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## Current students key to April Welcome

When Allen Gurney was a senior in high school in Marion, Ind., he visited Washington University twice. "It was such a great experience that I knew I wanted to come here," he said.

Now a senior at Washington University and chair of the Student Admission Committee (SAC), Gurney is busy this month organizing current student involvement in April Welcome activities. At any time on any given day during the month, current students are leading prospective students on campus tours, joining them for lunch, welcoming them into their residence hall rooms, introducing them to faculty and taking them to campus events and activities.

"The sense of community is kind of unique," Gurney said. "Hundreds of students have signed up to help; you see staff walking around with April Welcome buttons, faculty meeting with the prospective students. There's some neat teamwork happening."

Leading campus tours is one of the current students' most visible roles. Several times a day, one can spot a "SAC-er" walking backward across campus guiding a large group of prospective students and their parents. The students conduct 36 tours a week during the month of April. The guides say they field some of the same questions on almost every tour.

"Everyone phrases it differently but they all want to know how stressful it is to be a student at Washington University," said Gurney. "They've heard Washington University is ranked number two in stressville with a lot of academic pressure."

Current students are showing April Welcome visitors that there's more to campus life than cram sessions and examinations. They are involving them in a wide variety of activities that reveal the less academic side of Washington University.

This week, for example, prospective students can go to a St. Louis Cardinals'



First-year student Jim Brack leads a group of prospective admitted high school students and their parents on a campus tour. As part of April Welcome, students are conducting 36 tours a week during the month.

baseball game on Monday, visit an exhibition of student artwork on Tuesday, sample local food at "Savor St. Louis" on Wednesday, attend the chancellor's 68th birthday party on Thursday, and participate in a discussion on "Life Outside the Classroom" on Friday. Each day in April also is peppered with academic activities, including meetings with deans and faculty, engi-

### This week the University is welcoming about 175 prospective admitted students.

neering lab tours, economic market simulations, and more. Prospective students also have the opportunity to meet with representatives from the offices of Financial Aid, Housing and Undergraduate Admission.

"Because there's something going on every day during the month of April, we didn't have to organize any special programs to show off Washington University," Gurney said. "At this point, they know the academics are great. We're trying to show them why Washington University is a cool place to spend four years."

During last month's "recruitment blitz," which offered pizzas, raffles, prizes and gift certificates, about 400 current students signed up to host prospective students. Some will host a student several times throughout the month of April.

"Hosting is very flexible. Some hosts absolutely love to host and do everything with the prospective students," Gurney said. "Others are more laissez-faire and that's acceptable too. If a host has to study for a test, the prospective student has to realize that that's part of life here."

About 120 current students have signed up to be greeters. Stationed in and around Brookings Hall, the student and staff

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## Ancient recipe for Earth's crust unchanged over 3.8 billion years

Washington University geologist has added credence to the saying: The more things change, the more they stay the same.

Analyzing some of the world's oldest rocks, Robert F. Dymek, Ph.D., professor of earth and planetary sciences, has found that, despite myriad changes to the Earth's physical surface, the planet's process of making crust is virtually unchanged over 3.8 billion years. That's the oldest date of the extremely rare samples he analyzed. Crust, composed primarily of granitic rock, is the outer part of the Earth that we walk on. Continents and other land masses — islands and mountains — are made from crust.

Dymek and his Washington University colleagues determined the chemical composition of 165 sedimentary rock samples from a geological region known as the Isua Supracrustal Belt in western Greenland. They used X-ray fluorescence and instrumental neutron activation analysis to provide data on 45 chemicals; the researchers used this data for their interpretations. Dymek and colleagues collected the rocks during various expeditions to Greenland beginning in 1978.

"Our analysis shows that Earth makes continental crust today the same as it did 3.8 billion years ago," Dymek said. "There does not appear to be any dramatic differences between these ancient rocks and those that have formed throughout geologic time.

"The chemical compositions indicate that Earth was geologically mature — at least a 'healthy adolescent' — 3.8 billion years ago. This pushes the beginning of the crust-forming process far back in geologic time. Our investigation indicates that the Earth was evolved and well on its way to making continents 3.8 billion years ago."

Dymek and colleague Jeremy M. Boak, Ph.D., of the U.S. Department of Energy, Las Vegas, presented the findings at a meeting of the Geological Society of America.

### Continent-building's early start

Scientists have known since 1973 that the Isua Supracrustal Belt, a 150-mile region rich in iron ore and volcanic rocks, contained rocks that were 3.8 billion years old, but Dymek's analyses of his samples provide new insights and lend support to one of two prevailing theories of crust formation. One theory holds that the early Earth was incapable of making continents, and that little if any crust formed before roughly 3.8 billion years ago. The second theory holds that substantial amounts of continental crust formed very early in Earth's history, but because the Earth was geologically very active, much of that early crust was destroyed quickly and recycled back into Earth's mantle. Dymek's find supports the latter theory.

Earth's process of making continental crust is relatively straightforward and un-

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## Carnival benefits inner-city girls' program

Proceeds from this year's Thurtene Carnival may help young girls reach their dreams.

The April 23-24 Thurtene Carnival will benefit the girls' program of the Mathews-Dickey Boys' Club in north St. Louis. More than 100,000 people are expected to attend the nation's largest and oldest student-run carnival, which is sponsored by Thurtene, the junior honorary.

