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Record

Indexed

WASHINGTON
UNIVERSITY
IN ST. LOUIS

Vol. 18 No. 6 Sept. 30, 1993



Students compete in the tricycle race during last year's Homecoming celebration. The event will be featured again this year, along with many other activities. Homecoming week is set for Oct. 4-9.

Homecoming '93

Week recognizes achievement, Teri Clemens named grand marshal

People who participate in Homecoming 1993 can help local flood victims by tossing paper airplanes into the air.

During a new Homecoming event called Paper Airplane Toss, participants will buy chances to throw their paper airplanes across The Swamp in the South 40. Among other considerations, those who throw their light creations the farthest will win cash and other prizes. The toss will be held from 4 to 7 p.m. on Tuesday, Oct. 5. The cost is 50 cents to sling one plane and \$1 to throw three. The Homecoming Steering Committee will provide the paper to make the airplanes. Event proceeds will benefit local flood relief efforts. Campus radio station KWUR will provide music during the activity.

"The committee is proud to add the paper airplane toss to the long list of flood relief efforts occurring at Washington University," said Kristina Gobel, publicity co-chair for the committee. The committee also wanted to encourage campus-wide support for flood victims, added Lynne Tapper, the committee's special events chair.

Homecoming 1993, slated for Oct. 4-9, also will feature sumo wrestling and The Hurricane, a money machine game.

Among the highlights will be the Homecoming football game, which will be held at 7 p.m. Oct. 9 in Francis Field when the Bears battle Rhodes College of Memphis. Other scheduled events include large-screen viewings of Monday Night Football at

Federko's Bar and Grill, 375 N. Big Bend Blvd., with free food and drinks (the Washington Redskins and the Miami Dolphins will play); the ever-popular parade, with Teri Clemens, head volleyball coach, as grand marshal; floatbuilding; a tailgate party; a pizza-eating contest; a pingpong ball drop; Wacky Olympics, complete with a tricycle race and a waiter relay competition, among other activities; a dance (for the Washington community only); a faculty appreciation reception; and Homecoming Night at The Rat events. (For a complete schedule, see page 4.)

The Homecoming theme is "Only If You Want It!" The 1993 Homecoming Steering Committee chose the theme "Only If You Want It!" for many reasons, said Gobel, a senior majoring in political science and psychology. "To us, this saying captures the idea of striving to be the best. Hopefully, people will think about the theme and realize that one can accomplish almost any goal if one tries."

Recognizing achievement was on the committee members' minds when they selected Clemens as grand marshal, Gobel said. Under Clemens leadership, the volleyball team won the National Collegiate Athletic Association's (NCAA) Division III national championship in 1989, making Clemens the first female coach whose team captured the crown. The Bears also won the championship in 1991 and 1992. For her successes, Asics/Volleyball Monthly named Clemens National Coach of the Year in

1989 and 1992. She also was named the American Volleyball Coaches Association's 1991 NCAA Division III Coach of the Year. Several weeks ago, Clemens notched her 300th career victory.

Continuing last year's tradition, students will elect a Homecoming court. On Sept. 30, elections will be held from 11 a.m. to 1 p.m. in Mallinckrodt Center and from 5 to 7 p.m. in Wohl Center. The elections are for a king and queen, to be elected from the senior class. The court will consist of a male and female member from each of the freshman, sophomore and junior classes. The eight court members will be announced during the Wacky Olympics, which will be held from 4 to 5 p.m. Oct. 8 on the law field. The court will ride in the parade and will be recognized and presented prizes during halftime at the football game.

Continued on page 4

Campus Police assign additional officers to patrol Hilltop following armed robbery

Shortly after 8 p.m. Saturday, Julian B. Fleischman, Ph.D., associate professor of molecular microbiology at the Washington University School of Medicine, was attacked by an assailant during a robbery on the Hilltop Campus near the northeast corner of the Mallinckrodt Center. Fleischman was rushed to a hospital for treatment of multiple stab wounds and is currently reported to be in stable condition following surgery Saturday night.

Washington University Police have assigned additional officers to patrol the Hilltop Campus. Two officers will patrol the center of campus — either on foot or by motor scooter — each evening.

In a statement released today, Chancellor William H. Danforth said, "I am shocked and saddened by the stabbing. My heart goes out to Professor Fleischman.

"The safety and well-being of students, faculty, staff and visitors to the campus is of highest priority. Unfortunately, the

Pioneering work is good news/bad news for allergy sufferers

Those who dread the sneezin' and wheezin' season — or simply the idea of allergies in general — face a new concern brought to light by a Washington University immunobiologist.

Anu Dixit, Ph.D., a National Institutes of Health fellow at Washington University, has identified the allergenic proteins of a little-known but major allergen that, unlike most allergens we're familiar with, is a potential health threat year-round.

The allergen, *Epicoccum nigrum* (EN), is a fungus, not pollen from a flowering plant, and it can be found everywhere — from clothes, to drapes and air-conditioning ducts indoors, to leaves, plants, rocks and soil outdoors. Allergists have known for years that a limited range of fungi (interchangeably referred to as molds) have allergenic properties. Dixit's study is the first to show that allergenicity to EN is a concern in two climatologically distinct areas of the country — St. Louis and Corpus Christi, Texas.

Using a variety of biochemical tools, she also is the first scientist to distinguish allergenicity between the microscopic EN spores (the minute, asexual reproductive bodies) and its mycelia (the threadlike vegetative bodies), both of which easily become airborne. Her work points out the inadequacy of commercial extracts, which are prepared primarily with fungal mycelia only, in treating allergic patients. Extracts are biochemical potions that contain the allergenic proteins found in a substance. They are used in both skin testing to determine allergenicity and in immunotherapy as a shot to desensitize patients.

"The data suggest that EN is a significant allergen in urban communities," says Dixit. "Allergenic proteins occur in both spore and mycelia, which indicates that both have to be included in the reagents (testing substances) for skin testing and immunotherapy for EN and probably most allergenic molds."

The mold story

Mold spores in the air typically outnumber pollen by 1,000 to one or more, she adds. There are thousands of different species of molds. One hundred or so have been associated with allergies, but of these only three have been totally characterized.

"We hope the work we've done with EN will be a model system for understanding how to characterize mold allergens and eventually to devise more efficient extracts for immunotherapy," Dixit says.

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Detecting heart attacks: School of Medicine researchers develop a new blood test that makes heart attack diagnosis easier *Page 2*

Opening new doors: David D. Chaplin, M.D., Ph.D., hopes to control diseases by identifying the genes that cause them *Page 3*

Literary launch: International Writers Center begins reading series, which features up-and-coming writers *Page 6*

Medical Update

New blood test makes heart attack diagnosis easier

Every year, millions of Americans seek medical attention for symptoms that could point to a heart attack. Their symptoms can stem from a host of problems, from cardiovascular disease to indigestion. The physician's challenge is to find the cause — as quickly and accurately as possible.

The methods physicians now use to distinguish heart attacks from other medical problems are generally quite reliable, but there are still situations in which diagnosis can be tricky. A new blood test developed at the School of Medicine may help doctors make more accurate decisions, especially in these hard-to-diagnose patients. Among those most likely to benefit are patients who seek treatment late, the investigators say.

The test measures blood levels of troponin I (eye), a protein that regulates heart muscle cell contraction. It is known that abnormal levels of troponin I in the blood are a sensitive signal that heart damage has occurred. In this new study of 215 patients, the investigators concluded that elevated levels of troponin I, in contrast to other proteins now used for diagnosis, are only present if heart damage has occurred. Their findings appear in the July issue of *Circulation*.

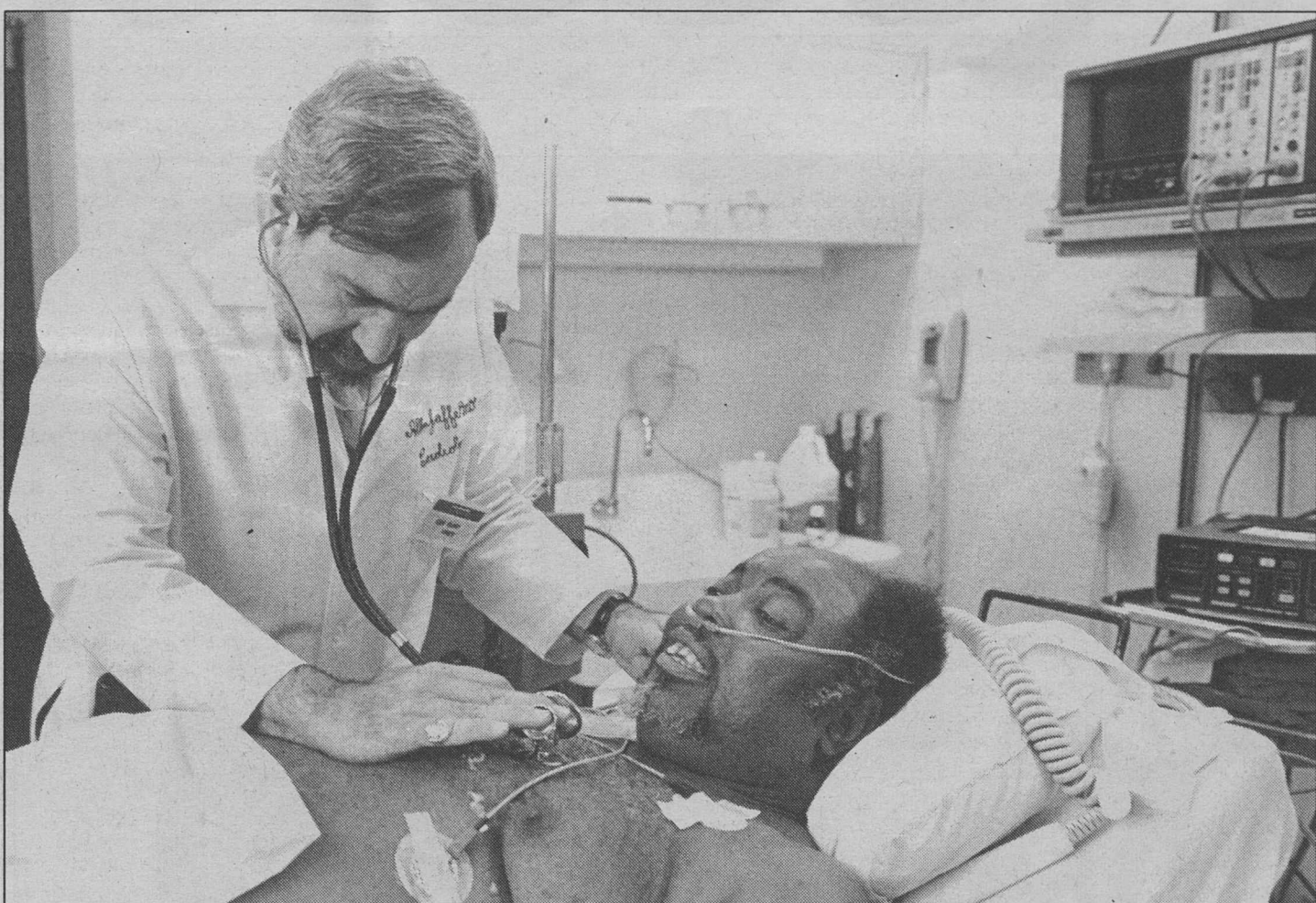
Only about two in 10 people suspected of having a heart attack are actually having one. For more than a decade, physicians have relied on a protein called muscle brain creatine kinase (MB CK), to diagnose heart attacks. Like troponin I, MB CK leaks from dying heart cells into the bloodstream; rising blood levels are a signal of a heart attack. But that signal is not completely foolproof, says Allan S. Jaffe, M.D., professor of medicine and senior author of the study.

