and DAF to heart attack patients might some day provide some protection against this secondary damage. The same strategy might work for inflammatory diseases in which the immune system damages its own body, such as rheumatoid arthritis.

MCP and DAF may also one day be given to organ transplant recipients to prevent rejection, which is sometimes caused by the complement system. Another possibility is to farm organs from other species. An English group collaborating with Atkinson has developed transgenic pigs that carry human MCP and DAF on their cells. Researchers hope that the pig organs might be immune to destruction by human complement proteins.

The proteins also show promise for cancer therapy. Tumor cells often carry as many as 10 times the normal amount of MCP and DAF, making them extremely difficult for the immune system to kill. If researchers could find a way to block MCP and DAF's protective activities only on cancer cells, these cells would be easy prey for the cancer

"There aren't many individuals, even at this world-class medical center, who have attained his level of excellence and recognition in two of these major areas, let alone all three."

Colleagues say that one key to Atkinson's wide-ranging success is his attitude. "He is extremely upbeat and has an incredibly positive attitude that can really buoy your spirits when you feel like you are running up against a wall. He has an infectious degree of optimism," says Simchowicz.

Atkinson says that the mix of research, clinical work and teaching keeps him going. "When you provide care for patients who are very sick and you've done everything you can for them, but terrible things still happen, that's very humbling and disheartening. So it helps to go back to the lab and feel like at least something you do there might eventually help them." And when his research hits a difficult point, he can fall back on clinical work for satisfaction, he adds. He has cared for more than 400 lupus patients over the years.

Atkinson became head of the Department of Medicine in October 1992, after serving as director of the Division of Rheumatology since 1976. The decision to shift more of his energy toward administrative duties was not easy, he said.

"I was very happy working in my lab and teaching and

taking care of a few patients with autoimmune diseases. I had wonderful colleagues in the lab, enjoyed my research and appreciated the opportunity to care for patients." Even more, Atkinson had to give up his position as an investigator of the prestigious Howard Hughes Medical Institute, which he had held since 1976.

"I saw the new position as a chance to provide some guidance for others and to lead a tremendous Department of Medicine," he said. During the past year, he has enjoyed having more contact with house staff and playing a more direct role in shaping the teaching, research and administrative efforts in his department.

One of Atkinson's goals is to spread out a portion of the department's administrative responsibilities. "We have so many talented people around here. I want to get more people involved in leadership, to have more of their input in running the department," he says. His first step has been to create and fill three new vice chair positions.

Atkinson, well known as being an informal, approachable person, is not one to let the trappings of a powerful title interfere with personal interactions, colleagues say.

"It's very easy with the burden of work from administrative duties, clinical teaching and research to bury yourself inside your office. But that's not his style," Simchowicz says. Atkinson still meets regularly with his laboratory colleagues, sees patients, teaches, runs conferences and takes an active role in grand rounds and seminars.

He also likes to keep in contact with students and residents. "He is often known to stalk up and down the wards unannounced — not with the idea of springing something on the house staff or catching them in a moment when they are relaxing — but just to show them support," Simchowicz says.

Teaching has long been a high priority for Atkinson, Simchowicz says. "It was always key in his Division of Rheumatology — as it is now — that teaching and training medical students, house staff and fellows was a worthy enterprise, and that excellence in teaching was a very important commodity," he says.

Atkinson received a national teaching award from Alpha Omega Alpha, a professional medical honor society, in 1991. He has twice been voted teacher of the year by Washington University medical students. He attributes his teaching success to his enthusiasm for the subject matter. Colleagues say it is a little more than that.

"He has the insight to get to the heart of the problem and to communicate it in a simple way that does not get obscured by fine details. I think it is his ability to get to the key issues and to focus on them that has made him a good scientist and a good teacher," Lublin said.

Atkinson says he considers teaching among the most rewarding aspects of his professional life. "It is gratifying to know that I have some kind of influence on people that I know are going to go out on their own and really make a difference."

— Juli Leistner



John Atkinson, M.D., discusses the symptoms of lupus patient Claudia Castro with third-year medical students Alyson Buckner, left, and Dina Faulkner.

"It is gratifying to know that I have some kind of influence on people that I know are going to go out on their own and really make a difference."

patient's own immune system, Atkinson says.

One of the most exciting outcomes of Atkinson's work is a recent discovery by French researchers. They found that MCP is the long-sought measles virus receptor, the protein that the measles virus must latch onto before it can enter cells and cause disease. The finding opens up many possibilities for gaining a better understanding of measles and related diseases such as AIDS.

"In large part because of his contributions, we have a much greater understanding of how the body keeps the complement system in check and how that control system might break down and lead to body damage," Lublin says. "He has helped set the stage for the next step, which is the possibility of using these control proteins for therapeutic applications."

Atkinson has been honored several times for his contributions to immunology research. He received the Arthritis Foundation's 1991 Howley Prize, the nation's most prestigious award for arthritis-related research. In 1992, he was named a fellow of the American Association for the Advancement of Science.

But what really makes Atkinson stand out, colleagues say, is that he excels in all three arms of academic medicine: research, teaching and patient care.

"That is an incredibly admirable feat," says long-time colleague Louis Simchowicz, M.D., professor of medicine.

Calendar

Oct. 28–Nov. 6



Exhibitions

"The Crossing of Borders and the Creation of Worlds: The Art of Howard Jones." Through Oct. 31. Gallery of Art, upper and lower galleries, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

"Recent Acquisitions: Rare Books and Manuscripts Added to Special Collections." Through December. Olin Library, Special Collections, Level Five. Hours: 8:30 a.m.-5 p.m. weekdays.



Films

Thursday, Oct. 28

6:30 and 9 p.m. Filmboard Foreign Series. "Seduced and Abandoned," in Italian with English subtitles. Room 100 Brown Hall. Cost: \$3. **For 24-hour Filmboard hotline, call 935-5983.**

Friday, Oct. 29

7 and 9:30 p.m. Filmboard Feature Series. "Bagdad Cafe." (Also Oct. 30, same times, and Oct. 31 at 7 p.m.) Room 100 Brown Hall. Cost: \$3.

Midnight. Filmboard Midnight Series. "Flash Gordon." (Also Oct. 30, same time, and Oct. 31 at 9:30 p.m.) Room 100 Brown Hall. Cost: \$3.

Monday, Nov. 1

3 p.m. Russian film. "Freeze — Die — Come to Life," with English subtitles. Room 219 South Ridgley Hall.

Tuesday, Nov. 2

7 p.m. Japanese Film Series. "Kagemusha — The Shadow Warrior," with English subtitles. Room 219 South Ridgley Hall.

Wednesday, Nov. 3

7 and 9 p.m. Filmboard Foreign Series. "Gold of Naples," in Italian with English subtitles. (Also Nov. 4, same times.) Room 100 Brown Hall. Cost: \$3.

Friday, Nov. 5

7 and 9:30 p.m. Filmboard Feature Series. "Citizen Kane." (Also Nov. 6, same times.) Room 100 Brown Hall. Cost: \$3.

Midnight. Filmboard Midnight Series. "Fail Safe." (Also Nov. 6, same time.) Room 100 Brown Hall. Cost: \$3.



Lectures

Thursday, Oct. 28

9:30 a.m. Michael and Irene Karl Masters in Medicine Lecture. "Primary Biliary Cirrhosis," Willis C. Maddrey, executive vice president for clinical affairs, U. of Texas School of Medicine, Dallas. Clopton Aud., 4950 Children's Place.

Noon. Genetics seminar. "Automated DNA Sequencing as a Clinical Tool," Mathias Uhlen, Royal Institute of Technology, Stockholm, Sweden. Cori Aud., 4565 McKinley Ave.