The event will be held from 11 a.m. to 8 p.m. both days on the campus parking lot at Millbrook and Skinker boulevards. Chancellor William H. Danforth will speak during opening ceremonies, which begin at 10:45 a.m. on April 23. There is no admission fee.

The Mathews-Dickey girls' program began in 1986. The program strives to develop the athletic, educational and cultural potential of girls ages 6-18 from the inner city. About 2,500 girls participate in the program, which offers after-school and weekend activities, such as educational, personal and career development seminars, and sessions on computer literacy, drama, ballet, tap, jazz and modern dance, cheerleading, choir, fine arts, swimming, pompon, basketball and softball.

Marketing major Amy Albers, Thurtene's charity chair, said, "We chose the Mathews-Dickey girls' program because of its strong commitment to bettering the lives of youth. This commitment, along with the tremendous community support for the Mathews-Dickey programs, made it an obvious choice for us. We are excited and eager to work with such an outstanding organization."

Linda Jones, director of the girls' pro-

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Researchers find that lowering blood pressure may slow the progression of a common form of kidney disease

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Carolyn Baum, Ph.D., has helped build one of the strongest occupational therapy programs in the country

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Athletes are the focus of a new dance by choreographer David Dorfman

# Medical Update

## Low blood pressure may slow kidney disease progression

**L**owering blood pressure to below the currently recommended levels may slow progression of a common form of kidney disease, according to a recent study in the *New England Journal of Medicine*. The multicenter trial is the largest kidney disease study to date and is likely to lead to new treatment guidelines for some patients, said lead author Saulo Klahr, M.D., professor and co-chair of the Department of Medicine at the School of Medicine.

Investigators at 15 U.S. medical centers studied 840 patients with various forms of moderate and advanced kidney disease. They examined whether kidney function could be affected by either restricting dietary protein or lowering blood pressure below levels recommended for the general population. They evaluated patients for an average of 2.2 years, comparing those who received one or both of these interventions to those who did not.

Unlike most previous studies, the investigators found no significant benefit from reducing protein consumption, Klahr said. They also found no benefit from reducing blood pressure in the study group as a whole. However, when the researchers considered each type of kidney disease separately, they found that low blood pressure significantly slowed disease progression in patients who had glomerular kidney disease and significant loss of protein in the urine. This category accounts for about 25 percent of kidney disease cases. The protective effect of low blood pressure was particularly strong for African Americans and for patients who had moderate disease and protein in the urine, Klahr said. There were no apparent side effects from either intervention, he added.

"It is important for the internist and general practitioner to be aware that particularly in these glomerular disease patients,

blood pressure should be controlled," Klahr said. "And the control most likely will have to be below the pressures that were considered adequate before — to about 120/80 or 125/75, instead of blood pressures in excess of 130/85 that we considered before to be satisfactory."

Animal studies conducted over the past several decades suggest that restricting protein and lowering blood pressure could slow down kidney disease progression, Klahr said. Most human studies have suggested that restricting dietary protein is beneficial, especially for people with advanced disease. But many of these studies were inconclusive because of flaws in study design, he said. Few studies have looked at the effect of lowering blood pressure. "This was the first large prospective trial in which patients with kidney disease were randomized and a group served as a control," Klahr explained.

Patients in the current study with moderate disease had roughly 20 to 40 percent of normal kidney function; advanced cases had only 10 to 20 percent of normal function. Those with moderate disease were assigned to either a usual-protein diet or a low-protein diet, consuming 1.3 grams and 0.58 grams of protein per kilogram of body weight, respectively. Patients with advanced disease followed the low-protein diet or a very low-protein diet, consuming 0.58 grams and 0.28 grams per kilogram of body weight, respectively. The investigators used medications as needed to maintain the desired blood pressures. The portion of patients in the low blood pressure group maintained levels of 125/75 to 130/75. All of the remaining patients controlled blood pressure to the levels recommended for cardiovascular health — about 140/90 or slightly below this level.

The study provides the first evidence that individual forms of kidney disease respond differently to the same treatment, Klahr said. "We also encountered some patients who did not show any evidence of progression, suggesting that some people may not progress," he added. "It has been said in the medical literature that once you get a certain decrease in kidney function, the disease is going to progress no matter what you do. That doesn't seem to be the case in all patients."

Based on the study results, the National Institutes of Health recently gathered a panel of 100 kidney disease experts to further evaluate the study data. "The task of this committee will be to come up with recommendations for dietary manipulations and blood pressure control," Klahr said. The study's data also should help these experts determine how various forms of kidney disease respond to treatment, clarify differences among ethnic groups and find factors that might predict progression rates, he said.

Most chronic renal diseases worsen progressively throughout life. End-stage patients, who have less than 5 percent of normal kidney function, need dialysis or a kidney transplant to survive. Roughly 165,000 people in the United States were being treated for end-stage renal disease in 1990 at a cost of more than \$7 billion, according to the U.S. Renal Data System. Preventing end-stage disease by slowing kidney disease progression could therefore have a major impact on public health and healthcare resources.

— Juli Leistner



Tension builds as medical students open envelopes with the results of their residency matches. Marc Boustany, left, will go to the State University of New York Health Sciences Center in Syracuse to train in general surgery. Marc Bodenheimer, center, will train in ophthalmology at the University of Tennessee in Chattanooga. Kim Allman, right, will go to Stanford University Hospital in Stanford, Calif., to train in pediatrics.