"MB CK has been a good test, and it's still very valuable, but it is not perfect," Jaffe says.

One limitation is that MB CK can be elevated by damage to skeletal muscle — in the absence of heart damage, Jaffe explains. Because of that, people with chronic muscle disease, chronic renal failure or muscle damage from extremely strenuous exercise can have elevated MB CK levels, even when their hearts are healthy. Other problem cases are car accident victims and some surgery patients.

"It is possible to fail to detect cardiac injury because someone has had an automobile accident or has renal failure. Sometimes that happens because physicians don't know what to make of an elevated level of MB CK. Is it really due to a heart attack, or is it simply due to the renal failure? These patients will be very substantially served by the use of levels of troponin I," Jaffe explains.

In their study, Jaffe and his colleagues looked at 215 people known to have el-



Allan Jaffe, M.D. examines patient Jimmie Pamplin, who is under treatment for a heart problem. Jaffe is looking for better diagnostic tests for heart attacks.

evated MB CK for reasons other than heart attack. Of the subjects, 37 had skeletal muscle injury, 10 had chronic muscle disease, nine were marathon runners, and 159 had chronic renal disease. This group was chosen to represent the "tough" potential heart attack cases in which MB CK elevations are hard to interpret, Jaffe explained. The goal was to find out whether troponin I, like MB CK, can be elevated in the absence of heart damage.

The researchers measured troponin I using an antibody-based test developed by Jack Ladenson, Ph.D., a professor of medicine and pathology. They also looked for heart damage using echocardiography, an ultrasound exam of the heart. Echocardiography is the test cardiologists typically use when there is confusion over the cause of elevated MB CK.

Although many of the subjects had elevated levels of MB CK, troponin I was elevated in only the six people who were found to have heart damage, Jaffe said. Troponin I "should be of value in determining whether elevations of MB CK are indicative of myocardial injury or are a consequence of skeletal muscle damage," the investigators concluded in their paper.

Troponin I is not likely to replace MB CK, Jaffe says, but may be used with it to make a more confident diagnosis. It will be especially helpful in patients who seek treatment late, he adds. Because MB CK elevations disappear roughly 24-36 hours after a heart attack starts, patients who come to the hospital after one or two days often have normal levels. Troponin I, however, stays in the blood for a week or more, he explained.

Using troponin I for late diagnosis could benefit a substantial number of patients, Jaffe says. "The reality is that only a small percentage of people come in very early after the onset of a heart attack. It's unfortunate, but it's the truth." Echocardiography does not always find heart damage; troponin I would be more sensitive, faster, cheaper and more accurate, he adds.

Patients fare better if they are diagnosed and treated within a few hours of the start of an attack, but late diagnosis is still important, Jaffe said. During these later stages, patients can benefit from many treatment options, and they are still at risk for additional complications. "Most mortality occurs in the early, acute stage. But there is nonetheless substantial mortality that occurs over the course of the first week. Heart attacks can extend, or heart failure can develop," he explains. Diagnosing or excluding a heart attack helps physicians decide on the best course of treatment.

"What we have done thus far is to show that troponin I is more specific for heart attack in the most overt cases — the patients that we expect to have elevated MB CK. We are now moving toward looking at patients where perhaps subtler abnormalities might be present," Jaffe says. The investigators are now looking at troponin I's diagnostic value in trauma and post-operative patients, who often have minor elevations in MB CK that make the diagnosis of cardiac injury difficult, he says.

This study is the latest of a long line of Washington University contributions to this area of research. The practice of using MB CK for heart attack diagnosis began here in

the early 1970s, when Burton Sobel, M.D., professor of medicine and director of the cardiology division, and Robert Roberts, M.D., now head of cardiology at Baylor University, recognized MB CK as a reliable marker. Since then, research here has made the test more clinically practical. Jaffe and his colleagues, including junior associate Jesse E. Adams, III, M.D., also are evaluating other blood markers to help physicians diagnose heart attacks and monitor certain heart attack treatments.

— Juli Leistner

Street access limited during construction

Because of the medical school expansion, there will be a few access and parking inconveniences for employees.

Over the next two years, Scott Avenue between Euclid and Taylor avenues will be closed to through traffic. Pedestrian crosswalks will be provided on Scott Avenue and near the pedestrian bridge from Olin Hall to the East Building. Handicap parking at the Occupational Therapy Building will be accessible from Euclid Avenue.

On Oct. 11, a large part of the parking lots just east of the McDonnell Sciences Building will be closed. Employees must enter the remaining parking spaces from McKinley Avenue, and carpool space will be moved to the parking lots that are south of McKinley. Handicap spaces just south of Olin Hall will be moved adjacent to the handicap spaces that now are facing McKinley, and handicap spaces in the northwest corner of the lot across from the East Building will be moved to spaces next to the Library Annex Building.

Volunteers needed for diabetes studies

Researchers at the School of Medicine are seeking volunteers for several studies involving new treatments for diabetes.

New treatments are being tested in adults with non-insulin dependent diabetes who have difficulty controlling blood sugar levels with diet or oral medication, according to Janet McGill, M.D., an assistant professor of medicine.

"The recent Diabetes Control and Complications Trial (DCCT) pointed out that near-normal blood glucose control is the key to preventing the complications of diabetes such as eye, kidney, and nerve problems," says McGill. "Achieving tight glucose control is important for all patients—those

using diet, those taking pills, and those on insulin."

Dietary counseling, free tests and medical exams will be included for volunteers who qualify for this study.

In another study, researchers are looking at the genetic defect that causes Type II diabetes. Large families with two or more diabetic members are needed for this large project, which is being funded by the National Institutes of Health. Men and women over 30 with Type II diabetes are eligible for the study.

For more information or to volunteer for these studies, call the Washington University Diabetes and Hypertension Study Group at 362-8681.

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Washington
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Washington People

Chaplin searches for disease-causing genes

Disease-causing bacteria, viruses and parasites exist everywhere in the environment, posing a constant threat to our health. From the 24-hour flu to allergies, meningitis and the AIDS virus, the potential for trouble abounds.

Most of us can thank our immune system's sophisticated and efficient design for keeping us healthy and helping to heal us when we're ill. The system's intricate network is wired to recognize and attack foreign invaders while holding its line of fire against the body's own cells.

Unfortunately, this complex system sometimes fails. And it isn't always easy to fix.

Scientists like David D. Chaplin, M.D., Ph.D., are working in the laboratory to understand the genes that control the way the immune system works, or in some cases, why it falters.

"At the very least, we hope that our work will ultimately help physicians identify people who are at risk for certain diseases that result from a defect in the immune system, such as insulin-dependent diabetes or rheumatoid arthritis," Chaplin says. "If we can define all of the genes that control the immune system, it may be possible to develop therapies to control these types of diseases, or down the road, to modify the genes to eliminate the problems altogether."

Chaplin, an associate professor of medicine, genetics and molecular microbiology at the School of Medicine, learned early the important role medical research plays in improving people's lives. He had early exposure to research through his father, Hugh Chaplin Jr., M.D., who spent 35 years as a researcher, teacher and administrator at Washington University School of Medicine.

A former director of the Irene Walter Johnson Institute of Rehabilitation and later director of the Barnes Hospital Blood Bank, the elder Chaplin pioneered the development of modern blood-banking methods. He also spent years studying anemias that result from individuals making antibodies against their own blood cells. His work enabled many people to undergo blood transfusions with fewer complications and live more normal lives. Hugh Chaplin now is professor emeritus of pathology and medicine.

"I'm sure my father's work influenced my decision to go to medical school," Chaplin says. "I always knew that he received great satisfaction from his work."

As a child, Chaplin had occasional opportunities to work in his father's laboratory and recalls helping to make reagents that were used in the blood bank to test the compatibility of blood between donors and recipients.

Chaplin, 41, earned his bachelor's degree in biochemistry from Harvard University in 1973. He then returned to St. Louis and in 1980 received an M.D. and Ph.D. from the Medical Scientist Training Program in the School of Medicine.

Since Chaplin entered medical school, scientists have made great strides in the field of immunology, with the pace of progress particularly rapid in the past decade. That's partially because physicians are faced with finding cures for new immunological challenges, such as the AIDS virus. Equally important have been the recent advances in biotechnology that now enable researchers to work more efficiently.

"We know a lot more now than we did 10 years ago, or even five years ago," Chaplin says. "But each answer we get opens the door to more questions. To answer the new questions, we have to bring together individuals with additional skills, to create the new technology. Adapting new methods to answer scientific problems — that's what research is really all about."

One of immunology's groundbreaking findings was made in the 1940s when researchers studying tissue transplantation discovered that a cluster of genes on chromosome six controlled whether or not a graft would be accepted or rejected. These genes direct the production of molecules that recognize the difference between a part of the body (self) and a foreign threat (non-self).

Together, the genes are referred to as the major histocompatibility complex, or MHC for short. Tissue grafts between individuals with identical MHC molecules work, while grafts between people with differing MHC molecules are vigorously rejected — unless patients receive strong drugs that suppress the immune system's ability to recognize "foreign" tissue.

While these findings generated considerable interest among transplantation biologists, it would be another 20 years before researchers would learn that the MHC genes control how the body responds to all types of immune system challenges, not just tissue grafts.

For example, immunologists know that people with certain MHC types are more likely to sneeze and develop watery eyes when exposed to ragweed pollen than individuals with other MHC types.

Chaplin's lab is studying the inherited variability of the way the immune system responds by working to identify all the genes within the MHC. Previous studies have demonstrated that the MHC genes control whether an individual is likely to contract one of more than 200 different diseases. Some of these diseases, such as insulin-dependent diabetes, rheumatoid arthritis and lupus, appear to be caused by an underlying abnormality of the immune system. Other diseases linked to the MHC, such as narcolepsy and an iron metabolism disorder called hemochromatosis, are not related to obvious immune system defects.