2:30 p.m. Mechanical engineering colloquium. "Problems of Active Control and Optimization of Composite and Sand-

wich Panels Using Piezoelectric Stiffeners-Actuators," Victor Birman, assoc. prof., U. of Missouri, Rolla. Room 100 Cupples II Hall.

4 p.m. Biology and biomedical sciences student-organized seminar. "Simple Bioassays for New Drug Discoveries," Jerry L. McLaughlin, prof., Dept. of Medicinal Chemistry and Pharmacognosy, School of Pharmacy, Purdue U., West Lafayette, Ind. Erlanger Aud., McDonnell Medical Sciences Bldg.

4 p.m. Chemistry seminar. "Structurally Unusual Uridines and Boron-containing Purines," Michael P. Groziak, Dept. of Chemistry, Southern Illinois U., Carbondale. Room 311 McMillen Lab. (Coffee: 3:40 p.m. outside Room 311; refreshments following seminar.)

4 p.m. Hematology/oncology seminar. "Lipoprotein (a)," Richard Lawn, prof. of medicine, Division of Cardiovascular Medicine, Stanford U., Palo Alto, Calif. Room 8841 Clinical Sciences Research Bldg.

4 p.m. History talk. "Kandinsky's Inner Necessity, the Gender and Psychological Origins of Abstract Painting," Gerald N. Izenberg, prof. of history. Cohen Lounge, Room 113 Busch Hall.

4:15 p.m. Philosophy colloquium. "Kant on Reason and History," Pauline Kleingeld, asst. prof. of philosophy. Hurst Lounge, Room 201 Duncker Hall.

4:30 p.m. Math colloquium. "The Group of Holomorphic Automorphisms of C^n ," Laszlo Lempert, Purdue U. Room 199 Cupples I Hall. (Tea: 4 p.m., Room 200.)

Friday, Oct. 29

9:15 a.m. Pediatrics seminar. "Craniotubular Bone Dysplasias — A 25-year Re-evaluation," Robert J. Gorlin, Regent's Professor of Pathology and Genetics and prof. of pathology, dermatology, pediatrics, obstetrics/gynecology and otolaryngology, U. of Minnesota School of Medicine, Minneapolis. Clopton Aud., 4950 Children's Place.

Noon. Cell biology and physiology seminar. "Exploring the Myosin Superfamily of Actin-based Motors," Mark Mooseker, Dept. of Biology and Cell Biology, Yale U. Room 423 McDonnell Medical Sciences Bldg.

1 p.m. Solid-state engineering and applied physics seminar. "Coupling of Power From Acrylic Waveguides to Optical Fibers Using Semiconductor Lasers," T.S. Barry, electrical engineering graduate student. Room 305 Bryan Hall.

4 p.m. Anatomy and neurobiology seminar. "Aging and Alzheimer's Disease: Relation Between Amyloid Plaques and Neurofibrillary Tangles," Joel Price, prof., Dept. of Anatomy and Neurobiology. Room 928 McDonnell Medical Sciences Bldg.

4 p.m. Hematology/oncology seminar. "Molecular Characterization of the Genetics Defect and Modes of Treatment in Murine Mucopolysaccharidosis Type 7," Mark S. Sands, U. of Pennsylvania School of Veterinary Medicine, Section of Medical Genetics. Room 8841 Clinical Sciences Research Bldg.

4 p.m. Evarts A. Graham Visiting Professor of Surgery Lecture. "Breast Cancer: A Model of Vested Interests and Fixed Attitudes," J. Alexander Walt, Distinguished Professor of Surgery, Wayne State U., Detroit. Clopton Aud., 4950 Children's Place.

Saturday, Oct. 30

8 a.m. Evarts A. Graham Lecture. "The Education of Surgeons for the 21st Century," J. Alexander Walt, Distinguished Professor of Surgery, Wayne State U., Detroit. Jewish Hospital, Steinberg Amphitheatre.

Monday, Nov. 1

2 p.m. Performing arts lecture. "The Romantic Actor in the Age of Revolution," Simon Williams, prof. of dramatic art, U. of California, Santa Barbara. Room 325 Mallinckrodt Center.

4 p.m. Biology seminar. "Long-term Studies of an Ethiopian Baboon Hybrid Zone," Jane E. Phillips-Conroy, assoc. prof. of anatomy and anthropology. Room 322 Rebstock Hall.

4 p.m. Social Thought and Analysis and history lecture. "Race, Suicide and U.S. Fertility Differentials Around 1900," Miriam L. King, asst. prof. of sociology, Population Studies Center, U. of Michigan, Ann Arbor. Room 113 Busch Hall.

8 p.m. Architecture lecture. "Nurturing Culture in the Rural South," Sam Mockbee, Ruth and Norman Moore Visiting Lecturer and prof. of architecture, Auburn U. Steinberg Hall Aud. (Reception following, Room 120 Givens Hall.)

Tuesday, Nov. 2

12:10 p.m. Physical therapy brown bag research seminar. "Cumulative Trauma Disorders," Susan McKinnon, prof. of surgery, Dept. of Plastic Surgery. Classroom C, Room 110 Boulevard Bldg., 4444 Forest Park Blvd.

4 p.m. Jewish and Near Eastern studies and history lecture. "Bohemian Jewry in the 16th to 17th Centuries: The Evidence of a Newly Discovered Hebrew Chronicle," Abraham David, assoc. director, Institute for Microfilmed Hebrew Manuscripts, National Library, Jerusalem. Hurst Lounge, Room 201 Duncker Hall.

4 p.m. Molecular microbiology seminar. "Molecular Studies on Retrovirus Glycoprotein Assembly and Function," Eric Hunter, prof., Dept. of Microbiology, U. of Alabama, Birmingham. Cori Aud., 4565 McKinley Ave. (Refreshments: 3:45 p.m.)

4:30 p.m. Anthropology seminar. "The Political Economy of Identities in Belize," Laurie K. Medina, visiting asst. prof., Dept. of Anthropology. Room 149 McMillan Hall. (Coffee: 4:15 p.m.)

Wednesday, Nov. 3

7:30 a.m. Obstetrics and Gynecology Grand Rounds. "Adolescent Sexuality and Contraceptive Challenges," Anita Nelson, asst. prof., U. of California, Los Angeles. Clopton Aud., 4950 Children's Place.

11 a.m. Assembly Series Holocaust Memorial Lecture. "Gypsies, Germany and the Holocaust," Ian Hancock, prof. of linguistics specializing in Gypsy language and culture, U. of Texas, Austin, author of *The Pariah Syndrome: An Account of Gypsy Slavery and Persecution* and former special adviser to the U.S. Holocaust Council. Graham Chapel.

Noon. Academic Women's Network seminar. "Juggling Family and Career: A Panel Discussion," Elisa Birnbaum, clinical instructor of surgery, Section of Colon and Rectal Surgery, Jewish Hospital, and Dixie Anderson, prof., Dept. of Radiology. Erlanger Aud., McDonnell Medical Sciences Bldg.

2 p.m. Performing arts lecture. Writer and performance artist Holly Hughes will discuss her work. Lambert Lounge, Room 303 Mallinckrodt Center.

4 p.m. Biochemistry and molecular biophysics seminar. "Regulation of Yeast Phosphatidate Phosphatase," George M. Carman, Dept. of Food Science, Rutgers U., New Brunswick, N.J. Cori Aud., 4565 McKinley Ave.

4 p.m. Physics colloquium. "The Present State of Computational Neuroscience," Charles H. Anderson, research prof., Dept. of Anatomy and Neurobiology. Room 204 Crow Hall. (Coffee: 3:30 p.m., Room 245 Compton Hall.)