## AIDS Clinical Trials Unit to test three new drugs

**T**he AIDS Clinical Trials Unit at the School of Medicine is preparing to test three new classes of investigational drugs to determine their effectiveness in treating HIV infection.

There are no known drugs capable of curing HIV infection or full-blown AIDS, which develops once the virus destroys the body's immune system. And the only drugs approved by the Food and Drug Administration for treating HIV/AIDS are highly toxic. These drugs — AZT, ddI and ddC — also produce side effects in many patients, including headaches, nausea, insomnia and anemia.

Researchers in the AIDS Clinical Trials Unit hope to enroll 80 to 100 people infected with HIV in studies of the new drugs. Participants will receive free medication and medical care for HIV infection during the study.

The new drugs appear to have fewer side effects and may prove to be less toxic, said William Powderly, M.D., director of the AIDS Clinical Trials Unit. Though it is too early to predict whether the drugs will be effective in disarming the HIV virus, Powderly said he is excited about the prospect of testing new drugs.

Powderly and other AIDS researchers are especially excited about a new class of drugs called protease inhibitors, which are being tested in St. Louis for the first time. The drugs work by inhibiting the action of an enzyme called protease. The enzyme is essential in making the HIV virus infectious.

Two different protease inhibitors will be tested in the AIDS Clinical Trials Unit. One is a new drug being tested for the first time in the United States. The second protease inhibitor being tested has shown promising results in an earlier study.

The other drugs that will be tested are Delavirdine, a potent new agent designed to inhibit replication of HIV, and SC-49483, a drug that disrupts production of infectious virus.

## Biology and Biomedical Sciences announces three new senior administrative appointments

**T**he Division of Biology and Biomedical Sciences recently announced that three new senior administrative positions have been filled. Beverly Stockwell has been named financial manager and staff supervisor; Jeffrey Sich, Ph.D., has been appointed director of admissions; and Barbara Fox is the new director of student affairs.

Stockwell comes to the University from Southwestern Bell Telephone Co., where she served as area manager. Stockwell received a bachelor's degree in arts and sciences and a master's degree in business administration from the University of Missouri-Columbia.

Sich had been assistant director for educational programs in the Office of Education at the National Institutes of Health and a member of the working group of the Federal

The AIDS Clinical Trials Unit at Washington University is one of 50 established nationwide by the National Institutes of Health to evaluate new HIV therapies. Since it began in 1987, the unit has screened 1,700 HIV-infected individuals and more than 800 have been enrolled in clinical trials of new drugs for primary HIV infection or for opportunistic diseases.

For more information or to enroll in one of the studies, call 454-0058.

Coordinating Council for Science, Engineering and Technology's Committee on Education and Human Resources. Prior to that, he was a faculty member at Youngstown State University in Ohio and the University of Tampa in Florida. Sich received a bachelor's degree in biology from Davidson College in Davidson, N.C., and a master's degree in microbiology and doctorate in microbiology and molecular genetics from the University of Cincinnati Medical School.

Fox has been with the Division of Biology and Biomedical Sciences and the Medical Scientist Training Program (MSTP) for 25 years. She formerly served as associate director and administrator of the MSTP program and as administrator of the Division of Biology and Biomedical Sciences.

## Record

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**Washington**  
WASHINGTON UNIVERSITY IN ST. LOUIS

# Washington People

## Baum prescribes activity for disabled

Becoming an occupational therapist was not easy for Carolyn Baum. She grew up in a little town in eastern Kansas where few even considered going to college. It was the early 1960s and her father was adamant in his belief that college was no place for a woman.

At the urging of Baum and her mother, he agreed to send her to Kansas State University, but only if she majored in what he thought was proper for a woman: home economics.

"At the end of my first year, I knew I had to be an occupational therapist and my parents were not going to support that, so I decided I'd have to do it myself," Baum said.

She developed her strong desire to become an occupational therapist (OT) at age 16 while spending a couple of

weeks during the summer with a cousin in Tacoma, Wash. Baum asked her cousin if she liked her job as director of special education for a school district. Her cousin liked it well enough, but said if she had her life to live over again she'd be an occupational therapist.

"I didn't know what it was, so my cousin took me to meet a therapist practicing in the school district, and I decided I wanted to be an OT," said Baum, who was drawn to the idea of helping people overcome disability through activity. She also saw the profession as a pleasant blend of both science and creativity. Baum, Ph.D., now is the Elias Michael Director of the Program in Occupational Therapy at the School of Medicine.

From Kansas State University

Baum transferred to the University of Kansas and took all the jobs she could to finance her education. She woke up at 5:30 a.m. and made 150 sandwiches in the dormitory before going to anatomy class. She worked the switchboard late at night. She also cleaned houses.

Baum received a bachelor's degree in occupational therapy in 1965. Her first job after graduation was at Kansas University Medical Center. A medical center nurse was interested in improving outcomes for cardiac surgery patients, and she and Baum started a rehabilitation program for patients undergoing valve replacement surgery. Baum presented her first paper at the Kansas Nurses Association on the program.