"The underlying mechanisms for most of these diseases aren't well understood," Chaplin says. "We think that many of these illnesses are caused by genes located in the MHC that have not been discovered yet. Ultimately, knowledge of

in an artificial environment outside the human body or observing the action of synthetic IL-1 injected into experimental animals. These studies have identified many of the potential activities of IL-1, but they have not defined its natural function in the body.

"If we can better understand how IL-1 works in the body to regulate inflammation, we'll be able to more thoughtfully modify its function," Chaplin says. "First, we need to know where IL-1 is made and under what conditions it is normally produced in the body."

Investigators studying IL-1 in a test tube and in experimental animals have found that the multifaceted molecules play a role in a variety of activities, many of which promote inflammatory reactions. IL-1 acts to induce fever, to stimulate the migration of blood cells out of the blood stream and into tissues, and to activate them to kill and digest microbes.

Unlike other signaling molecules that are released from living cells, IL-1 is released from cells that produce it only when they die, Chaplin and his colleagues recently discovered.

Perhaps, Chaplin suggests, IL-1 exists to provide a signal that an activated immune cell has been injured and to recruit other immune cells to the injury site. "Cell death may be a more common feature of immune responses than we've realized. Cell death may be entirely normal — and even required — for the immune system to work," he says.

To learn more about the role of IL-1 in the body, Chaplin and colleagues at the Monsanto Co. are using biotechnology to create a strain of mice that will be unable to produce IL-1.

By observing how the mice develop, researchers can determine how the lack of IL-1 affects the ability of the immune system to function.

"If it turns out IL-1 signals cell death, the molecule may be important in the normal maintenance of immune cells that are constantly turning over," Chaplin suggests. "We view this as a subject with a lot of unknowns, but what we learn about IL-1 deficiency may give us insights into its role in human diseases."

Chaplin's accomplishments in the laboratory are admired by his School of Medicine colleagues and by researchers around the country. At the age of 32, Chaplin was selected to be a prestigious Howard Hughes Medical Institute associate investigator. The organization, with assets just shy of \$7 billion, carefully selects scientists it believes will make substantial advancements in basic biomedical research to pave the way for new treatments and cures.

"David Chaplin probably knows more about the function of IL-1 than anyone in the world," says Robert D. Schreiber, a professor of pathology and microbiology at the School of Medicine. "He's a real authority in this area."

Chaplin is highly regarded for his willingness to collaborate with other scientists and to share information developed in his own laboratory.

"He's very good at initiating collaborations with other scientists, and very generous about letting other labs use tools we have developed here," says Michelle Nett Fiordalisi, a graduate student working in Chaplin's lab.

"I think that's because he has a big picture of science," she says. "He's not in science to make a big name for himself, but to make a contribution to science."

Chaplin says collaborations with other researchers are important in his field. "We collaborate with people in pediatrics, pharmacology, pathology and genetics. Those kinds of interactions provide special skills that are critical for me to be able to do my work, and they often are major springboards for new progress."

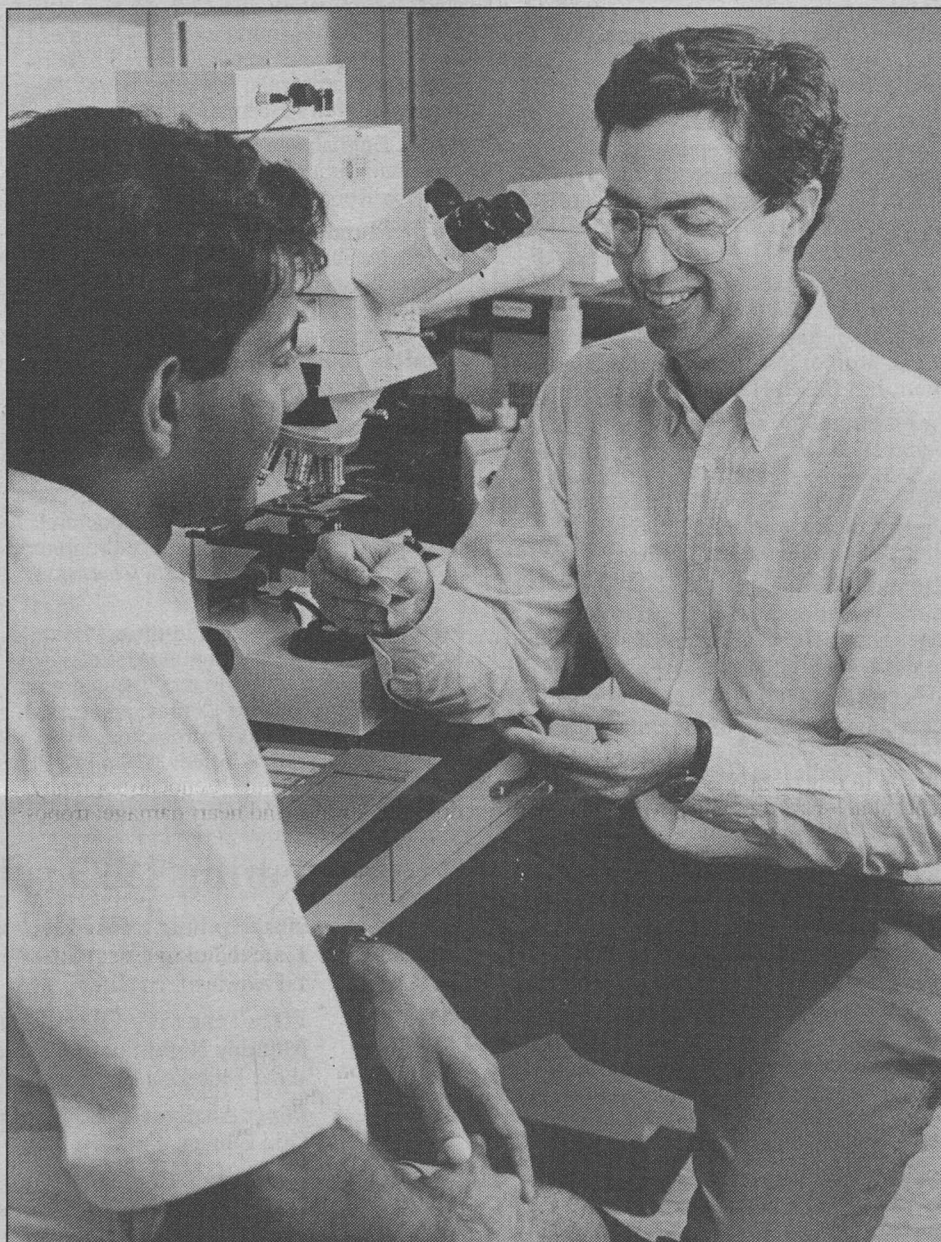
Those who work most closely with Chaplin in the laboratory say he encourages everyone — from technicians to postdoctoral students — to think independently.

"If I have a new idea, I can tell Dr. Chaplin, and he will take me seriously," says Sanjeev Mariathasan, a technician. "He feels strongly that the work I do, is not 'my' work, but 'our' work. For him, collaborating and putting together ideas is more important than the individual recognition."

Outside of the laboratory, Chaplin keeps busy in the clinic and plays a critical role in screening and recruiting graduate students to come to Washington University to earn their doctoral degrees in the Division of Biology and Biomedical Sciences. Chaplin heads the admissions committee for the graduate studies program, which receives about 650 applicants each year for only 70 slots.

"David Chaplin's commitment in time and energy to the graduate program is extraordinary," says Milton Schlesinger, Ph.D., a professor of molecular microbiology at the School of Medicine.

— Caroline Decker



Sanjeev Mariathasan, left, research technician, and David Chaplin, M.D., Ph.D., review photomicrographs in Chaplin's lab.

"Ultimately, knowledge of all of the genes will lead to an understanding of the causes of these diseases."

all of the genes will lead to an understanding of the causes of these diseases."

By the early 1990s, scientists had discovered 60 genes located in the MHC region. Collaborative efforts between Chaplin and Yale University colleagues recently have led to the identification of another 30 genes in the region. Chaplin expects an additional 20 to 80 genes will be found. But he predicts that it will take decades for researchers to determine the function of all the MHC genes.

Chaplin also is working to understand the role a signaling molecule called interleukin-1 (IL-1) plays in helping the immune system do its work. This molecule can stimulate a variety of immune and inflammatory responses.

IL-1 has been detected in high levels in the joint fluid of individuals with rheumatoid arthritis, bursitis and tendonitis, and is thought to be one of the causes of the swelling and inflammation common to these conditions. Eventually, pharmaceutical companies hope to make anti-inflammatory drugs that will block the production or action of IL-1. For these drugs to be successful, Chaplin believes that much more needs to be learned about the IL-1 molecule.

Most of what researchers know about IL-1 comes from either measuring the production and action of the molecule

Calendar

Sept. 30–Oct. 9



Exhibitions

"Everything Nice: Sugars and Spices in Medical History." Through Oct. 1. Glaser Gallery, School of Medicine Library. Hours: 9 a.m.-9 p.m. weekdays; 1-5 p.m. weekends.

"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.

"Shadow Dancing." Oct. 4-10. Rich O'Donnell, director of the WU electronic music studio, created the exhibit. Gallery of Art, lower gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.



Films

Thursday, Sept. 30

7 and 9 p.m. Filmboard Classic Series. "Little Caesar." Room 100 Brown Hall. Cost: \$3. For 24-hour Filmboard hotline, call 935-5983.

Friday, Oct. 1

7 and 9:30 p.m. Filmboard Feature Series. "A Few Good Men." (Also Oct. 2, same times, and Oct. 3 at 7 p.m.) Room 100 Brown Hall. Cost: \$3.

Midnight. Filmboard Midnight Series. "Sex, Lies and Videotape." (Also Oct. 2, same time, and Oct. 3 at 9:30 p.m.) Room 100 Brown Hall. Cost: \$3.

Tuesday, Oct. 5

7 p.m. Japanese Film Series. "High and Low," with English subtitles. Room 219 South Ridgley Hall.

Wednesday, Oct. 6

7 and 9 p.m. Filmboard Classic Series. Chaplin Shorts: "The Floorwalker," "One A.M.," "The Pawnshop" and "The Rink." (Also Oct. 7, same times.) All films are accompanied by music. Room 100 Brown Hall. Cost: \$3.

Friday, Oct. 8

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

Midnight. Filmboard Midnight Series. "A Night at the Opera." (Also Oct. 9, same time.) Room 100 Brown Hall. Cost: \$3.



Lectures

Thursday, Sept. 30

Noon. Genetics seminar. "Technology Development for Automated Multiplex DNA Sequencing." Robert Weiss, U. of Utah. Cori Aud., 4565 McKinley Ave.

Noon. Pediatrics research seminar. "Human Complement Deficiency." Charles Johnson, asst. prof., Dept. of Pediatrics. Third Floor Aud., St. Louis Children's Hospital.

1:10 p.m. Social work lecture. "Some Perspectives of GWB School of Social Work's History." Ralph Morrow, University historian. Brown Hall Lounge.