Thursday, Nov. 4

4 p.m. Chemistry seminar. "Electronic Structures of Active Sites in Copper Proteins and Their Contributions to Reactivity," Edward I. Solomon, prof. of chemistry, Stanford U. Room 311 McMillen Lab. (Coffee: 3:40 p.m. outside Room 311; refreshments following seminar.)

4 p.m. Earth and planetary sciences colloquium. "Plate Boundary Processes From High Resolution Aftershock Studies," Susan Y. Schwartz, research geophysicist, Earth Sciences Dept., U. of California, Santa Cruz. Room 162 McDonnell Hall.

4 p.m. Edward G. Weltin Assembly Series lecture. "Family Values? Women, Asceticism and Roman Imperial Society," Elizabeth A. Clark, John Carlisle Kilgo Professor of Religion, Duke U. May Aud., Simon Hall.

4:15 p.m. Philosophy colloquium. "Neutronic Control of Behavior From a

Levels Perspective: Spinal Cord Circuits That Select and Generate the Forms of a Task and Their Blends," Paul Stein, prof. of biology. Hurst Lounge, Room 201 Duncker Hall.

4:30 p.m. Math colloquium. Aimo Hinkkanen, prof. of math, U. of Illinois, Urbana. Room 199 Cupples I Hall. (Tea: 4 p.m., Room 200.)

Friday, Nov. 5

Noon. Brown bag lunch for women faculty. Remarks by Susan Appleton, prof., School of Law. Lambert Lounge, Room 303 Mallinckrodt Center.

1 p.m. Solid-state engineering and applied physics seminar. "Capacity Bounds for Magnetic-recording Media," D. G. Porter, electrical engineering graduate student. Room 305 Bryan Hall.

4 p.m. Twenty-first Annual Carl Vernon Moore Memorial Lecture. "Transgenic and Protein Structural Approaches to Unraveling the Enigmas of Prion Diseases," Stanley B. Prusiner, prof. of neurology, Dept. of Neurology, U. of California, San Francisco. Moore Aud., 4580 Scott Ave.

4 p.m. Earth and planetary sciences colloquium. "Experimental Results for U and Th Solubility in Supercritical Aqueous Fluids," K. Vala Ragnarsdottir, prof., Dept of Geology, U. of Bristol, England. Room 162 McDonnell Hall.

6 and 8:30 p.m. WU Association Travel Lecture Series. "Costa Rica," Sherilyn Menten, travel lecturer and researcher. Graham Chapel. Cost: \$4.50 at the door.



Music

Sunday, Oct. 31

3:30 p.m. Music recital. Soprano Suzanna George performs songs by Benjamin Britten, Franz Schubert, Villa-Lobos and John Carter. Graham Chapel.



Performances

Friday, Nov. 5

8 p.m. Performing Arts Dept. production. "Buried Child." (Also Nov. 6, same time.) Benefit performance for flood relief at 8 p.m. Nov. 4. Edison Theatre. Cost: \$10 for benefit performance; all other performances — \$7 for the general public; \$5 for senior citizens and WU faculty and staff; and \$5 for students.



Miscellany

Thursday, Oct. 28

Hot Tub-A-Thon for flood relief. Activities continue through Oct. 29. Hot tub is located at Wohl Center. For more info., watch for flyers posted on campus.

Friday, Oct. 29

7:30 a.m.-3:15 p.m. School of Medicine Continuing Education symposium. "Frontiers in Ovulation Induction," with chairman Michael J. Gast, assoc. prof. and chief, Division of Obstetrics and Gynecology and Division of Reproductive Endocrinology.

Marriott Hotel at Glenpointe, Teaneck, N.J. Registration cost: \$30. For more info., call 362-6893.

3 p.m. International student resource group tour. "History and Technology," tour of McDonnell-Douglas Aircraft Corp. Meet at Stix International House to board bus. For more info., call 935-5910.

Saturday, Oct. 30

6:30 p.m. Annual Founders Day Celebration. Sen. John Danforth will serve as guest speaker. Awards will be given to distinguished alumni and faculty. (Cocktails at 6:30 p.m.; dinner with wine service at 7:30 p.m.; program at 8:30 p.m.) Adams Mark Hotel, Fourth and Chestnut streets. Cost: \$40. For more info. and to make reservations, call 935-7378.

Tuesday, Nov. 2

10 a.m.-1 p.m. School of Law rummage sale to benefit United Way. A variety of items, including office supplies, household items and fresh baked goods, will be available. Mudd Hall Courtroom.

Wednesday, Nov. 3

7:30 p.m. Book reading/lecture. "A Reading From Her Book, *Frauen: German Women Recall the Third Reich*," in English, with Alison Owings, American writer and journalist. Sponsored by European Studies, Dept. of Germanic Languages and Literatures, Hillel Foundation, Jewish and Near Eastern Studies and Women's Studies. Room 162 McDonnell Hall.

Thursday, Nov. 4

2 p.m. Writing workshop. Features theatre writer and performance artist Holly Hughes. Drama Studio, Room 208 Mallinckrodt Center.

Friday, Nov. 5

4:30 p.m. International student resource group tour. Meet at Stix International House to board bus for tour of Chrysler Corp. assembly plant. For more info., call 935-5910.

Saturday, Nov. 6

9 a.m.-4:30 p.m. Second Annual Comparative Literature Symposium for Graduate Students. Papers on topics related to comparative literature will be presented by arts and sciences graduate students. Sponsored by the Committee on Comparative Literature. Alumni House living room.



Special Events

The Black Arts and Sciences Festival continues through Oct. 30. For more info. about events, call 935-5994.

Thursday, Oct. 28

7:30 p.m. Visions gospel choir annual concert. "The Jesus Gang," a children's gospel group, also will perform. Graham Chapel.

Friday, Oct. 29

8 p.m. "Camp Logan," a World War I drama by Mountaintop Productions of San Antonio, Texas, based on the Houston mutiny and court-martial of 1917. Play is written by Celeste Walker, Writer's Clinic of Los Angeles. May Aud., Simon Hall.

Saturday, Oct. 30

9 p.m.-1 a.m. "Reflections of Blackness" semi-formal dance, including a special performance. Dance is open to WU community and not open to the general public. Northeast corner of Wohl Center.

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.

Author, Gypsy specialist to give Holocaust Memorial Lecture

Ian Hancock, author of *The Pariah Syndrome: An Account of Gypsy Slavery and Persecution*, will deliver the Holocaust Memorial Lecture at 11 a.m. Wednesday, Nov. 3, in Graham Chapel. His lecture, "Gypsies, Germany and the Holocaust," is part of the Assembly Series and is free and open to the public.

Hancock, professor in the Linguistics and English departments at the University of Texas at Austin, specializes in Gypsy language and culture and is the author of nearly 200 articles and books. From 1985-87 he was a special adviser on Gypsy-related Holocaust affairs to Elie Wiesel, U.S. Holocaust Memorial Council.



Ian Hancock

Hancock is working on the development of a Model Curriculum for Genocide and the Holocaust for the central Texas school system.

Of Gypsy heritage, he is the U.N. representative for the Romani people and head of the World Romani Union, composed of

national Gypsy leaders. He has been active in the Romani civil rights movement since the mid-1960s, both in Britain and the United States. In 1979, he was awarded a citation of merit by Yeshiva University for his work on behalf of his ethnic community and in 1986 received the University of Texas Humanities Award in recognition of work done for Romani people.

Hancock is a board member of the National Conference on Christians and Jews Inc. and the Foundation for the Remembrance of the Holocaust through the Performing Arts Inc. He also is a member of the Advisory Council on Jewish Affairs in Haifa and the Institute of Race Relations in London.