Early in her career, Baum learned the importance of being a sensitive therapist. She spent a week teaching a woman how to simplify kitchen procedures so she could manage at home while recovering from cardiac surgery. After the patient left the hospital, Baum visited the patient to see how she had implemented what she had been taught. "When I got there, I found she didn't have a kitchen and had to pump her water and carry it up a hill from a well. I had spent a week training her how to work in a kitchen she didn't have," Baum said. "That had a profound impact on how I practice as a clinician. I need to understand where the patient is coming from and not just employ what I think should be done."

After a year at the medical center, Baum accepted a position as an occupational therapist at Research Medical Center in Kansas City, Mo. Six months later, her boss relocated, leaving behind a recommendation that Baum be considered for the position. Out of school for only a year and a half, Baum became director of occupational therapy and later was promoted to director of rehabilitation, where she built a large interdisciplinary program with 21 occupational therapists, 25 physical therapists and four speech pathologists.

In 1976, she came to Washington University's Irene Walter Johnson Institute of Rehabilitation (IWJ) to develop the clinical service. It was a rude awakening, she said. There were only five occupational therapists serving the medical center's neurology service, burn unit, Milliken Hand Center and IWJ.

Baum began expanding the clinical service by offering occupational therapy services to the Arthritis Clinic, gradually branching out to other divisions as she was able to recruit staff. During her 12 years at the institute, now run by

Barnes and Jewish hospitals, she helped develop one of the country's first "work-hardening" programs in 1983. Work-hardening programs are aimed at getting injured workers back on the job. Baum developed the program after a former patient told her the profession was doing a poor job in this aim. Therapists from all over the country came to the campus for training.

In 1988, Baum was promoted to director of the Program in Occupational Therapy, taking on the responsibility of managing academic and research programs. There were only three full-time faculty, compared with 22 today. The program graduated 18 students that year. Now the program has 80 graduates a year and offers an interdisciplinary master's degree program to prepare advanced clinicians for

cians work with Alzheimer's patients and their families. Future Alzheimer's research initiatives include studying intimacy and the caregiving process to determine whether couples who share intellectual, social and sexual activities handle the stress of Alzheimer's better than those who do not. Society is counting on family members to take care of people who develop Alzheimer's, Baum said, so it's important to do these studies to help determine how the carer can be most effective.

Baum prefers the word "carer" instead of "caregiver," which she said sometimes confuses people. "Carer is more of an international term, and to me it sounds more friendly. I have a hard time when we 'medicalize' words that refer to people who are just trying to live their lives."

A driving force behind Baum's research is her desire to eliminate excess disability. The term, coined in the 1960s by two geriatric researchers at the Philadelphia Geriatric Center, describes the disability a person has when he or she doesn't need to have it. It comes when people haven't been trained to recognize they can achieve in spite of their limitations.

Society is becoming more aware of occupational therapy than when Baum first entered the profession. The field is now one of the fastest growing professions. The year Baum accepted the job as director of the Program in Occupational Therapy, she remembers calling applicants on a Sunday afternoon to see if they would be attending school. She was concerned because there were only 88 applicants for a class

of 45, and she wasn't sure if the class would be filled. The program now reviews more than 350 applications for a class of 80, and the number of applicants grows every year.

Because of the confines of the OT building, the program can't grow to more than 80. Baum is in the process of investigating new space. If she is successful in finding it, she will take the program to 100.

Baum is pleased that an increasing number of researchers are contacting the program's faculty to initiate collaborative research studies. She also finds it gratifying that physicians are asking to have faculty appointments with the OT school. Currently, otolaryngologists Gail Neely, M.D., and Jay Piccirillo, M.D., and plastic and reconstructive surgeons Philip Higgs, M.D., and Susan Mackinnon, M.D., hold joint appointments in occupational therapy. Baum said she believes this is happening for two reasons. First, she said, the science coming out of the Program in Occupational Therapy is very strong. Second, there is a new focus in healthcare on outcomes that brings rehabilitation into the mainstream of medicine. Now there is a continuum from prevention to treatment to rehabilitation, Baum said, that must be put together to effectively improve the quality of life of individuals for whom surgery or drugs are not enough.

Baum, who received a doctorate from the George Warren Brown School of Social Work last spring, has a 25-year-old daughter, Kirstin, who graduated from the University three years ago. The two were in college at the same time. "I had to take introductory courses in some of the social sciences, so we had to sit down with the catalog each semester to make sure we weren't going to sign up for the same classes. My daughter didn't mind that I was a student, but she didn't want to be in my classes," Baum said. "Her friends enjoyed being in my classes, though, because I took great notes."

Within five years, the Program in Occupational Therapy will begin offering a doctoral program. There also are plans to work with the Department of Neurology and Neurological Surgery to build a rehabilitation research center. Long-range goals are for the University to become the most respected rehabilitation research center in the world.

"We're one of the top science-based OT programs in the country," Baum said. "But it is not a time to rest on our laurels. We've got to continue to develop knowledge, programs and services that will better serve our students, faculty and society."

—Joni Westerhouse



Carolyn Baum, Ph.D., right, shares a light moment with graduate student Fran Schmoker. Baum is advising Schmoker on her thesis, which examines the assessments clinicians use to manage stroke patients.

"We're one of the top science-based OT programs in the country. But it is not a time to rest on our laurels."

geriatric rehabilitation, occupational medicine, ergonomics and pediatrics.

One of Baum's most immediate challenges as director was to strengthen the program's research initiative. "I knew, in the tradition of Washington University, we needed to be an academic discipline," she said. "We needed to be generating knowledge and building relationships that would strengthen the University."