2:30 p.m. Mechanical engineering seminar. "Computational Fluid Dynamics at the

Laboratory of Aerodynamics, Helsinki U. of Technology." Seppo Laine, prof. of aeronautical engineering, Helsinki U. of Technology. Room 100 Cupples II.

4 p.m. Biology and biomedical sciences seminar. "Protein Folding on the Mississippi," George D. Rose, prof., Dept. of Biochemistry and Molecular Biophysics. Erlanger Aud., McDonnell Medical Sciences Bldg.

4 p.m. Assembly Series lecture. "The United States and the European Community: Cooperation and Competition," Theo Sommer, editor-in-chief, *DIE ZEIT*, Hamburg, Germany. Graham Chapel.

4 p.m. Central Institute for the Deaf research seminar. "Intercommunication Between Cochlear Fluids," Alec N. Salt, asst. prof., Dept. of Otolaryngology. Second Floor Aud., Clinics and Research Bldg.

4 p.m. Chemistry seminar. "Organometallic Chemistry and Homogeneous Catalysis of Rh and Rh-Co Mixed Metal Clusters," Iwao Ojima, Dept. of Chemistry, State U. of New York-Stony Brook. Room 311 McMillen Lab. (Coffee: 3:40 p.m.)

4 p.m. History lecture. "Contested Culture: Gentry Ideals and Plebeian Challenge in the Colonial Virginia Courtroom," David T. Konig, prof. of history. Cohen Lounge, Room 113 Busch Hall.

4 p.m. Pathology seminar. "Control of Mammalian Cell Cycle: Cyclins, Kinases, Tumor Suppressors and Growth Factors," Mark E. Ewen, asst. prof. of medicine, Harvard U., Boston, Mass. Room 7738 Clinical Sciences Research Bldg.

4:30 p.m. Math colloquium. "Bounded Point Evaluations on Spaces of Analytical Functions," John Conway, prof., U. of Tennessee, Knoxville. Room 199 Cupples I. (Tea: 4 p.m., Room 200.)

Friday, Oct. 1

9:15 a.m. Pediatric Grand Rounds. "Gaucher Disease: From Erlenmeyer Flasks to Designer Genes," Gregory A. Grabowski, prof. of pediatrics and molecular genetics, microbiology and biochemistry, U. of Cincinnati College of Medicine and director, Division of Human Genetics, Cincinnati Children's Hospital Medical Center. Clopton Aud., 4950 Children's Place.

11 a.m. Molecular cell biology and biochemistry thesis defense. "Cloning, Three-dimensional Structure and Function of Inositol Polyphosphate 1-Phosphatase," John D. York, graduate student. Room 8841 McDonnell Medical Sciences Bldg.

Noon. Cell biology and physiology seminar. "The Rat Liver Canalicular Bile Acid Transport Protein Is an Ecto-ATPase," Jeffrey Sippel, asst. prof., Dept. of Pediatrics. Room 423 McDonnell Medical Sciences Bldg.

1 p.m. Solid-state engineering and applied physics seminar. "In-situ Monitoring for High-precision Polishing of Single-mode Optical Fibers," M. H. Cordaro, electrical engineering graduate student. Room 305 Bryan Hall.

1 p.m. Molecular microbiology and microbial pathogenesis thesis defense. "Cellular Mediators of *Bordetella pertussis* Tracheal Cytotoxin Damage to the Respiratory Epithelium," Linda Nixon Heiss, graduate student. Room 775 McDonnell Medical Sciences Bldg.

4 p.m. Anatomy and neurobiology seminar. "A Brief History of Humanity," Glenn Conroy, Edison Professor of Neurobiology and head, Dept. of Anatomy and Neurobiology. Room 928 McDonnell Medical Sciences Bldg.

4 p.m. Biochemistry and molecular biophysics seminar. "Tandem Binding in New Cocrystals of *trp* Repressor With DNA," Jannette L. Carey, Dept. of Chemistry, Princeton U., Princeton, N.J. Room 2918 South Bldg.

6 and 8:30 p.m. WU Association Travel Lecture Series. "A New England Sampler." A photographic and audio travelogue presented by Woody and Merrilann Thomas, Rochester, N.Y. Graham Chapel. Cost: \$4.50 at the door. Season passes: \$26, single enrollment; \$43, double enrollment. For more info. and to register, call 935-5212.

Saturday, Oct. 2

8 a.m.-5 p.m. Molecular genetics retreat. Cori Aud., McDonnell Medical Sciences Bldg. For more info., call 362-3364.

9 a.m. Neural sciences seminar. "The Potassium Channel Family Tree Continues to Grow," David McCobb, research assoc., Dept. of Anatomy and Neurobiology. Erlanger Aud., McDonnell Medical Sciences Bldg.

Monday, Oct. 4

3 p.m. English colloquium. Mary Robison, candidate for a position in fiction. Hurst Lounge, Room 201 Duncker Hall.

4 p.m. Biology seminar. "Predicting Gene Dispersal From Transgenic Crops: A Challenge for Applied Pollination Ecology," William Morris, Dept. of Biology, Duke U., Durham, N.C. Room 322 Rebstock Hall.

4 p.m. Immunology seminar. "CD28 Mediated Costimulation of T Cells: A New Approach to Tumor Immunotherapy," James P. Allison, director, Cancer Research Laboratory, U. of California, Berkeley. Third Floor Aud., Children's Hospital Bldg.

8 p.m. English reading. Mary Robison, candidate for a position in fiction. Hurst Lounge, Room 201 Duncker Hall.

8 p.m. Monday night architecture lecture series. "A Survey: The Harris Armstrong Memorial Lecture," Charles Gwathmey, architect, Gwathmey, Siegel & Associates, New York. Co-sponsored by Student Union. Steinberg Hall Aud. (Reception following in Room 120 Givens Hall.)

Tuesday, Oct. 5

12:10 p.m. Physical Therapy Brown Bag Seminar. "Deficits Due to Lesions of Cerebellar Thalamus," Amy Bastian, doctoral candidate in the Interdisciplinary Program in Movement Science. Room 110, Classroom C, Boulevard Bldg.

4 p.m. Anthropology colloquium. "Longitudinal Study of Simian Immuno-deficiency Virus (SIV) in a Wild Monkey Population in Ethiopia," Jane Phillips-Conroy, assoc. prof., Dept. of Anatomy and Neurobiology. Room 149 McMillan Hall. (Coffee: 3:30 p.m.)

Homecoming 1993 schedule of events

Thursday, Sept. 30	Homecoming Court Elections , 11 a.m.-1 p.m., Mallinckrodt Center; Homecoming Court Elections , 5-7 p.m., Wohl Center; Rat Night #1 (giveaways), 10 p.m.
Monday, Oct. 4	Pizza Tang (Spirit Week competition), 11 a.m.-1 p.m., Bowles Plaza; Monday Night Football (Miami Dolphins vs. Washington Redskins), 8 p.m., Federko's Bar and Grill, 375 N. Big Bend Blvd.
Tuesday, Oct. 5	Paper Airplane Toss , 4-7 p.m., Swamp; Study Break , 10 p.m., outside of Olin Library.
Wednesday, Oct. 6	Pingpong Drop , 12:30 p.m., Bowles Plaza; Women's tennis vs. St. Louis U., 3:30 p.m., Tao Tennis Center; Women's soccer vs. Maryville U., 7 p.m., Francis Field.
Thursday, Oct. 7	Faculty Appreciation Reception , 11 a.m.-1 p.m., Lambert Lounge, Mallinckrodt Center; Special Activities (Spirit Week competition), 1-5 p.m., Bowles Plaza; Happy Hour , 4 p.m., Bowles Plaza; Rat Night #2 (more giveaways), 10 p.m.
Friday, Oct. 8	Tie-Dye Fun , 11:30 a.m.-1 p.m., Bowles Plaza; Women's Quadrangular Volleyball Tournament , 3 p.m., Field House; Wacky Olympics , 4-5 p.m., law field; Floatbuilding , 5 p.m., Brookings Hall parking lot, corner of Millbrook and Skinker boulevards; Men's Soccer vs. MacMurray College, 7:30 p.m., Francis Field.
Saturday, Oct. 9	Women's Quadrangular Volleyball Tournament , 9 a.m., Field House; Women's Soccer vs. Cortland State, 1 p.m., Francis Field; Homecoming Parade , 1-3 p.m., beginning at Brookings Hall parking lot, corner of Millbrook and Skinker boulevards; Tailgate Party , 4-7 p.m., by the Athletic Complex; Homecoming Football Game vs. Rhodes College, 7 p.m., Francis Field; Homecoming Dance , 9 p.m.-1 a.m., Bowles Plaza (rain location: Holmes Lounge, Ridgley Hall).

Homecoming court to be elected — from page 1

The parade will begin at 1 p.m. Oct. 9 in the Brookings Hall parking lot at the corner of Millbrook and Skinker boulevards. The event will include Six Flags cartoon characters, Grand Marshal Teri Clemens riding on a horse and carriage, floats, marchers and two Mercedes-Benz convertibles carrying the Homecoming court. For the first time, the Washington University Pep Band will perform in the parade, playing music aboard a double-decker bus. "The parade should be especially fun for everyone," said Julie Kovarik, the Homecoming committee's floatbuilding co-chair.

From the Brookings Hall parking lot, the parade proceeds as follows: south on Skinker; west on Forsyth; north on Big

Bend; east on Delmar; south on Skinker; and west to the lot.

Besides Gobel, Kovarik and Tapper, the members of the 1993 committee and their responsibilities are: Phil Thompson, chair; Danny Kupersmit, publicity; Mark O'Hara, floatbuilding; Brett Adler, treasurer; Jeremy Spitzberg, Spirit Week; Kelvin Green, grand marshal; Brent Hamlet, tailgate; Jennifer Burris, dance; and Natasha Dunham, Homecoming court. Kim Martino, coordinator of student activities, is the committee adviser.

University sponsors, in addition to the committee, are Office of Student Activities, Student Union and Congress of the South Forty.

For information, call Gobel at 367-4485.

Mid-ocean Ridges," Donald W. Forsyth, prof., Dept. of Geological Sciences, Brown U., Providence, R.I. Room 162 McDonnell Hall.

4 p.m. Chemistry seminar. "Reactions of [Ir(COD)(PMe₃)₃]⁺ With Aromatic and Heteroaromatic Hydrocarbons: C-H Bond Activation Versus Ring-opening Reactions," Joseph S. Merola, prof. of chemistry, Virginia Polytechnic Institute and State U. Room 311 McMillen Lab.

Friday, Oct. 8

9:15 a.m. Pediatric Grand Rounds. "Demography and Health: Implications of Change," Leon Eisenberg, Presley Professor of Social Medicine and prof. of psychiatry emeritus, Harvard Medical School. Clopton Aud., 4950 Children's Place.