Hancock, who was born in Britain after his family emigrated there from Hungary, received his doctorate from London University's School of Oriental and African Studies. He has lived in the United States since 1972 when he began teaching at the University of Texas at Austin. In 1980 he was a visiting faculty member at the University of Michigan in Ann Arbor.

The lecture is co-sponsored by the Assembly Series, Jewish and Near Eastern Studies Program, Student Union and Hillel Foundation B'nai B'rith. For more information, call 935-4620.

Sports

Football

Last Week: Chicago 20, Washington 17

This Week: at Principia, 1:30 p.m. Saturday, Oct. 30, Elsah, Ill.

Current Record: 5-3

With 27 seconds remaining, the University of Chicago scored on a one-yard touchdown run, coming from behind to deal Washington a heartbreaking 20-17 defeat in the annual Founders Trophy game. The loss ended a three-game winning streak by the Bears. The Maroons defeated the Bears, despite the fact that the Washington defense limited Chicago to 195 rushing yards. Junior linebacker Matt Gomric, Belleville, Ill., paced the Bear defense with 18 tackles. Offensively, junior running back Todd Hannum, Maryville, Tenn., posted his third straight 100-plus rushing game, totalling 123 yards and one touchdown on 27 carries.

Women's Volleyball

Last Week: At WU Classic: Washington 3 (15, 15, 15), DePauw 0 (4, 12, 7); Washington 3 (15, 15, 15), Franklin 0 (7, 6, 10); Washington 3 (15, 15, 15), Wheaton 0 (5, 3, 3); Washington 3 (15, 9, 15, 15), Columbia 1 (12, 15, 7, 10)

This Week: at Rochester Institute of Technology, 5 p.m. (EDT) Thursday, Oct. 28, Rochester, N.Y.; at University Athletic Association Championships, Friday-Saturday, Oct. 29-30, Rochester, N.Y.

Current Record: 32-1

For the second week in a row, All-America junior middle blocker Amy Albers, Washington, Mo., earned tournament most valuable player honors after leading the Bears to a quartet of victories. Albers, the Division III leader in hitting percentage, hit an astronomical .667 in the four wins and led the Red and Green with 54 kills and 15 blocks. Albers was joined on the seven-player all-tournament team by two other Bear All-Americans — seniors Amy Sullivan, St. Louis, and Leslie Catlin, Lawrence, Kan.

Men's Soccer

Last Week: Washington 2, Emory 1; Washington 6, NYU 0

This Week: vs. Case Western Reserve, 11 a.m. Saturday, Oct. 30, Francis Field

Current Record: 11-5-1

Washington remains in contention for its 11th NCAA playoff berth after notching two important victories over UAA rivals

last weekend. The Bears' bid, however, for a third straight conference championship ended as the University of Rochester posted a pair of overtime victories to win this year's league crown. Freshman Justin Reed, Kansas City, Mo., and sophomore Matt Valentine, Arlington, Texas, scored the two goals in the Bears' 2-1 victory over Emory. The Bears, closing the season with Case Western Reserve on Saturday, will learn about their NCAA postseason chances late this Sunday.

Women's Soccer

Last Week: Emory 3, Washington 1 (OT); Washington 2, Maryville 0

This Week: vs. Case Western Reserve, 1:30 p.m. Saturday, Oct. 30, Francis Field; at Missouri-Rolla, 1 p.m. Sunday, Oct. 31, Rolla, Mo.

Current Record: 4-12-0

After forcing national-power Emory into overtime on Friday, the Bears snapped a three-game losing streak by topping Maryville. Freshman Jennifer Etkin, Bala Cynwyd, Pa., scored her first career goal with 13 minutes remaining in regulation against Emory. She then went on to score a pair of goals in the first extra period. Finally meeting after two earlier rainouts, the Bears beat Maryville with their first multiple-goal outing of the season. Junior Laura Miller, St. Louis, and senior Alison Wilson, Bethesda, Md., who rank first and sixth on Washington's career goals list, each tallied their first of the year to provide the winning margin.

Men and Women's Cross Country

Last Week: at University Athletic Association Championships (Atlanta, Ga.): Men's Finish: 8th of 9; Women's Finish: 6th of 9

This Week: at University of Chicago Invitational, Saturday, Oct. 30, Chicago, Ill.

Competing in the power-packed University Athletic Association Championships after a one-year absence, the Bears posted respectable outings for a first-year program. The women's team provided the highlight, finishing sixth overall, while the men placed eighth. Sophomore Amy Benkowski, Lincoln, Neb., was the Bears' top finisher with an 18th place showing out of 67 finishers and a five-kilometer time of 20:17. The men were paced by junior Ryan Thomas, Orefield, Pa., who placed 30th out of 77 finishers with an 8K time of 27:48.

Weekly series explores environmental issues

Washington University and The Electric Power Research Institute's Community Environmental Center (CEC) are sponsoring an informal series of weekly presentations and discussions to create a dialogue on critical environmental issues.

The series begins at noon Friday, Oct. 29, and continues each Friday through Dec. 10, with the exception of Nov. 26. Lectures will resume in January after the University's winter break. The lectures, which are free and open to the public, will be held in Room 216 Urbauer Hall.

Aimed at students, faculty and interested business people, the lectures will feature such speakers as Provost Edward S. Macias, Ph.D., and Charles A. Buescher Jr., chairman, St. Louis County Water Co. Macias opens the series on Oct. 29 with a discussion about the "Importance of Environmental Education and Research at Washington Univer-

sity." Buescher appears Nov. 5 with the topic "Science, Drinking Water and Public Water Suppliers."

The Electric Power Research Institute (EPRI) — the principal research and development organization of the electric power industry — opened the CEC July 1 on the Washington University campus.

The CEC staff initiates research projects, develops funding sources and works closely with EPRI, trade associations and other research organizations to research municipal water, waste water and medical waste disposal issues, in addition to other concerns.

The center also provides technical expertise to utilities throughout the United States and will use its resources to transfer technology developed through the center to industry throughout the region and nation.

Asceticism focus of Edward G. Welton lecture

Elizabeth A. Clark, John Carlisle Kilgo Professor of Religion at Duke University in Durham, N.C., will deliver the fourth Edward G. Welton Lecture at 4 p.m. Thursday, Nov. 4, in Simon Hall's May Auditorium. Her talk, titled "Family Values? Women, Asceticism and Roman Imperial Society," is free and open to the public.

Clark has written extensively on the adoption of Christian practices of asceticism and monasticism by the Roman nobility during the fourth and fifth centuries. As an act of religious devotion, followers of asceticism and monasticism renounce the comforts of society in favor of self-discipline.

Clark has served as president of the North American Patristics Society, the American Society of Church History

and the American Academy of Religion. She is the founding editor of the Journal of Early Christian Studies. Her 1992 book, *The Origenist Controversy: The Cultural Construction of an Early Christian Debate*, was published by Princeton University Press.

Professor Edward G. Welton began teaching Greek and Roman history at Washington University in 1947. Since his retirement from the Department of History in 1980, he has continued to teach University College courses. The Welton Lectureship in Early Christianity was established by Welton's friends and students in honor of his educational achievements.

The lecture is sponsored by the Faculty of Arts and Sciences. For more information, call 935-5123.

University, Missouri Botanical Garden yield a fruitful relationship

Exactly 110 years ago, Washington University and the Missouri Botanical Garden began cultivating a set of institutional connections that have grown into some of the strongest such ties in the world.

"Most gardens with research capabilities establish such linkages," says Peter H. Raven, Ph.D., director of the Missouri Botanical Garden, who also has served as Engelmann Professor of Botany at the University since 1971. "But I really think we have the best and deepest connection of all. It is so well based historically and so comfortable. We've worked on it for a long time and it works very well."