However, Baum also knew that occupational therapy had produced very few scientists who could come to the University and help build the program in a short period. So she called upon Robert Amli, Ph.D., Dorothy Edwards, Ph.D., Jan Ducheck, Ph.D., and Christine Feeley, Ph.D., psychologists at the School of Medicine with an interest in performance, and paired them with occupational therapists to start generating research activities that would build the science to support the program. These activities have grown, and the program currently is associated with five National Institutes of Health (NIH) proposals.

Baum's own research focuses on maximizing the function of persons with Alzheimer's disease and minimizing the burden on their caretakers.

She has examined the effects of continued engagement in occupational tasks and has found that Alzheimer's patients who stay active perform better in their own care and demonstrate fewer disturbing behaviors, such as combativeness and wandering. Baum also has found that disturbing behaviors cause the most stress in the caregiver, not the extra work involved in caregiving.

Along with colleague Dorothy Edwards, Ph.D., and others, Baum has published four instruments to help clini-

# Calendar

April 14-23



## Exhibitions

**Center of Contemporary Arts Annual Juried Exhibition.** "Caje '94: America's Cultural Diversity," a print exhibit by Jeffrey Sipple. Through April 30. Sipple is an artist and director of education at Tamarind Institute, U. of Mexico, Albuquerque. Exhibit is held in collaboration with the School of Fine Arts, Center of Contemporary Arts, 524 Trinity Ave. 935-6571 or 725-6555.

**"Junior Exhibit."** Features artwork by junior fine arts students. Through April 17. Bixby Gallery, Bixby Hall. Hours: 10 a.m.-4 p.m. weekdays; 1-5 p.m. weekends. 935-4643.

**"Master of Fine Arts I."** Features creations by master of fine arts students. April 15-24. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends. 935-5490.

**"Master of Fine Arts II."** Features creations by master of fine arts students. (Opening: 5-7 p.m. April 29.) Through May 8. Gallery of Art, upper gallery, Steinberg Hall. Hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

**"Paracelsus, Five Hundred Years."** Through July 15. Glaser Gallery, School of Medicine Library. Hours: 9 a.m.-9 p.m. weekdays; 1-5 p.m. weekends. 362-7080.

**"The Authenticated Word: Victorian Illustrated Books: 1820-1900."** Through July 1. Olin Library, Special Collections, level five. Hours: 8:30 a.m.-5 p.m. weekdays.

**"38 Hands."** Features work by first-year master of fine arts students. Through April 17. Pierce-Arrow Gallery, 4814 Washington Ave. Hours: noon-6 p.m. Wednesdays: noon-7 p.m. Fridays; noon-6 p.m. Saturdays and Sundays. 935-4761.



## Films

### Thursday, April 14

**7 and 9 p.m. Filmboard Foreign Series.** "Jules and Jim" (1961, B&W), in French with English subtitles. Room 100 Brown Hall. Cost: \$3. For 24-hour Filmboard hotline, call 935-5983.

### Friday, April 15

**7 and 9:30 p.m. Filmboard Feature Series.** "Cinema Paradiso" (1989), in Italian with English subtitles. (Also April 16, same times, and April 17 at 7 p.m.) Room 100 Brown Hall. Cost: \$3.

**Midnight. Filmboard Midnight Series.** "Airplane!" (1982). (Also April 16, same time, and April 17 at 9:30 p.m.) Room 100 Brown Hall. Cost: \$3.

## 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.

### Tuesday, April 19

**7 p.m. Chinese Film Series.** "In The Wild Mountains" (1985), with English subtitles. Sponsored by the Dept. of Asian and Near Eastern Languages and Literatures. Room 219 South Ridgley Hall. 935-5156.

### Wednesday, April 20

**7 and 9 p.m. Filmboard Foreign Series.** "Berlin: Symphony of a City" (1927, B&W) and "Seven Days to Remember" (1969, B&W), both in Czech with English subtitles. (Also April 21, same times.) Room 100 Brown Hall. Cost: \$3.

### Friday, April 22

**7 and 9:30 p.m. Filmboard Feature Series.** "The Muppet Movie" (1979). (Also April 23, same times.) Room 100 Brown Hall. Cost: \$3.

**Midnight. Filmboard Midnight Series.** "The Dark Crystal" (1982). (Also April 23, same time.) Room 100 Brown Hall. Cost: \$3.



## Lectures

### Thursday, April 14

**9:30 a.m. Eighteenth Annual I. Jerome Flance Visiting Professor of Medicine Lecture.** "Transcriptional Control Elements Determining Lung-specific Gene Expression as a Basis for Gene Therapy," Jeffrey A. Whitsett, vice-chair, Dept. of Pediatrics, Children's Hospital Medical Center, Cincinnati. Clopton Aud., 4950 Children's Place.

**11:15 a.m. Social work seminar.** "Funding Mental Health Services: Key Studies and Findings," Martha N. Ozawa, Bettie Bofinger Professor of Social Policy, Second Floor Conference Room, Administration Center, 1130 S. Hampton. 935-5687.

**Noon. Genetics seminar.** "The Neurofibromatosis Tumor Suppressor Gene: New Insights Into an Old Problem," David Gutmann, asst. prof., depts. of Neurology, Genetics and Pediatrics. Room 816 McDonnell Medical Sciences Bldg.