Noon. Cell biology and physiology seminar. "The Retinoblastoma Protein Has Distinct Domains for Repression and Binding to the Transcription Factor E2F," Steve Weintraub, instructor and asst. clinical prof., Dept. of Pulmonary Medicine. Room 423 McDonnell Medical Sciences Bldg.



Performances

Friday, Oct. 1

8 p.m. Performing Arts Department production. "Mad Forest." (Also Oct. 2, 8

and 9, same time, and Oct. 3 at 7 p.m.) Drama Studio, Room 208 Mallinckrodt Center. Cost: \$7 for the general public; \$5 for senior citizens and WU faculty, staff and students. For ticket info., call 935-6543.

Friday, Oct. 8

8 p.m. "OVATIONS!" special event. Sankai Juku performs "Shijima: The Darkness Calms Down in Space." (Also Oct. 9, same time, and Oct. 10 at 2 p.m.) Edison Theatre. Cost: \$30 for the general public; \$25 for senior citizens and WU faculty, staff and students. For ticket info., call 935-6543.



Miscellany

Friday, Oct. 1

European Studies Program conference. "Europe After Maastricht: American and European Perspectives." (Continues through Sunday, Oct. 3.) Various speakers explore American and European perspectives on the European Community. Women's Bldg. Lounge and The Holiday Inn Clayton Plaza. To register, call 935-4360 weekdays between 9 a.m.-1 p.m.

8 a.m.-5 p.m. Continuing medical education. "Physician Executive Leadership," chaired by Walter F. Ballinger, prof. emeritus of surgery, and James Hepner, prof. and director, Program in Health Administration. (Continues Oct. 2, 8 a.m.-12:30 p.m.) Cost: \$350 for physicians; \$150 for WU full-time and clinical staff. Wohl Aud., 4960 Children's Place. For info., call 362-6893.

3 p.m. University College course. "Strategies for Academic Success," Mary Seager, prof. of reading, St. Louis Community College. Help strengthen study skills for a successful return to college. Room 30 January Hall. Cost: \$35 (lunch included). For more info. and to register, call 935-6788.

Saturday, Oct. 2

6:30 p.m. Baha'i Student Association international potluck dinner and slide program. "A Travelogue of Iran," presented by Marika Csapo-Sweet, asst. prof., Dept. of Telecommunications, U. of Missouri-St. Louis. Stix International House. (Slide show at 8 p.m.) For more info., call 935-6815.

6:30 p.m. Baha'i Student Association international potluck dinner and slide program. "A Travelogue of Iran," presented by Marika Csapo-Sweet, asst. prof., Dept. of Telecommunications, U. of Missouri-St. Louis. Stix International House. (Slide show at 8 p.m.) For more info., call 935-6815.

Sunday, Oct. 3

2-4 p.m. Undergraduate Admission lecture. "St. Louis Group Meeting." Group information session for prospective freshmen, led by Angie Yarbrough, senior asst. director for undergraduate admission. Steinberg Hall Aud. For info., call 935-5190.

Wednesday, Oct. 6

Continuing medical education. "Allergy Abroad — Amsterdam and Brussels," chaired by Phillip E. Korenblat, prof. emeritus, Dept. of Renal Diseases; Martin L. Kapsenberg, U. of Amsterdam, Holland; and Romain A. Pauwels, prof. of medicine, U. of Gent, Belgium. (Through Oct. 14 with optional extension to Paris, France.)

Cost: \$495 for physicians; \$395 for allied health professionals. Held in Amsterdam, Holland, Brussels and Belgium. Space is limited. For more info. and to register, call 362-6891.

9-10:30 a.m. University College short course. "Shakespeare's Domestic Dramas," Nancy Pope, lecturer in English literature. (Continues on Wednesdays through Nov. 3.) Cost: \$90. For more info., call 935-6788.

5:30-7 p.m. University College career seminar. "Learning for Career Success: Economics and Business," Ellen Krout Levine, coordinator of career programs. Room 30 January Hall. For more info. and to register, call 935-6788.

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.

'W' Club announces University's 1993 Sports Hall of Fame inductees

Washington University, in conjunction with its athletic support organization, the "W" Club, has announced its second induction class for the University's Sports Hall of Fame.

Induction ceremonies will be held during a luncheon at noon Saturday, Oct. 9, in Ridgley Hall's Holmes Lounge. Washington's football Bears battle Rhodes College at the 7 p.m. Homecoming game. The inductees will be recognized at half-time. For luncheon or game ticket information, contact the Department of Athletics at 935-5185.

Washington's Hall of Fame features two categories — one for former student-athletes, coaches and athletic department administrators, and a second "distinguished service" category for individuals who have significantly advanced the development of Washington intercollegiate athletics.

The 1993 inductees are:

• **Carol Hanks Aucamp (Liberal Arts, 1965)** — Hanks was the first woman to compete on a Washington University men's varsity team. She compiled career records of 19-5 in singles tennis and 17-3 in doubles, while playing second and third singles, and number-one doubles. Hanks competed in Wimbledon four times (1961, 1963, 1964, 1967) and reached the semifinals of the U.S. Open in 1964. She earned a world ranking of number nine in 1964.

• **Wray D. Brown (Business, 1922)** — The sensation of the 1922 intercollegiate tennis tournament where he finished as national runner-up, Brown captured seven amateur titles in a 10-year period and claimed four Missouri Valley Conference titles — three in doubles and one in singles. In 1925 he was ranked 10th nationally. (Will be inducted posthumously.)

• **Glynn Clark (Liberal Arts, 1934)** — A two-sport standout, Clark garnered all-conference and AP honorable mention All-America kudos in football, and all-conference honors in track and field. On the football field, he starred as a tackle on Jimmy Conzelman's famed teams. Clark was the founding president of St. Louis' Meramec Community College campus in 1964.

• **Edward "Bud" Cristal (Engineering, 1957)** — Cristal was the first Washington basketball player to surpass the 1,000-point plateau, scoring 1,062 points, which ranks seventh all-time. He captained the 1955-56 squad, which posted the second-best winning percentage in school history at 17-5 and nearly earned a bid to the NIT tournament.

• **Tom Eckelman (Architecture, 1964)** — One of Washington's all-time baseball greats, Eckelman starred as a record-setting pitcher. He ranks second all-time in pitching victories (24), fourth in ERA (2.10), second in innings pitched (273.7), and fifth in strikeouts (179). Eckelman, who played on

teams that had a combined record of 64-26-3, still holds single-season records for innings pitched (102.7) and record (8-0).

• **Wilbur "Weeb" Ewbank (Football Coach, 1947-48)** — Beginning his collegiate and professional head-coaching career at Washington, he guided the Bears to a 14-4 record, 9-1 in 1948. He is enshrined in seven halls of fames, including the Professional Football Hall of Fame. Ewbank is the only professional football coach to win world championships in both the NFL and AFL — his 1958 and 1959 Baltimore Colts won NFL crowns while the 1969 New York Jets won the AFL and Super Bowl III titles.

• **Harvey "Jabo" Jablonsky (Business, 1930)** — A 1978 inductee into College Football's Hall of Fame, Jablonsky is supposedly the only man to play six years in college and serve as captain at two schools — Washington and Army. A guard and line-backer, he earned Missouri Valley first-team and All-America honors with Washington (1927-29), and later earned All-America honors at Army (1931-33). (Will be inducted posthumously.)

• **Stan London (Liberal Arts/Medicine, 1949)** — Starring in both basketball and baseball, London finished his collegiate athletic career while enrolled in the School of Medicine. He batted a school-record, 465 during the 1948 baseball season and earned honorable mention All-America honors in basketball. He has served as team physician for the Baseball Cardinals.

• **Carl Snively (Football Coach, 1953-58)** — Enshrined in College Football's Hall of Fame, the "Grey Fox" ranks 24th all-time in collegiate football victories with 180. In his 32 seasons as a head coach, he never experienced a losing season while posting a record of 180-96-16. Besides coaching at Washington, where he was 33-19, he guided gridiron programs at Bucknell, North Carolina and Cornell. (Will be inducted posthumously.)

• **Willis "Bill" H. Summers (Tennis Coach/Athletic Administrator, 1919-62)** — Summers' 43-year tenure at Washington is the longest of any coach or administrator. Founder of Washington's intramural program, Summers also coached tennis, swimming, fencing, track, golf and wrestling. During the 1940s and 1950s, he compiled a 121-30 record as men's tennis coach. From 1947-49, the Bears won a school-record 31 consecutive matches. (Will be inducted posthumously.)

• **Irv Utz (Baseball/Football Coach, 1947-63)** — After earning All-America football honors as a quarterback at Michigan, he began an illustrious coaching career, which included a 16-year stint with the Bears. Serving as the Bears' head football coach for four years (1949-52) and an assistant for 12 (1947-48, '53-63), he is best

known for his baseball coaching prowess. In 11 seasons as head coach, Utz led the Bears to a 162-66 mark, ranking him first in wins and winning percentage. (Will be inducted posthumously.)

The distinguished service recipients are:

• **A. Gwendolyn Drew** — Named the first female full professor on the Hilltop Campus in 1950, Drew established Washington's graduate program in physical education. An annual award was created in her honor recognizing students with superior academic standing who have contributed positively to varsity athletics.

Sports

Football

Last Week: Rochester 14, Washington 6

This Week: at Trinity, 7 p.m. Saturday, Oct. 2, San Antonio, Texas

Current Record: 2-2

The Bears' high-scoring offense was grounded by Rochester's aggressive, blitzing defense. Washington, averaging 425.7 yards per game in total offense, was held to 191 total yards, including -28 yards in rushing. The Bears, received a pair of field goals from junior place-kicker Adam Elegant, Miami Beach, Fla. Junior linebacker Matt Gomric, Belleville, Ill., led the defense with 26 tackles, including a school-record 22 solo hits.

Men's Soccer

Last Week: Washington 6, Principia 1; Washington 2, DePauw 2 (OT)

This Week: vs. Webster, 7:30 p.m. Tuesday, Sept. 28, Francis Field; at Rochester, 7:30 p.m. (EDT) Friday, Oct. 1, Rochester, N.Y.; at Brandeis University, 1 p.m. (EDT) Sunday, Oct. 3, Waltham, Mass.

Current Record: 4-2-1

Five of Washington's six goals against Principia College were scored by freshmen, with first-year players Justin Reed, Kansas City, Mo., and Scott Engroff, Mequon, Wis., tallying two goals apiece. Against DePauw, freshman Evan Bowers, Cincinnati, Ohio, tallied the Bears' first goal before junior Kevin Neebes, Cleveland, Ohio, knotted the game at 2-2.