For both institutions, these ties begin at the top. Chancellor William H. Danforth serves on the garden's board of trustees; last May, Raven delivered the University's Commencement address and received an honorary degree.

Faculty members also work in cooperative arrangements. Walter H. Lewis, Ph.D., professor of biology at the University, serves as senior botanist at the garden. Two other faculty members — Barbara A. Schaal, Ph.D., professor and chair of the Department of Biology, and Alan R. Templeton, Ph.D., professor of biology and of genetics — are associate faculty at the garden. In turn, seven garden researchers currently serve as adjunct University faculty.

At the same time, 14 Washington University graduate students are working with advisers from the garden and using its library, herbarium and greenhouse facilities. Michael Fay, a Ph.D. candidate in anthropology, is making a comparative ecological study of lowland gorillas living in forests of the Central African Republic. Brad Boyle, a graduate student from the Division of Biology and Biomedical Sciences, is studying altitudinal changes in vegetation at sites in Mexico, Costa Rica and Ecuador.

There are many informal ties as well. Last spring and summer, Department of English graduate student Bruce Smith spent hours combing through the garden's exquisite collection of 17th-century gardening treatises while working on his dissertation about pastoral themes in English literature from the Restoration period.

Tax vote supports research

Raven hopes for even stronger ties in the future. The success of Proposition E, a three-cent property tax increase on the Nov. 2 ballot in St. Louis and St. Louis County, would mean approximately \$4.5 million to expand the garden's educational and community outreach efforts, renovate buildings and boost its research operating budget. That additional funding, he says, will build an even stronger base for university-level instruction.

"Anything that is added to our research budget that enhances our ability to deal with plants around the world directly strengthens our linkage with Washington University," says Raven.

And a \$29.5 million capital campaign, currently under way at the garden, also will fund a state-of-the-art research facility to accommodate graduate students, including those from Washington University.

The linkage between the two institutions was born in the early 1880s when the garden's founder, Henry Shaw, began considering what kinds of connections to create with the young university. In his 1987 biography of Shaw, William Barnaby Faherty, S.J., points out that Shaw was under some pressure to give the garden to the university.

Instead, Shaw decided in 1885 to endow a school of botany as a special University department. He also established a professorship of botany named for George Engelmann, a botanist-physician and Shaw's adviser on the garden,

who had died in 1884. William Trelease was appointed first director of the garden and first Engelmann professor; he served until 1912.

During the intervening years, the school of botany became part of the University's biology department. But the cross-pollination between the two institutions has continued.

"Since 1885, we have been cooperating closely in education at the undergraduate and graduate levels," says

Raven. "Hundreds of Ph.D. graduates from our programs have filled virtually every important job in botany in the United States."

"The two institutions have always had a great deal in common," he adds, "including our devotion to science and commitment to things that make St. Louis a special place to live. With the support of the University community, we will look forward to many more years of collaboration in the future."



Bob Jobbins, left, director of World Service News, Radio and Television at the British Broadcasting Corp. (BBC), and Gwyn Jones, senior editor of World Service News, answer the question "What's News?" in Simon Hall's May Auditorium. The veteran reporters explained how the BBC determines what news its 130 million listeners hear every day.

Immunologist studies fever, hypothesizes purpose behind feeling lousy — from page 1

killer T-cells. These cells "nuzzle up to infected cells and blow a big hole in the target cells without killing themselves, a very neat trick," Hanson observes.

Among his more intriguing findings is that killer T-cells annihilate infected target cells just as readily at skin temperature — 84.2 degrees F — as they do at febrile temperatures. But in a normal immune response, killer T-cells are neither pre-existing nor formed spontaneously. Instead, they must be created specifically in response to signals from another category of T-lymphocytes, the helper T-cells or the "essential facilitators, decision-makers and governors of immune responses."

It is the helper T-cells, the master regulatory cells, that Hanson and other immunologists have shown to be exquisitely sensitive to the small temperature changes associated with fever. The helper T-cells are required to create killer T-cells. The helper T-cells respond to the existence of pathogens by releasing hormones that tell the precursors of killer T-cells to grow and acquire the ability to kill.

Hanson's most novel finding is that fever's usefulness seems connected to warming our normally cool peripheral tissues — the skin, the extremities and the outer portion of the body mass — rather than heating up the core tissues. Temperature of the core tissues has been the traditional benchmark of clinical fever.

"Both humans and animals tend to control the temperature of the outer portion of the body by modifying their behavior," says Hanson. "When you feel cold, you put on more clothing, close the window, turn up the heat. An animal, in turn, erects its hair, ruffles its feathers or huddles with its nest mates, as mice do."

Hanson's findings could support the logic many of us have used when we call in sick, even when we can't get a doctor's excuse for our condition.

"I've noticed that when you're on the borderline between reportable illness and normalcy, you can't get anything on the thermometer that you can show the boss that says, 'Hey, I can stay home today.' Yet at the same time you know your temperature regulation is not normal. You feel cold when you shouldn't; you get cold more easily. While this is speculative, I'd like to argue that this subclinical stage is a situa-

tion where your body uses perceptual and behavioral modification to reorganize your distribution of temperature in peripheral tissues without actually heating up your core. This would employ all of the immunological benefits of fever without 'fever' in the sense of its clinical definition.

"Such subclinical infections probably represent the majority of infections we face in our lifetimes rather than the big, dramatic ones that land us in the doctor's office or the hospital. This early, subclinical stage, where nothing shows up on the thermometer, is as intriguing to me as fever itself."

What, he poses, is the biological function of feeling lousy?

"Some people claim they never get much of a temperature, but I don't know anybody who hasn't said, 'Gee, I feel lousy today.' I hypothesize that malaise is one way of getting an animal to stay in one place, sheltered, where it can keep all of its body's immune system warm and at temperatures that promote the most vigorous possible immune response."

By staying home, bundled up, turning up the thermostat and yielding to our "couch potato" instinct, Hanson says, we actually increase the ability of the peripheral tissues to climb to a much warmer temperature.

Hanson has devoted a career to immunology, specifically the function and intrigues of fever. In 1978, as a doctoral student at Johns Hopkins University School of Medicine, Hanson and his mentor, Patrick Murphy, M.D., made a fundamental contribution to the study of fever when they discovered that the hormones that cause fever are the very same ones that facilitate inflammatory and immune responses. This elevated fever from a physiological phenomenon to an immunological accomplice, however vague at that time.

"It's a remarkable piece of biological conservation for nature to go to the trouble of wiring something that stimulates immune responses and something that stimulates body temperature into the same molecule," he observes. "The only thing I could figure out that made sense for that design is to make sure that both things — the initiation of new immunity and the raising body temperature — happen at the

same time. This suggested that the two processes must certainly be interdependent."

No sweat

Hanson and other immunologists now are looking beyond fever's initial alarm and researching what happens next in the immune system, a molecular organization as circuitous and complex as a fiber-optic switch and as kinetic and violent as a Conan movie.

The best biological estimation of fever is that it is a component to the immune system, not in itself a physiological exorcism, as many have long thought. Fever has been used as a diagnostic sign by physicians for well over 4,000 years.

"Fever really is normal," he says. "All vertebrates get it, and some invertebrates get

it. During fever, all of the elegant temperature control mechanisms in our body work exactly the same except now the body has re-defined its 'set point' at two or three degrees higher. It's like a home thermostat temporarily but intentionally set a few degrees higher, merely an adjustment for ends we are just now beginning to divine."

Hanson's advice to us when we're febrile? No sweat.