**Noon. Pediatric hematology/oncology lecture.** "Isolation of the Components of the Mitotic Spindle in Yeast," David Pellman, Whitehead Institute for Biomedical Research, Massachusetts Institute of Technology and Harvard Medical School, Cambridge, Mass. Third Floor Aud., St. Louis Children's Hospital. 454-6128.

**Noon. Pediatric Research Institute seminar.** "Lipid Aspiration: Animal/Human Correlates," John L. Columbo, assoc. prof. of pediatrics, U. of Nebraska, Omaha. Janes Conference Room, Cardinal Glennon Children's Hospital, 3662 Park Ave.

**4 p.m. Architecture lecture.** "Recent Works," Manuel Ruisanchez and Xavier Vendrell, visiting professors, School of Architecture and partners, Ruisanchez Vendrell Architects, Barcelona, Spain. Room 116 Givens Hall.

**4 p.m. Biology and biomedical sciences student-organized seminar.** "α<sub>2</sub>-Adrenergic Receptors: Structural Bases for Receptor Trafficking and Selective Coupling to Multiple Effector Systems," Lee E. Limbird, Dept. of Pharmacology, Vanderbilt U. School of Medicine, Nashville, Tenn. Erlanger Aud., McDonnell Medical Sciences Bldg.

**4 p.m. Dept. of Russian lecture.** "Fiction Writing and Historiography in Pushkin's *Kapitanskia dochka* (Captain's Daughter)," David Bethea, Vilas Professor and chair, Dept. of Slavic Languages, U. of Wisconsin, Madison. Women's Bldg. Lounge. 935-5177.

**4:15 p.m. Philosophy colloquium.** "Picturing People: Moral Graphics and the Problem of Recognizable Humanity," Margaret Walker, visiting prof., Dept. of Philosophy. Stix International House Living Room.

**4:30 p.m. Math colloquium.** "Representations of H<sup>∞</sup> and Invariant Subspace Theorems," Wing-Suet Li, prof. of mathematics, Georgia Technical Institute, Atlanta. Room 199 Cupples I Hall. (Tea: 4 p.m. Room 200.)

**5 p.m. International Affairs lecture.** "Brazil and the Expansion of NAFTA," John D. Wirth, prof. of history, Stanford U., Stanford,

Calif. Brown Hall Lounge. (Reception: 4:45 p.m.) Pre-registration required. 935-6777.

### Friday, April 15

**Noon. Cell biology and physiology seminar.** "Optical Monitoring of Synaptic Vesicle Traffic in Living Frog Motor Nerve Terminals," William J. Betz, prof. and chair, Dept. of Physiology, U. of Colorado School of Medicine, Denver. Room 423 McDonnell Medical Sciences Bldg.

**1:30-5:30 p.m. Gastroenterology lecture symposium.** "Twenty-five Years of Scientific Contribution," led by David H. Alpers, prof., Dept. of Internal Medicine. Wohl Aud., Wohl Hospital. 362-5035.

**3 p.m. Healthcare reform critique.** Gail R. Wilensky, former policy adviser for President Bush and senior fellow at Project HOPE, will critique the various reform proposals before Congress. Court Room, Mudd Law Bldg. 935-6436.

**3 p.m. The Inaugural Stanley Spector Lecture on East Asian History and Civilization.** "China, Incorporated: Business, Law and Politics in 20th-century China," William C. Kirby, prof. of history and chair, Council on East Asian Studies, Harvard U., Cambridge, Mass. Room 162 McDonnell Hall. 935-4448.

**4 p.m. Anatomy and neurobiology seminar.** "What Does the Cerebellum Contribute to Cognition? A Role in Imagined Movement and in Timing, Planning and Remembering," W. Thomas Thach Jr., prof., depts. of Anatomy and Neurobiology and Biochemistry and Molecular Biophysics. Room 928 McDonnell Medical Sciences Bldg.

**4 p.m. Math seminar.** A continuation of the April 8 talk, "The Bergman Kernel and the  $\bar{\partial}$ -Neuman Problem," Siqi Fu, graduate student, Dept. of Mathematics. Room 199 Cupples I Hall.

### Saturday, April 16

**9 a.m. Saturday Morning Neural Sciences Seminar Series: MRN-Magnetic Resonance Neuroscience.** "Brain Mapping," David Van Essen, Edison Professor of Neurobiology and head, Dept. of Anatomy and Neurobiology, and Michael Vannier, prof., Dept. of Radiology. Erlanger Aud., McDonnell Medical Sciences Bldg.

### Sunday, April 17

**7:30 p.m. Fourteenth Annual Hyman Boniuk — Joseph Tanzman Memorial Symposium on Jewish Medical Ethics.** "Judaism and the Healthcare Crisis," Rabbi Barry Freundel, The Georgetown Synagogue, Washington, D.C., adjunct instructor, U. of Maryland and adjunct prof. of law, Georgetown U. St. Louis Hillel Center, 6300 Forsyth Blvd. 367-1181.

### Monday, April 18

**4 p.m. Immunology seminar.** "Regulation of Leukocyte Interactions With Endothelium," Thomas F. Tedder, chair, Dept. of Immunology, Duke U. Medical Center, Durham, N.C. Third Floor Aud., St. Louis Children's Hospital. 362-8748.

**4 p.m. Psychology colloquium.** "Processing Individuals During Categorization," Lawrence Barsalou, prof. of psychology, U. of Chicago. Room 102 Eads Hall.