Women's Volleyball

Last Week: Juniata 3 (4, 15, 15, 16), Washington 1 (15, 12, 13, 14); Washington 3 (15, 15, 15), Case Western 0 (8, 6, 13); Washington 3 (15, 15, 15), Chicago 0 (10, 8, 8); Washington 3 (15, 15, 15), Brandeis 0 (3, 3, 2); Washington 3 (15, 15, 15), Emory 0 (3, 1, 1); Washington 3 (15, 15, 15), New York U. 0 (5, 7, 7); Washington 3 (15,15,15), Carnegie-Mellon 0 (1,2,0); Washington 3 (15,15,15), Rochester 0 (7,10,1)

This Week: No Activity

Current Record: 21-1

Washington University's NCAA record-setting consecutive win streak is over. The top-ranked Bears fell to Juniata College in Huntingdon, Pa., which halted the Bears' streak at 59 matches. Washington also had a 34-match road streak and a string of 77 consecutive wins versus Division III opponents stopped.

The Bears rebounded with a new streak, defeating all seven foes in the UAA Round Robin Tournament in Pittsburgh.

Women's Soccer

Last Week: Wittenberg 3, Washington 0

This Week: at Lindenwood College, 7 p.m. Monday, Sept. 27, St. Charles, Mo.; at Rochester, 5 p.m. Friday, Oct. 1, Rochester, N.Y.; at Brandeis, 3 p.m. Sunday, Oct. 3, Waltham, Mass.

Current Record: 2-5-0

Washington, beset with injuries and limited depth, has mustered just two goals in seven matches this season.



The Flying Karamazov Brothers will perform "Juggle and Hyde" at 8 p.m. Oct. 13 and 14 in Edison Theatre.

Flying Karamazov Brothers juggle with humor, burritos and cleavers

The Flying Karamazov Brothers want you to know they don't fly, are not brothers, are not Russian and don't just juggle.

They will, however, be performing "Juggle and Hyde," their hilarious and transcendental brand of all-around comic entertainment at 8 p.m. Oct. 13 and 14 in Edison Theatre.

New York Magazine wrote that the Flying Karamazov Brothers "are as nimble of wit as they are deft of hand, and your mouth will open wide in laughter no less than in awe."

In a perennially popular segment called "The Gamble," the Karamazovs invite audience members to hand over objects heavier than an ounce, lighter than 10 pounds and no bigger than a bread box. If the champ, Ivan, keeps the three items flying for the count of 10 then he gets a standing ovation, if he doesn't he gets a pie in the face. Real fans come maliciously prepared. Examples include a foot-long soggy burrito, an orange balloon filled with lime jello, and a meat cleaver.

"Any competent juggler can defy gravity. Only the Karamazovs can make light of it," wrote the Seattle Times.

The only caveat for "The Gamble" is that "the champ will not juggle any live animals or anything that might stop the champ from being a live animal."

Nevertheless Ivan, the only right-handed Karamazov, severely broke his

right index finger during a performance. Not to be deterred by such trifling details, the four Karamazovs performed as a seven-handed juggling group to the amazement of audiences nationwide. They are happy to report that his finger has since rejoined the company, making them once again eight-handed.

What started out as a 10-minute street show has expanded into a two-hour show that has played in theatres in Scotland, Australia, Hong Kong, Bermuda and Israel, as well as in the United States.

The OBIE Award-winning Karamazovs have created and performed in their own adaptations of Dumas' "Les Trois Musketeers" (renamed The Three Moscowteers), Stravinsky's "The Soldier's Tale," and Shakespeare's "The Comedy of Errors." Their PBS special "The Flying Karamazov Brothers: Stars of New Vaudeville" recently won an Emmy for outstanding entertainment programming. The Flying Karamazov Brothers also co-starred in the hit movie "The Jewel of the Nile" as a band of Sufi warriors.

Tickets are \$20 for the general public; \$15 for senior citizens and Washington University faculty and staff; and \$10 for students. For more information, call 935-6543. Tickets also are available through Metrotix at 534-1111.

Reading series features up-and-coming writers

The International Writers Center at Washington University will launch an annual reading series spotlighting up-and-coming writers. The first event, which is free and open to the public, will feature poet Yusef Komunyakaa reading from his works at 8 p.m. Monday, Oct. 11, in Edison Theatre.

"In a way we've made a literary full circle," said Lorin Cuoco, associate



director of the center and series organizer. "With the local thrust of our monthly literary calendar, the international conferences with well-known writers and now the annual series spotlighting up-and-coming writers, we are covering the main areas of the literary scene," she said.

The International Writers Center Reading Series will feature three additional writers in 1993-94: Ben Okri on Nov. 22, Marilyn Chin on Feb. 28 and Jessica Hagedorn on April 11.

All readings will be followed by book-signings.

Gerald Early, Ph.D., director of the African and Afro-American Studies Program and professor of English, will introduce Komunyakaa. The author of eight books of poetry, Komunyakaa's latest is *Neon Vernacular: New and Selected Poems*. The Library Journal has called Komunyakaa a "master at interweaving memory and history."

His poems are rich with the details of his experiences as an African American, Vietnam veteran and jazz lover.

"Komunyakaa defines a culture with striking imagery that is often misunderstood by mainstream readers," wrote Lenard Moore in the Library Journal.

The author's *Magic City* was selected by the Village Voice Literary Supplement as one of the top 25 books of 1992. "Komunyakaa draws on his skepticism to produce his dangerous, sensual, nuanced narratives," wrote the Village Voice.

The series is underwritten in part by the Arts & Education Council of Greater St. Louis, the Missouri Arts Council, the National Endowment for the Arts and the Regional Arts Commission. For more information, call 935-5576.

Carlos Fuentes to give Fall Honors address

Carlos Fuentes, one of the world's leading literary figures, will address the University's Fall Honors Assembly at 11 a.m. Wednesday, Oct. 6, in Graham Chapel. His lecture, "Culture and Crisis in Latin America," is part of the Assembly Series and is free and open to the public.

Fuentes, Robert F. Kennedy Professor of Latin American Studies at Harvard University,



Carlos Fuentes

is a noted Mexican writer and diplomat. *The Campaign*, published in 1991, is the most recent in a long line of novels that began in 1958 with *Where the Air Is Clear*. Others include *The Hydra Head*, *The Death of Artemio Cruz*, *Terra Nostra*, *Christopher Unborn* and *The Old Gringo*, which became a 1989 movie starring Jane Fonda and Gregory Peck.

Fuentes is not only a prolific novelist,

but also a short story writer, essayist, critic, playwright, journalist and editor. His stories are collected in *Blindman's Song*, *Burnt Water* and *Constancia and Other Stories for Virgins*. In 1992 he wrote and presented the five-hour, five-part, British Broadcasting Corp. television series "The Buried Mirror," about the continuity of Hispanic culture.

Educated in law, Fuentes held Mexican diplomatic posts during the 1950s, as well as two decades later when he served as Mexican ambassador to France in the mid-1970s. He is a member of Mexico's National Commission on Human Rights.

In 1992, Fuentes received the Legion of Honor, France's highest distinction. His many other honors include the National Prize in Literature, Mexico's highest prize for literature, and Spain's Miguel de Cervantes Prize for Literature.

The lecture is co-sponsored by the Assembly Series, Association of Latin American Students, International Writers Center, Latin American Studies, Political Society, Department of Romance Languages and Literatures and Student Union.

For more information, call 935-4620.

Allergy sufferers — from page 1

Dixit presented a paper on EN this spring at the American Academy of Allergy and Immunology Annual Meeting in Chicago, where she also presented preliminary data on the incidence of cross-reactivity she has found in EN and other allergens. Following the clues from previous studies that showed high degrees of patient sensitivity to EN, Dixit and her colleagues Walter Lewis, Ph.D., professor of biology, and H. James Wedner, M.D., associate professor of medicine, performed aerobiological surveys of Corpus Christi and St. Louis. They found EN to be abundant in the air of both cities. In fact, it was the third most common mold spore in St. Louis.

Through skin testing with her own extracts that combine both mycelia and spores, Dixit determined that 49 of 126 predisposed patients from St. Louis and Corpus Christi were sensitive to EN. Using a technique called immunoblotting, she tested 17 patients' blood samples and found 44 proteins that bound the antibody immunoglobulin E (IgE), which tells an allergist whether a person is allergic to a certain substance. Of these 44 proteins, six came only from the spores, four only from mycelium and 34 were common to both spores and mycelium.

Commercial extracts are very poor in discerning patient sensitivity between spores and mycelium. Most are based upon mold mycelial mats grown in large laboratory vats, and thus contain predominantly mycelial proteins. Thus, immunotherapy for mold sensitivity is a hit-and-miss proposition that has left both doctor and patient puzzled and too often frustrated. But Dixit has shown that extracts can be made that include both mold spores and mycelia, covering the whole range of allergenic proteins. The Food and Drug Administration and other bodies now can consider coming up with standards — currently nonexistent — for commercial extracts.

Era of enlightenment

Her findings are good news/bad news for allergy sufferers. While she has identified a major allergen and is making inroads into developing an effective extract for immunotherapy, her work opens a Pandora's Box of possible allergens that may be aggravating the more than 40 million Americans who suffer from allergies. By her own estimate, it may take 20 years to develop the immunotherapy to desensitize patients to the unknown numbers of fungi that cause allergies.

Dixit's collaborators are well known in the immunobiology field. Lewis is a world-renowned expert in aerobiology (the monitoring of aeroparticulates and other organisms in the atmosphere and their impact on humans and the environment), and Wedner is equally well known as an allergist and immunologist. Both scientists consider Dixit's work vital to the understanding and treatment of mold spore allergies.

"Dixit's work will revolutionize this whole area of allergies," says Lewis. "There are so many unanswered questions about mold spores. She could take us out of the 'Dark Ages' into an era of enlightenment."

Wedner, who also is a practicing immunologist, notes that Dixit's pioneering work should increase the knowledge about mold spore allergenicity and enhance the effectiveness of extract preparations.

"Anu is going to have some of the very best available extracts that will serve as the baseline material for commercial extracts," Wedner says. "The extracts are urgently needed. Of all people who receive injections to control their allergies, at least 30 percent never get better."

Crude extracts

Ineffectiveness of commercial extracts and relative ignorance of mold spore allergens are major contributors to this failure rate in treating mold allergies. Of the roughly 40 million Americans that the National Institute of Allergy and Infectious Diseases says suffer from allergies, 19 million are known to be allergic to plant pollens. The other 20 or so million are allergic to anything from dust mites, dander and animals (most notably cats) to certain foods (such as dairy products), beverages (juices and beer, for instance) and fungi. It is unknown how many Americans are allergic to molds. Only three genera (common groups) — *Alternaria*, *Cladosporium* and *Aspergillus* — have been identified as allergens, and their proteins (the cause of allergenicity) purified.

The major drawback to working effectively with fungi is their size. They exist in micrometer dimensions, which is half again what a millimeter (0.039 inches) is. A typical single-celled mold spore is about 15 micrometers. Many *Alternaria* can get up to 25 micrometers, and pollen spores average 25 to 30 micrometers. The EN spores Dixit works with are about 15 micrometers, some even smaller.