"Do exactly what your sensations of hot and cold tell you to do, and don't suffer in the name of character and heroism," he said. "Stay warm all the way through. Rest. Rest is a way of keeping yourself warm all the way through by not moving around and losing the insulation of your clothing and bed, thereby cooling off your peripheral tissues."

— Tony Fitzpatrick

Woman charged in Oct. 24 campus robbery

A 22-year-old woman was charged with four felony counts in connection with the Oct. 24 armed robbery of two Washington University students. She is charged with one count of attempted robbery in the first degree, two counts of armed criminal action and one count of robbery in the first degree. Bond is set at \$50,000. It is expected that a second suspect will be taken into custody soon.

"We have a relatively safe campus," said Campus Police Chief William Taylor. "However, with the general change in society and the fact that there are no walls or fences, there is always a possibility of an isolated incident of random violence."

At approximately 3:15 a.m. Sunday, Oct. 24, two Washington University students, one male and one female, were walking south on Throop Drive when a mini-van driving north on Throop stopped next to them. Two black females armed with weapons exited the side door of the van and demanded money. The suspects were in their early 20s. One was armed with a rifle, the other with a can of mace.

The male student told the suspects he had only one dollar and held open his empty wallet. He was then sprayed with mace. The suspect with the rifle took the female student's change purse and threw it on the ground after seeing that it contained no money. The suspects re-entered the van

and proceeded north on Throop Drive and then east on Millbrook Boulevard.

The Washington University students went to a nearby residence hall and phoned Campus Police to report the incident. The students provided officers with detailed information regarding the attempted armed robbery. From the information provided, the St. Louis County Police Department developed a composite likeness of the suspect with the gun.

Using information provided during the initial investigation, the mini-van was located Sunday afternoon. Subsequently, a rifle and shotgun were found and the 22-year-old female was taken into custody.

"The students in the matter handled themselves well, kept their heads about them, complied with the request of the suspects," Taylor said. "At the same time, they maintained an awareness of what was happening and observed the individuals in the vehicle involved. Because of this, they were basically unharmed, except for the mace incident. We were able to take the information, find the vehicle and apprehend the suspect."

The male student was treated by the Washington University Emergency Support Team for the effects of mace. Both students were contacted by members of the Washington University Student Affairs staff and were offered assistance. Both students declined. The investigation is continuing.

For The Record

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

Speaking of

At the 11th National Recycling Congress and Exposition held in Nashville, Tenn., **Christopher Boerner**, the Jeanne and Arthur Ansehl Fellow at the Center for the Study of American Business, gave a presentation on "Recycling Myths and Unfashionable Truths." ...

David B. Clifford, M.D., associate professor of neurology, gave an invited lecture titled "Treatment of Neurological Complications of AIDS: The AIDS Clinical Trials Group in the 1990s" at a symposium on "Technical Advances in AIDS Research in the Human Nervous System" held in Washington. The symposium was sponsored by the National Institute of Neurological Disorders and Stroke and the Office of AIDS Research. ...

Claire Cuccio and **David Schmidt**, both graduate students in the Department

of Asian and Near Eastern Languages and Literatures, delivered papers on modern Japanese and Korean poetry during the annual Midwest Conference on Asian Affairs held in Cleveland. The papers were presented as part of a panel on "Japanese Poetic Modernism and the Question of Self-presentation" organized by **Marvin Marcus**, Ph.D., associate professor of Japanese language and literature. Marcus also served as panel discussant. ...

Max J. Okenfuss, Ph.D., associate professor of history, presented a paper titled "Florovsky's Interpretation of Ukrainians and Russians in the Early Eighteenth Century: New Evidence From the Private Library" at The Georges Florovsky Centennial Conference held at the University of Michigan in Ann Arbor. ...

Margaret W. Skinner, Ph.D., associate professor of otolaryngology and director of audiology, presented a paper on "Profiles of Threshold and Dynamic

Range vs. Cochlear Location: Intra- and Intersubject Variability" during the 1993 Conference on Implantable Auditory Prostheses held at Bryant College in Smithfield, R.I.

On assignment

William H. Gass, Ph.D., David May Distinguished University Professor in the Humanities and director of the International Writers Center, and **Lorin Cuoco**, associate director of the center, are founding members of the Rushdie Defense Committee USA based at PEN American Center in New York. The committee was organized in response to the death sentence or *fatwa* imposed by Iran on Salman Rushdie for his book *The Satanic Verses*. The fifth anniversary of the *fatwa* will be marked on Feb. 14, 1994. ...

Christine Ruane, Ph.D., assistant professor of history, has been appointed co-editor of *Russian Studies in History*, a journal designed to acquaint Western

audiences with important research and historical controversies from Russia.

To press

A paper written by **Eric J. Nuetzel**, M.D., assistant professor of clinical psychiatry and a part-time graduate student in performing arts, has been accepted for publication in *Free Associations*, a London-based journal that focuses on psychoanalysis, culture, politics and the arts. His article, titled "Primal Scene Imagery in the Tragedy of Othello," is scheduled for publication in late 1994 or early 1995.

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 Sanford at 935-5293.

Alumni, Brookings awards to be presented at Founders Day

Washington University will honor six alumni and three members of the University community at this year's Founders Day banquet on Saturday, Oct. 30, at the Adam's Mark Hotel, Fourth and Chestnut streets.

The banquet, commemorating the University's founding in 1853, will begin with cocktails at 6:30 p.m. U.S. Sen. John C. Danforth will be the guest speaker at the event, which is sponsored by the Washington University Alumni Association. To make reservations or for ticket information, call 935-7378.

The Distinguished Alumni Award is given in recognition of outstanding professional achievement, contributions in areas of public service, exceptional service to the University or any combination of the three. The following alumni will be honored: Alyn V. Essman, chairman of the board and chief executive officer, CPI Corp.; Robert W. Meyer, technical assistant to the senior vice president, Gas Research Institute; Norman G. Moore, hospital architectural consultant; Barbara Schaps Thomas, vice president of finance and operations, Time Warner Sports; Mitchell Yanow, co-founder and chair, Medicine Shoppe International Inc.; and Milton L. Zorensky, co-founder and former executive vice president, Hycel Properties.

Essman graduated with a bachelor's degree in business administration from Washington University in 1953. He was named to his current position in 1973. Essman and 10 senior executives formed a buy-out group to purchase the company in 1979, and the company went public in 1982.

A loyal alumnus of Washington, Essman received a Distinguished Business Alumni Award in 1989 from the John M. Olin School of Business. He and his wife have sponsored several scholarships for the Scholars in Business program, and CPI Corp. has created a scholarship program as well.

Declining a full scholarship to any institution in Texas, **Meyer** attended Washington and received three degrees: a bachelor's in engineering and policy in 1974, a master's in civil engineering in 1976 and a doctorate in civil engineering in 1978.

Meyer has a diverse career in management for companies engaged in marine transportation, industrial equipment fabrication and natural gas research and development. Soon after his graduation, he sponsored, with the help of three other alumni, a scholarship for engineering students.

Meyer has played many leadership roles within the University. He now serves as chair of the Alumni and Parents Admission Program for the western Chicago suburbs.

In the 1940s, **Moore**, who received his bachelor's degree in architecture from Washington in 1933, worked in the U.S. Public Health Service's Division of Hospital Facilities in Washington, D.C. In 1953, Moore established a private consulting practice. Through this practice, he planned 37 hospitals and medical facilities.

By receiving his bachelor's degree from Washington, Moore followed in the footsteps of his father, who received a law degree from Washington, and his sister, Ruth Moore Garbe, who received both bachelor's and master's degrees from the University. Through the generosity of Moore and Garbe, a former member of the Board of Trustees, the first endowed chair in the School of Architecture was established in 1986. In 1990, they established a second chair for a visiting professorship in architecture.