**4 p.m. Social thought and analysis and philosophy colloquium.** "Pluralism and the Public Use of Reason: Rawls and Habermas," Thomas McCarthy, prof. of philosophy, Northwestern U., Evanston, Ill. Room 149 McMillan Hall. 935-6670.

**4:30 p.m. Math colloquium.** "Algebraic Vector Bundles on Spheres," Richard G. Swan, prof. of mathematics, U. of Chicago. Room 199 Cupples I Hall.

### Tuesday, April 19

**12:10 p.m. Brown Bag Research Seminar.** "Rapid Aimed Limb Movements: Age Differences and Practice Effects in Component Submovements," Jay Pratt, doctoral candidate, Dept. of Psychology. Room B104, Classroom C, Boulevard Bldg. 286-1400.

**4 p.m. Chemistry seminar.** "Molten Electrolyte Rechargeable Batteries," Richard Carlin, chief of electrochemistry, Seiler Research Lab, Air Force Academy, Colorado Springs, Colo. Room 311 McMillan Lab.

**4 p.m. Math seminar.** "Outer Regular Capacities," Urban Cegrell, prof. of mathematics, U. of Umeå, Sweden. Room 199 Cupples I Hall.

**5:05 p.m. Central Institute for the Deaf Seminar on Progressive Sensory Loss.** "Genetic Bases of Progressive Hearing Losses," Alison Whelan, instructor, Dept. of Medicine, and Anne Hing, instructor, Dept. of Pediatrics. Second Floor Aud., Central Institute for the Deaf. 652-3200, ext. 671.

**8 p.m. Architecture lecture.** "Dreams, Design + Disaster: Neutra's 'Windshield' 1936-1938," J. Carter Brown, director emeritus, National Gallery of Art. Steinberg Hall Aud. 935-6246.

### Wednesday, April 20

**7:30 a.m. Obstetrics and Gynecology Grand Rounds.** "Herpes in Pregnancy," James E. Lyons, chief resident, Dept. of Obstetrics and Gynecology. Clopton Aud., 4950 Children's Place. 362-3122.

**11 a.m. Assembly Series Adele Chomeau Starbird Memorial Lecture.** "Thinking Out Loud," Anna Quindlen, noted journalist and Pulitzer Prize winner for her column in The New York Times. Graham Chapel. 935-5285

**4 p.m. Biochemistry and molecular biophysics seminar.** "Protein Folding and How Molecular Chaperones May Facilitate It," Lila M. Gierasch, Dept. of Pharmacology, U. of Texas, Southwestern Medical Center, Dallas. Cori Aud., McDonnell Medical Sciences Bldg. 362-3344.

**4 p.m. Biology and biomedical sciences seminar.** "The Pathogenesis of Atherosclerosis: An Emerging Consensus," Daniel Steinberg, prof. of medicine, U. of California, San Diego. Third Floor Aud., St. Louis Children's Hospital. 362-3363.

**4 p.m. Physics colloquium.** "Large-scale Structure in the Universe," Neta A. Bahcall, prof., Dept. of Astrophysical Sciences, Princeton U., Princeton, N.J. Room 204 Crow Hall. 935-6252.

**6:15 p.m. European studies lecture.** "European Integration and Swiss Identities," Dominik Müller, Swiss chair, U. of Wisconsin, Madison, and prof., Swiss Literature, U. of Geneva. Piper Lounge, Room 117 Simon Hall.

### Thursday, April 21

**Noon. Cell biology seminar.** "Transport Functions of the P-glycoprotein in Cancer Cells," Luis Reuss, prof. and chair, Dept. of Physiology and Biophysics, U. of Texas Medical Branch, Galveston. Room 423 McDonnell Medical Sciences Bldg.

**Noon. Genetics seminar.** "Systematic Analysis of the Yeast Genome," Mark Johnson, assoc. prof., Dept. of Genetics. Room 816 McDonnell Medical Sciences Bldg.

**Noon. Pediatric research seminar.** "Subcellular Targeting of Glucose Transporters," Peter Haney, asst. prof. and instructor, Dept. of Pediatrics. Third Floor Aud., St. Louis Children's Hospital. 454-2713.

**1:10 p.m. Social work lecture.** "Social Policy Based on Savings: The Central Provident Fund of Singapore," Michael Sherraden, Benjamin E. Youngdahl Professor of Social Development. Brown Hall Lounge. 935-4909.

**4 p.m. Architecture lecture.** "Environmental Issues in Architecture," Peter Raven, Engelmann Professor of Botany and director, Missouri Botanical Garden. Steinberg Hall Aud. 935-6200.

**4 p.m. Chemistry seminar.** "Polymers and Organic Synthesis Using Carbines Complexed to Transition Metals," Robert H. Grubbs, prof. of chemistry, California Institute of Technology, Pasadena. Room 311 McMillan Lab.

**4 p.m. Earth and planetary sciences colloquium.** "Patterns of Biogeography and Evolution: Examples From Dinosaurs and Mammals," Louis L. Jacobs, prof., Dept. of Geological Sciences, Southern Methodist U., Dallas. Room 362 McDonnell Hall.

**4:15 p.m. Philosophy, Neuroscience and Psychology (PNP) colloquium.** "Language Learning: How Might Children Do The Impossible?" Morten Christiansen, McDonnell postdoctoral fellow. Women's Bldg. Lounge.