An aerobiological survey involves trapping mold samples in the air with an instrument called a Burkard sampler, which consists basically of a piece of tape around a drum and works like fly paper. Dixit grows the fungal spores on agar plates in liquid culture. She isolates the spores after seven to 10 days. She isolates mycelia by growing cultures in flasks in darkness and gently agitating the flasks. She then identifies the allergy-causing proteins in both the spores and mycelia. She prepares her extracts by fast-freezing the molds in liquid nitrogen, pulverizing them in a mortar and pestle and then extracting the proteins in a buffer solution.

In contrast, if she were to develop an extract for oak pollen, a common allergen, all she would need to do is find a flowering oak tree, collect the pollen and suspend it in water to find the allergenic proteins.

"Anu is paramount in the country in identifying spores, determining their frequencies and their allergenic proteins," says Lewis. "This area of immunology has been neglected in large part because it is extremely difficult. She's becoming a master at it."

Dixit says her work underscores three components that are necessary for proper tests for mold allergens. First, define a region aerobiologically. "Before doctors skin test their patients, they should know what's in the air and then apply that information to the individual clinical diagnosis," she says. Second, consider that both spores and mycelia are potential allergens. Third, be sure the extract is representative of all allergens found in a particular mold.

"We hope our work with EN can be the basis for developing more effective extracts," Dixit says.

— Tony Fitzpatrick

Introducing new faculty members

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

Kathleen Clark, J.D., assistant professor of law, comes to Washington University from the U.S. Senate Judiciary Committee in Washington, D.C., where she served as counsel. Her research interest is legal ethics. Clark received a bachelor's degree in physics and philosophy in 1984 from Yale College, where she graduated cum laude. She also studied Soviet politics and Russian language, literature and linguistics at the Pushkin Russian Language Institute in Moscow in 1984. She received a law degree from Yale University in 1990.

Russell W. Coff, Ph.D., assistant professor of organizational behavior, comes to Washington from the University of California, Los Angeles, where he received a doctorate in management in 1993. His research focuses on how organizations cope with the fact that their primary assets, which are people, are unmeasured. Coff received a bachelor's degree in economics and psychology in 1983 from the University of Michigan in Ann Arbor, where he graduated with high honors and high distinction.

Steve Erlebacher, assistant professor of operations and manufacturing management, comes to the University from General Motors Corp.'s research laboratories in Warren, Mich., where he was a research consultant. His research interests involve designing, planning and controlling manufacturing, distribution and service systems that are subject to variability. He received a bachelor's degree in mathematics and economics from the University of Illinois in Urbana-Champaign, where he graduated summa cum laude in 1988. He received a master's degree in industrial and operations engineering from the University of Michigan in Ann Arbor in 1990 and will receive a doctorate in industrial and operations engineering from the same institution in December.

Maurine Linder, Ph.D., assistant professor of cell biology and physiology, comes to the School of Medicine from the University of Texas Southwestern Medical Center, where she was an instructor of pharmacology. Her research focuses on G proteins, a family of proteins that cells use to coordinate their internal activities in response to extracellular signals. She received a bachelor's degree in medical technology from Michigan State University in 1976 and a doctorate from the University of Texas in 1987.

Rachel Schwartz, assistant professor of accounting, comes to the University from Northwestern University, where she is a doctoral candidate in the J.L. Kellogg Graduate School of Management. Her research focuses on audit quality and auditors' liability, and accounting and auditing standards setting. Schwartz received a bachelor's degree in economics and accounting from Haifa University in Israel in 1983, an MBA in operations research from Tel-Aviv University in Israel in 1988, and will complete a doctorate in accounting from Northwestern in December.

Elizabeth P. Tsunoda, Ph.D., assistant professor of history, comes to Washington from Columbia University in New York, where she was an adjunct assistant professor of history. Her research interests include 20th century Japanese history, with an emphasis on that country's political economy. She received a bachelor's degree in English in 1962 from the University of Illinois in Urbana-Champaign and a master's degree in history from Columbia University in 1984. She received a doctorate in history from Columbia University in December 1992.

For The Record

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

Of note

Alison Goate, D.Phil., associate professor of genetics in psychiatry and associate professor in genetics, received a \$135,000 three-year grant from the Alzheimer's Disease and Related Disorders Association Inc. for a project titled "Use of Gene Targeting to Develop an Animal Model of Alzheimer's Disease." ...

During the American Association of Neurological Surgeons' annual meeting held in Boston, **Sidney Goldring, M.D.**, professor emeritus of neurological surgery, received The Cushing Medal, the association's distinguished service award. He is a past president of the association. In addition, he received the Distinguished Service Award from The Society of Neurological Surgeons at its annual meeting held in San Diego, Calif. ...

Maxine I. Lipeles, J.D., professor (part time) of environmental regulation and policy, was listed as one of the best environmental attorneys in *The Best Lawyers in America*, a book published by Woodward/White Inc. of Aiken, S.C. The publication lists the best attorneys in 20 categories and includes about 1 percent of the 750,000 lawyers in the United States.

Speaking of

Garland E. Allen, Ph.D., professor of biology, was co-organizer of a session titled "Genetics and Agriculture: A Deepening History" at the meeting of the International Society for the History, Philosophy and Social Studies of Biology held at Brandeis University in Waltham, Mass. ...

George E. Andersson, assistant dean for finance, and **Kenneth A. Robin**, director, financial information systems, both at the School of Medicine, delivered a case presentation describing the development of the Washington University Administrative Information System at the Association of American Medical Colleges Group on Business Affairs' joint Midwest/Western summer session. The meeting was held in Santa Fe, N.M. ...

Dewey Holten, Ph.D., professor of chemistry, presented a talk titled "Ultrafast Electronic and Vibrational Dynamics of Photoexcited Heme Analogs in the Condensed and Gas Phases" during the International Conference on Bioinorganic Chemistry held at the University of California, San Diego. He also presented a talk titled "Ultrafast Studies of the Photosynthetic Reaction Center" at the Gordon Research Conference on Organic Photochemistry held at Salve Regina University in Rhode Island. ...

Saul Rosenzweig, Ph.D., professor emeritus of psychology and of psychiatry, will deliver the keynote address during a panel at the American Psychoanalytic Association's 1994 annual meeting to be held in Philadelphia. He will speak on "Freud and Jung in America," the topic of his recent book titled *Freud, Jung and Hall the King-maker: The Historic Expedition to America (1909)*. ...

Umashanker Sampath, Ph.D., post-doctoral research associate in chemistry, delivered a poster presentation during the Frontiers in Bioprocessing III conference held in Boulder, Colo. His poster was titled "Chemical Synthesis of Building Blocks for Synthetic Ribozymes: Preparation and Characterization of Phosphoramidite 2." He researched the project with **James K. Bashkin, Ph.D.**, assistant professor of chemistry. ...

At the ACM SIGGRAPH '93/Multimedia '93 conference held in Anaheim, Calif., **John L. Schnase, Ph.D.**, director of the Advanced Technology Group in the School of Medicine's Library and Biomedical Communications Center, spoke on "Medical Libraries — Projects and Perspectives" during a panel titled "Digital Libraries of the Future." With nearly 40,000 people in attendance, SIGGRAPH is the country's largest computer graphics conference. ...

Richard Walter, Ph.D., professor and chair of history, presented a paper on "Labor, Bourgeois-Nationalist, Populist and

Fascist Movements in Latin America" at the 29th meeting of the International Conference of the Historians of the Labour Movement held in Linz, Austria. ...

Murray L. Wax, Ph.D., professor emeritus of anthropology, will deliver the initial address in a lecture series devoted to "The Concept of Culture and Contemporary Issues" at Memphis State University's Marcus W. Orr Center for the Humanities. His talk, titled "Cultured, High Cultured, Multicultural," will be presented Oct. 8.

On assignment

Kathleen F. Brickey, J.D., James Carr Professor of Criminal Jurisprudence, has been appointed a member of the Association of American Law Schools' planning committee for the Workshop on Criminal Law, which will be held Oct. 28-30 in Washington, D.C. ...

Lynn Stockman Imergoot, assistant athletic director, has been named a member of the Missouri Women in Sports Sciences Leadership Task Force, which aims to increase opportunities and participation rates for women in sports leadership positions. ...

Raj Nakra, M.D., professor of psychiatry, was program director of a two-day seminar titled "Alzheimer's Disease: Advances in Diagnosis and Treatment '93," which was held at the Adam's Mark Hotel in St. Louis. **Kathleen Mann Koepke, Ph.D.**, research assistant professor of neurology (psychology), served as program co-director. The symposium focused on the medical, neuropsychiatric and social aspects of the disease. The Washington University Department of Psychiatry, Alzheimer's Disease Research Center and Office of Continuing Medical Education were among the seminar sponsors.

To press

William A. Barnett, Ph.D., professor of economics, Melvin Hinich, Ph.D., a professor in government at the University of Texas at Austin, and **Norman Schofield, D.Litt., D.Econ. Sci., Ph.D.**, Taussig Professor of Political Economy, edited a book titled *Political Economy: Institution, Competition*

and Representation that was published by the Cambridge University Press. The book contains the proceedings of a conference held at Washington University and is part of a monograph series published by the Cambridge University Press. Barnett serves as editor of the series, which is titled "International Symposia in Economic Theory and Econometrics." ...

Suzanne Craft, Ph.D., assistant professor of psychology, **Michael R. DeBaun, M.D., Ph.D.**, fellow in hematology/oncology, **Tracy A. Glauser, M.D.**, former assistant professor of neurology, **Benjamin Lee, M.D.**, associate professor of neuroradiology, and **Jeff Schatz**, a graduate student in psychology, wrote an article titled "Neuropsychological Effects of Stroke in Children With Sickle Cell Anemia." The article will be published in the November issue of the Journal of Pediatrics. ...

Stephen R. Crespin, M.D., assistant professor of clinical medicine, was chief editor of the School of Medicine's monograph titled Diabetes and Dyslipidemia: Diagnosis and Treatment. The monograph, presented by the Office of Continuing Medical Education, was part of a nationwide program to increase physicians' awareness of lipid problems in diabetic patients. ...

A 1983 article written by **Burton M. Wheeler, Ph.D.**, professor of English and of religious studies, was reprinted in the Norton critical edition of *Oliver Twist*. Wheeler's article is titled "The Text and Plan of *Oliver Twist*."

Etc.

John Stewart, associate professor of music, is judging the Metropolitan Opera District's auditions being held in Los Angeles.

Guidelines for submitting copy:

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

Interim co-directors appointed to lead Business, Law and Economics Center

The John M. Olin School of Business has appointed two Washington University professors as interim co-directors of the school's Business, Law and Economics Center.