Thomas graduated from Washington with a degree in drama in 1976 and received an MBA from Northwestern University in 1979. In 1983 she joined Home Box Office as manager of movie finance. She was named director of financial operations and reporting in 1987 before joining Time Warner Sports, where she was named to her present position in 1991. She is recognized as an authority in the field of pay-per-view sporting events.

Thomas and her husband, David, have been supporters of the arts and sciences scholarship program. Thomas serves on the National Council for the Faculty of Arts and Sciences and she served as keynote speaker at the Arts and Sciences Scholarship Dinner in 1991.

Yanow received his medical degree in 1941 from the School of Medicine. He has had a distinguished career in medicine and business.

Medicine Shoppe International Inc. is a national franchiser of pharmacies with more than 950 drug stores in 48 states.

Yanow and his wife, Elaine, life members of the Eliot Society, named the entranceway of the new School of Medicine Library with their gift to the library campaign. He has served for many years on the medical school's Eliot Society membership committee.

Zorensky, who graduated from the Olin School in 1940, co-founded Hycel Properties, through which he was instrumental in developing several leading St. Louis shopping areas, including the St. Louis Galleria.

Zorensky and his wife, Jeanne, sponsor the Milton and Jeanne Zorensky Scholarships in the Olin School. Zorensky was awarded the Distinguished Business Alumni Award from the Olin School in 1991. He also has served on the long-range planning committee of the University.

The three Robert S. Brookings Awards will be presented to Stifel Jens and to Raymond H. Wittcoff and Roma B. Wittcoff. The Board of Trustees bestows the award to individuals, "who, by their commitment and generosity, exemplify the alliance between Washington University and its community."

After receiving a bachelor's degree in 1932 and a master's degree in 1933 from Washington, **Jens** launched his professional career in civil engineering. In his nearly 50 years of practice, he gained an international reputation as a water resources expert.

Jens was the recipient of the Washington University Alumni Citation in 1973 and the School of Engineering Alumni Achievement Award in 1985. He was instrumental in the rebirth of the Environmental Engineering Program at Washington. He also has sponsored scholarships for engineering students for more than 20 years.

A 1942 graduate of the University of Chicago, **Raymond H. Wittcoff** is retired from his position as president of Transurban Corp., a real estate investment firm that was a prime mover in the redevelopment of downtown St. Louis.

Wittcoff is a member of the Board of Trustees and is a former chair of the Washington University Medical Center.

A life patron of the Eliot Society, Wittcoff established the Raymond H. Wittcoff Professorship in the Department

of Biochemistry and Molecular Biophysics in the School of Medicine.

After graduating from Washington in 1945 with a degree in public administration, **Roma B. Wittcoff** worked as a social worker with the American Red Cross. She has been active in the University community since her graduation.

Currently serving her third term as a member of the Board of Trustees, Wittcoff is a life patron of the Eliot Society and supports many areas of the University.

In memory of her first husband, Dan Broida, who received an engineering degree from Washington in 1936, she established the Broida Endowed Scholarship in the School of Engineering and the Dan Broida Professorship in Operations and Manufacturing Management in the Olin School. She also has endowed a computer center for the Department of Computer Science in the School of Engineering.

Alumna Nancy Parker appointed assistant in governmental relations for medical affairs

Nancy M. Parker, a 1990 graduate of Washington University, has been named assistant in governmental relations for medical affairs, according to William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine.

As assistant in governmental relations for medical affairs, Parker assists Peck in



Nancy M. Parker

developing the School of Medicine's public policy agenda, which involves researching and monitoring federal, state and local regulatory and legislative initiatives concerning health-care reform and biomedical research. In addition, Parker communicates with agency

and congressional staffs on issues focusing on the environment, Medicare/Medicaid and the licensing of physicians. She also works closely on these issues with Pamela Lokken, director of governmental relations, and Rose A. Windmiller, assistant director of governmental relations for state relations, who are based on the Hilltop Campus.

Parker most recently was a legislative assistant to Richard A. Gephardt, D-Mo., majority leader of the U.S. House of Representatives, in his Washington, D.C., office. She also worked as a legislative correspondent and staff assistant in Gephardt's office.

Parker received a bachelor's degree in art history with a business minor from Washington, where she was vice president of public relations for the Women's Panhellenic Association. As a member of the University's AIDS Task Force, she also was interviewed on campus about the disease for an NBC "Today Show" segment and was a Leadership Institute participant.

Lützeler to give inaugural lecture — from page 1

Kade Foundation, the Peter Suhrkamp Foundation, the German Academic Exchange Service and the Fritz Thyssen Foundation to invite authors, critics, American scholars and doctoral candidates as well as German scholars to teach and to do research on contemporary German literature at Washington University.

In cooperation with Olin Library, the center has been building the most complete collection of contemporary German literature with the help of some 80 publishing companies of the German-speaking countries that donate their first editions. The center is the only one of its kind on the American continent.

Lützeler has been a visiting professor at leading universities in the United States,

Europe and Australia. He has received Woodrow Wilson, Fulbright, DAAD, Humboldt, and Guggenheim grants. His awards include the Austrian Cross of Honor for Arts and Sciences (First Class); the German Studies Association Award for his Broch biography; the German Cross of Merit; the German Friendship Award for improving cultural relations between Germany and the United States; and the Outstanding Educator Award from the American Association of Teachers of German. He is a contributor to the German weekly DIE ZEIT and the Swiss daily NEUE ZÜRCHER ZEITUNG.

Morton J. May established the Rosa May professorship in November 1965 in honor of his mother. Morton's father, David, founded the May Department Stores Co.

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.

Receptionist/Data Entry Clerk

940072. *General Services*. Requirements: High school graduate, some college preferred; ability to deal cordially with the public; typing 40 wpm with accuracy. Clerical tests and three letters of recommendation required.

Public Service Coordinator

940085. *College of Arts and Sciences*. Requirements: Some college, associate's degree preferred; ability to respond to young people with warmth, courtesy and efficiency; ability to handle multiple responsibilities and tasks; willingness to work cooperatively and independently, take initiative, arrange and manage workflow; ability to become acquainted with college and university procedures and services; knowledge of word processing programs and willingness to learn data base; typing 35 wpm with accuracy. Clerical tests and three letters of recommendation required.

Systems Administrator

940096. *University Registrar*. Requirements: Bachelor's degree; experience in computer systems and automation. Resume and three letters of recommendation required.

Bookkeeper II

940099. *Central Stores*. Requirements: High school graduate, some college preferred; good mathematical skills; typing 15 wpm with accuracy; ability to work independently under general supervision. Clerical tests and three letters of recommendation required.

Department Secretary

940100. *Alumni and Development Programs*. Requirements: High school graduate, bachelor's degree preferred; strong command of the English language; ability to deal with multiple priorities with minimal supervision; typing 40 wpm with accuracy. Overtime, including nights, weekends, etc., is essential, as is a good personality and good grooming. Clerical tests and three letters of recommendation required.

Coordinator/Special Projects and Communications, Part-time

940101. *School of Business*. This is a temporary position. Requirements: Associate's degree, bachelor's degree preferred; demonstrated writing ability; keen attention to detail and demonstrated proofreading ability; proficiency on Macintosh computer, Microsoft Word and Pagemaker; ability to work independently and to handle multiple projects simultaneously; ability to work with diverse publics; demonstrated understanding of publications standards. Resume and three letters of recommendation required.

Administrative Secretary

940102. *Graduate School of Arts and Sciences*. Requirements: High school graduate, some college preferred; provide general secretarial support to associate dean and to the coordinator of graduate student affairs and services; must be flexible (ability to change or work on two or more projects at one time); must enjoy working in a public contact area; typing 50 wpm with accuracy. Clerical tests and three letters of recommendation required.