Robert B. Thompson, J.D., George Alexander Madill Professor of Law, and Gary J. Miller, Ph.D., Taylor Professor of Political Economy in the Olin School, will co-direct the center until a permanent director is found. Don L. Coursey, Ph.D., center director since 1991, recently resigned to join the University of Chicago faculty. Jennifer Chilton will continue as the center's assistant director.

Thompson specializes in corporate law, including securities and business takeovers. Miller, an organizational theorist,

has studied government regulation, committee decision making and presidential leadership.

Miller will chair a committee that is seeking a new director for the center. Thompson will serve on the search committee, as will business professors Nicholas Dopuch, Ph.D., James Little, Ph.D., Chakravarthi Narasimhan, Ph.D., and economics professor Douglass C. North, Ph.D.

The Business, Law and Economics Center, founded in July 1991, focuses on how law, economics and politics converge to affect the firm. It has served as an umbrella for a range of scholarly activities, including seminars, research conferences, working papers and the development of new courses.

Campus Authors

The following is a recent release available at the Campus Bookstore in Mallinckrodt Center on the Hilltop Campus or at the Washington University Medical Bookstore in the Olin Residence Hall. For more information, call 935-5500 (Hilltop Campus) or 362-3240 (School of Medicine).

The volatile country of Lebanon is the subject of a new book by **Engin D. Akarli, Ph.D.**, associate professor of history. Although Lebanon has been known since the early 19th century as one of the most turbulent areas of the world, it nevertheless experienced an interlude of internal peace between its civil war of 1860 and the beginning of the French Mandate in 1920. In *The Long Peace: Ottoman Lebanon, 1861-1920*, Akarli examines the sociopolitical changes resulting from the negotiations and shifting alliances characteristic of these crucial years. Using previously unexamined Turkish, Arabic and French documents in Ottoman archives, he challenges the prevailing view that attributes modernization in government to Western initiative while blaming stagnation on reactionary local forces. Instead, he argues, indigenous Lebanese experience in self-rule as well as reconciliation among different religious groups after 1860 laid the foundation for secular democracy. European intervention in Lebanese politics, however, hampered efforts to develop a correspondingly secular notion of Lebanese nationality. (University of California Press, Berkeley, Los Angeles and London).

Opportunities & personnel news

Hilltop Campus

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

Assistant Accountant

940030. *Engineering Accounting*. Requirements: 18 hours of college business courses, including six hours of accounting course work; ability to use/willing to be trained to use mainframe computer, including financial on-line system (FIS, SIS, ELIG, FOCUS); ability to use personal computer, including spreadsheet software (WordPerfect); confidence in verbal ability; ability to deal effectively with University personnel; typing 45 wpm with accuracy. Clerical tests and three letters of recommendation required.

Data Processing Assistant I

940032. *University Registrar's Office*. Requirements: Some college, bachelor's degree preferred; experience with computers, data processing and an interest in working with automated systems; typing with accuracy. Clerical tests and three letters of recommendation required.

Departmental Secretary

940044. *Major Gifts and Capital Projects*. Requirements: Specialized secretarial and business training; three years of general office experience; ability to work well in the office environment and relate easily with others; willingness to learn the role of the Development Office and the mission of Washington University; a spirit of teamwork and a willingness to assist others as needed; typing 50 wpm with accuracy. Clerical tests and three letters of recommendation required.

Receptionist

940064. *Alumni and Development Programs*. Requirements: High school graduate, one to two years secretarial/receptionist experience or training; typing 40 wpm with accuracy; good command of English language; alert, well-spoken, well-groomed, pleasant, often will be first contact and make first impression on alumni, parents, students, donors and friends of the University and should do so calmly, politely and efficiently. Clerical tests and three letters of recommendation required.

Departmental Secretary

940065. *Alumni and Development Programs*. Requirements: Associate's degree, bachelor's degree preferred; strong background in PC; excellent verbal and written skills; pleasant, professional manner with co-workers, volunteers, vendors; able to handle multiple tasks in an organized, accurate and timely manner; able to work extra hours if necessary; typing 50 wpm with accuracy. Clerical tests and three letters of recommendation required.

Circulation Services Assistant

940067. *Olin Library*. Requirements: Two years of college-level study or equivalent work experience; library work experience desirable; ability to communicate effectively orally and in writing and to deal with the public in a consistently pleasant and businesslike manner; computer skills, especially in data entry, desirable; bibliographic skills and familiarity with foreign languages desirable; typing 35 wpm with accuracy; ability to work and resolve patron problems under pressure; physical stamina; ability and willingness to work flexible hours, including some evening and weekend hours on a regular basis and some split days as required. Clerical tests and three letters of recommendation required.

Accounts Payable Processing Clerk

940068. *Accounting Services*. Requirements: Six semester hours of accounting and at least six semester hours of additional

business-related courses, or two years business office experience equivalent to an accounts payable clerk at Washington University, plus three semester hours of accounting; high clerical and mathematical aptitude; good communication skills; experience in the use of mainframe or personal computer accounting applications. Clerical tests and three letters of recommendation required.

Support Center Supervisor

940069. *Accounting Services*. Requirements: Associate's degree in related field, including two years of basic scientific and manual skills as is offered in many technical institutes and junior colleges, or an equivalent degree of on-the-job training; proven supervisor ability; demonstrated customer-service skills; excellent interpersonal and communication skills; working knowledge of personal computers; excellent attendance record; experience with Bell & Howell ABR200 microfilmers, Pitney Bowes 6100 mail machines, and IBM 3812 laser printers is a definite plus. Resume and three letters of recommendation required.

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.

Secretary/Receptionist

940074. *University College*. Requirements: Two years of college, associate's degree preferred; typing 50 wpm with accuracy; ability to handle multiple tasks and establish priorities under pressure; ability to meet public in a pleasant and professional manner; stamina (requires some deliveries of correspondence and packages across campus). Clerical tests and three letters of recommendation required.

Reference Librarian, Part-time

940076. *Business*. Requirements: ALA-accredited MLS. Employee will be responsible for all operations in the library during the weekend, will implement and interpret policy. Hours: noon-6 p.m. Saturdays, 1-6 p.m. Sundays, 3:15-7:15 p.m. two weekdays. Resume and three letters of recommendation required.

Departmental Secretary

940077. *Alumni and Development*. Requirements: Associate's degree preferred; typing 50 wpm with accuracy; specialized secretarial and business training, three years general office experience; good command of English; alert, well-spoken; can deal with multiple priorities with minimal supervision; mature, well-groomed, pleasant. Clerical tests and three letters of recommendation required.

Staff Development Officer

940079. *Olin Library*. Requirements: Master's degree in library science or related field preferred; academic background in personnel administration, adult education, psychology or counseling preferred; demonstrated skill in training adults to acquire new skills; use prior knowledge of training and maximize transfer; understanding of the role of the research library in higher education; expertise in library operations preferred; sensitivity and responsiveness to staff needs; excellent oral and written communication skills. Application deadline is Nov. 1. Resume and three letters of recommendation required.

Administrative Secretary

940080. *General Services*. Requirements: Some college preferred; typing 50 wpm with accuracy; excellent secretarial skills. Clerical tests and three letters of recommendation required.

Administration and Recruiting Assistant

940081. *Consortium for Graduate Study in Management*. Requirements: High school

graduate; typing 35 wpm with accuracy; two or more years full- or part-time office experience; computer skills; prefer experience with WordPerfect and ALPHAFOUR, Lotus 1-2-3 helpful; excellent oral and written communication skills; and excellent customer-service skills. Clerical tests 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.

Medical Research Technologist

940091-R. *Neurology*. Requirements: Bachelor's degree with experience in a medical research lab; initiative and judgment to make mature decisions; maintain cell cultures and lab; know basic toxicity protocols.

Animal Caretaker

940099-R. *Comparative Medicine*. Tyson Research Center. Schedule: Full time, including some weekends, holidays and overtime. Requirements: High school graduate or equivalent; must be able to work with and handle animals; must have valid driver's license and ability to drive truck or van; should have manual skills and dexterity and be able to lift up to 50 lbs.

Clerk Typist I

940118-R. *Human Studies*. Schedule: Part time, 20 hours per week, four to five hours per day. Requirements: High school graduate or equivalent; excellent spelling, punctuation and grammar skills, as well as two years related work experience; typing 45 wpm and experience on word processor.

Systems Operator

940180-R. *Surgery*. Requirements: High school graduate or equivalent, associate's degree preferred; general knowledge of computer system and network architecture, as well as knowledge and experience with PC hardware and operating systems (DOS and Windows).

Professional Rater II

940182-R. *Psychiatry*. Requirements: Master's degree; writing, editing and data analysis skills. Will be involved in multi-research projects dealing with drug and alcohol use and HIV risk behavior.

Secretary II

940185-R. *Ophthalmology*. Schedule: Part time, 20 hours per week, flexible hours, Monday-Friday. Requirements: High school graduate or equivalent; experience with Lotus 1-2-3 and Microsoft Word; ability to interact with patients and staff; typing 50 wpm.

Medical Transcriptionist

940199-R. *Internal Medicine*. Requirements: High school graduate or equivalent with some experience preferred; knowledge of medical terminology; typing 60 wpm with accuracy; experience with WordPerfect 5.1.

Contract Administrator Assistant

940219-R. *Assistant Dean, Planning*. Schedule: Part time, Monday-Friday, 20

hours per week. Hours will vary with workload. Requirements: Associate's degree from two-year paralegal or legal assistant program; knowledge of contract law, agency law, insurance, patents and licensing agreements. Will provide technical review for contracts and agreements between the University and third parties, suggesting modifications to the contracts and agreements as appropriate.

Medical Research Technician

940220-R. *Rheumatology*. 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 essential.

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; work with isotopes and potentially toxic solvents, bacteria strains and tissue cell cultures.

Financial Aid Assistant

940224-R. *Student Affairs*. Requirements: High school graduate or equivalent, some college preferred with accounting and computer-related courses; two years office experience; typing 40 wpm and experience on WordPerfect.

Lab Tech Research

940225-R. *Pharmacology*. Requirements: One year college, bachelor's degree preferred; should be familiar with the use of basic laboratory instrumentation and the ability to interact effectively with individuals inside and outside the University.

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 with an interest in working in a diagnostic clinical lab, prefer college graduate with knowledge of microscope and understanding of human genetics; knowledge of human cytogenetics a plus.

Systems Manager

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

Clerk I

940256-R. *Illustration*. Schedule: Part time, 8-11:30 a.m. Monday-Friday. Requirements: High school graduate or equivalent; must be people-oriented. Position requires individual to stand nearly all the time. Essential that candidate be on the job at 8 a.m. sharp.

Clerk I

940257-R. *Illustration*. Schedule: Part time, 1:30-5 p.m. Monday-Friday. Requirements: High school graduate or equivalent; must be people-oriented. Position requires individual to stand nearly all the time. Essential that candidate be on the job at 1:30 p.m. sharp.