Programmer/Analyst II

940104. *Computing and Communications*. Requirements: Certificate or associate's degree; knowledge and experience with

administrative data processing; excellent organizational and communications skills. Resume and three letters of recommendation 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.

Computer Programmer II

940186-R. *Genetics*. Requirements: Bachelor's degree in biology or related discipline; computer skills. Will be dealing with software support, sequence analysis and quality control. To apply, send resume and three references.

Medical Research Technician

940220-R. *Rheumatology*. Schedule: Full-time, may require some overtime. Requirements: Bachelor's degree in biology, chemistry, molecular biology or related field; experience with tissue culture and/or DNA analysis; good math skills.

Secretary III

940222-R. *Radiology*. Requirements: High school graduate or equivalent with post-high school training; emphasis on administration, secretarial sciences, language arts, planning and accounting; familiar with graphics software; experience with Macintosh, Microsoft Word, Excel and Filemaker; typing 65 wpm.

Medical Research Technician

940223-R. *Hematology*. Requirements: Bachelor's degree with one year experience in a molecular biology lab; theoretical and practical knowledge of cell biology. Will work with isotopes and potentially toxic solvents, bacteria strains and tissue cell cultures.

Secretary I

940230-R. *Transportation*. Schedule: Part-time, 20 hours per week, usually 9 a.m.-1 p.m. but hours may switch as needed. Requirements: High school graduate or equivalent; good communication and customer-service skills; must have WordPerfect and spreadsheet experience; some knowledge of accounting procedures; typing 60 wpm.

Clinical Lab Tech

940237-R. *Obstetrics and Gynecology*. Requirements: Three years of college, prefer college graduate with knowledge of microscope and understanding of human genetics; interest in working in a diagnostic clinical lab; knowledge of human cytogenetics a plus.

Research Patient Coordinator/Professional

940246-R. *Ophthalmology*. Requirements: One to two years college with experience in an ophthalmic medical setting; good communication skills; sound knowledge of ophthalmic tests and measures; excellent recordkeeping skills.

Systems Manager

940247-R. *Internal Medicine*. Requirements: High school graduate or equivalent; bachelor's degree highly preferred; individuals with technical certification will be considered; two to three years experience in VAX systems management or advanced operational control.

Head Technologist

940263-R. *Neurology*. Requirements: Bachelor's degree in biological science or

related field; several years experience in small animal surgery; experience in biochemical research and analysis preferred; willing to assist less senior technicians in procedures.

Clerk Typist I

940276-R. *Student Affairs*. Schedule: Part-time, four hours per week, mornings or afternoons, flexible. Requirements: High school graduate or equivalent with a minimum of one year office experience; typing 35 wpm. Will be required to lift 20-pound boxes.

Medical Secretary I

940308-R. *Pediatrics*. Schedule: Part-time, 20 hours per week, 8 a.m.-noon. Mondays-Fridays. Requirements: High school graduate or equivalent, one year college preferred; good communication skills; familiar with manuscript typing and formatting; typing 60 wpm.

Library Assistant II

940314-R. *Medical Library*. Schedule: 4-11 p.m. Fridays; 8:15 a.m.-6 p.m. Saturdays; 4 p.m.-midnight Tuesdays, Wednesdays and Thursdays. Requirements: One year college with some library experience preferred; mature work ethic; service oriented.

Clinic Administrator

940326-R. *Obstetrics and Gynecology*. Requirements: Bachelor's degree or equivalent and ARDMS registered in obstetrics and gynecology with five years clinical experience; ability to work effectively with people in a fast-paced patient environment.

Administrative Coordinator

940334-R. *Pediatrics*. Requirements: High school graduate or equivalent with at least seven years experience, including four years in a medical setting and advanced secretarial training; good oral and written communication skills; computer experience; typing 70 wpm.

Plans to increase minority student enrollment under way — from page 1

and Parents Admission Program; and Harold M. Wingood, dean of undergraduate admission.

Harold Wingood said high school seniors consider an institution's academic reputation foremost when deciding where to attend college. Coupled with the academic reputation is the students' desire to interact with faculty, he said, adding that encouraging such communication is a recruitment priority. There is no group of individuals better suited than the faculty to communicate the academic life on campus to these students, he said.

McLeod's suggestions for how faculty can become more involved in recruitment included faculty meeting students who have expressed an interest in their field or calling or writing students who want to know more about their research areas; making presentations to groups of students and parents; or providing names of students seeking more information about Washington.

In addition to activities that promote more faculty involvement, Wingood said other key strategies include enhancing campus visits and increasing minority enrollment. He said campus visits will continue to be part of the recruitment strategy. "Visiting the campus is the singular most powerful experience students have," he noted. "Getting students to the campus was the foundation of 'April Welcome.'"

SAC, a volunteer committee composed of approximately 80 students, helped the Office of Undergraduate Admission facilitate "April Welcome" and also assists with other visit programs for prospective students. In addition, SAC members regularly conduct campus tours and attend information sessions that are held for prospective students.

Shari Harley, a SAC member who attended the meeting, said in a telephone

interview that high school seniors who visit the campus are happy to meet college students. Visiting a campus with their parents can be a difficult time for prospective students who may be afraid a parent may ask an embarrassing question, she said. Meeting future peers helps to ease the high school students' anxieties, she added.

The visitors who travel to campus can be categorized three ways, according to Schoenfeld. The first group, which she described as "wanderers," arrive on campus unannounced. The second group advises the admission office of their upcoming visit and takes part in campus tours, information sessions and other activities geared toward their interests. The individuals in this group are small in number. The third group, a large one, participates in major recruitment programs that are held during a designated time, such as "April Welcome" and Fall Preview, a weekend of special activities.

"Visitors are guests in our academic community, and we must extend to them every warmth so that they go away talking positively about our institution," said Schoenfeld. "We welcome your help."

Concerning minority recruitment, Wingood said a lot of people are working very hard to increase minority enrollment. Nineteen percent of this year's freshman class is composed of minorities. "We want to show that diversity is not just welcome at Washington University but celebrated," he said. With the help of students, faculty and staff, the Office of Undergraduate Admission is planning a major recruitment activity targeted to African-American students, said Wingood. Additionally, information about the John B. Ervin Scholarship Program for African-American high school students is sent to prospective students, he noted.

In an effort to recruit American Indian students, the office recently hosted a visit by representatives from the All-Indian

Pueblo Council of Albuquerque, N.M. The council helps American Indian high school students choose colleges. Nineteen American Indian tribes from the southwestern United States participate in the council.

Another key component to Washington's long-range recruitment strategy is the Alumni and Parents Admission Program, which began last year as an outgrowth of the former Alumni Admission Network. Alumni who volunteer for the program interview students who apply to Washington, getting to know them as individuals and sharing their thoughts about the school. Through personal interviews, the alumni encourage prospective students to visit Washington and learn more about the institution, said Debra H. Wingood, director of the program. And while 500 alumni throughout the world are now serving as volunteers for the program, she said that some 2,500 to 3,000 alumni are needed by 1997 in order to effectively support the University's growing applicant pool. The alumni volunteers belong to committees that are categorized according to their home states. The program has grown from six to 28 committees since it began.

Larry Kindbom, head football coach, stressed the importance of personal contact in recruiting students. He said recruiting does not end when the student arrives on campus — it continues for four years. Personal contact is essential in making the right match between the student and Washington, he said. "Our goal isn't to get just any students. Our goal is to get the best students."

"We're all ambassadors," he continued. "We all represent Washington University. We're blessed with outstanding faculty and staff and we know it. It's our job to let the prospective student know it."

— Carolyn Sanford