**4:15 p.m. Third Annual Thomas H. Eliot Memorial lecture.** "Politics of American Discontent," Gordon S. Black, chairman and CEO, Gordon S. Black Corp., Rochester, N.Y. Room 200 Eliot Hall. 935-5810.

### Friday, April 22

**9:15 a.m. Seventh Ben Abelson Memorial Lecture.** "The Impact of Healthcare Reform on Pediatrics: Where Are We? Who Will Decide?" Herbert T. Abelson, prof. and chair,

Dept. of Pediatrics, U. of Washington, Seattle, and pediatrician-in-chief, Children's Hospital and Medical Center, Seattle. Clopton Aud., St. Louis Children's Hospital.

**10 a.m. Philosophy colloquium.** "Neofregean Arguments for Senses," John Biro, prof. and chair, Dept. of Philosophy, U. of Florida, Gainesville. Room 30 January Hall.

**Noon. Cell biology seminar.** "Cell Biology of Listeriosis," Emil R. Unanue, Edward Mallinckrodt Professor and head, Dept. of Pathology. Room 423 McDonnell Medical Sciences Bldg. 362-6950.

**3:30 p.m. Philosophy colloquium.** "Oskar Morgenstern's Contributions to Economic Methodology," Longxiang Song, graduate student, Dept. of Philosophy. Women's Bldg. Lounge. 935-6670.

**4 p.m. Microbial pathogenesis seminar.** "The Interaction of Yersinia With Mammalian Cells," James Bliska, asst. prof., Dept. of Microbiology, State U. of New York, Stony Brook. Room 775 McDonnell Medical Sciences Bldg.

**4 p.m. Music lecture.** "The Musical Meaning of Schoenberg's Will," Severine Neff, prof. of music theory, U. of Cincinnati College Conservatory of Music. Room 8 Blewett Hall. 935-5581.



## Performances

### Thursday, April 14

**8 p.m. Hillel Foundation student performance.** "The Trial of God," a universal exploration of faith and injustice. (Also April 16 at 9 p.m.) Cost: \$5 for the general public with student and faculty discounts. St. Louis Hillel Center, 6300 Forsyth Blvd. 726-6177.



## Music

### Thursday, April 14

**8 p.m. Concert of music on courtly love.** "L'Amour Courtois: The Art of the Troubadour and Trouvère," the Newberry Consort, an early music group from Chicago's distinguished Newberry Library. Steinberg Hall Aud. 935-5581.

### Sunday, April 17

**3 p.m. Wind Ensemble and Chamber Winds concert.** Performance directed by Dan Presgrave, instrumental music coordinator and lecturer in music, features the music of J. Ott, J. Van der Roost, C. Ives, L. Bernstein, F. Poulenc and E. Chabrier. Graham Chapel. 935-5581.

## Former national gallery director delivers lecture

J. Carter Brown, who directed the National Gallery of Art in Washington, D.C., for 23 years, will deliver the Eugene J. Mackey Jr. Lecture at 8 p.m. Tuesday, April 19, in Steinberg Hall Auditorium. Brown's talk, which is free and open to the public, is titled "Dreams, Design + Disaster; Neutra's 'Windshield' 1936-1938."

Brown is director emeritus of the gallery. He was appointed assistant to the director in 1961 and was named director in 1969. He became director emeritus in 1992.

### Monday, April 18

**8 p.m. Chorus concert.** Performance directed by Robert Ray, instructor in music and African and Afro-American Studies. Program features "Song of Democracy" by H. Hanson and selections from "Phantom of the Opera." Graham Chapel. 935-5581.

### Thursday April 21

**8 p.m. Jazz concert.** The Vocal Jazz Ensemble joins Uncle Albert, a blues ensemble, in a performance directed by Fred Binkholder, choral director, Dept. of Music. Graham Chapel. 935-5581.



## Miscellany

### Thursday, April 14

**4-6 p.m. Birthday party for the chancellor.** "ChanDan Birthday Bash" features student performers and free food. All students and faculty invited. Sponsored by Student Union, Interfraternity Council and Panhellenic Women's Council. Bowles Plaza. 935-5909.

**5:30 p.m. School of Engineering and Applied Sciences 20th Annual Achievement Awards Dinner.** Six distinguished alumni will be honored at the event. Dinner begins at 7 p.m. with the program at 8 p.m. Missouri Botanical Garden, 4344 Shaw Ave. Cost: \$35. For ticket info., call 935-4575.

### Saturday, April 16

**8:30 a.m. Domestic violence symposium.** Teaches how to recognize and assist victims of domestic violence. Lunch included for pre-registered guests. Cost: \$10 for the general public, WU faculty and staff; free for students. Moore Aud., 4580 Scott Ave. Pre-registration required. For more info. and to register, call 362-8541.

**9:30 a.m.-3:30 p.m. Office of Continuing Medical Education seminar.** "The Uses of Aprotinin in Cardiothoracic Surgery." The Ritz-Carlton Hotel, 100 Carondelet Plaza. For cost and registration info., call 362-6893.

**10 a.m.-4 p.m. Picnic for graduate and professional students.** Features free food and games. WU ID required for admission. McMillan Courtyard and the Chapel Grounds. [Rain location: Holmes Lounge.] 727-3087.

### Monday, April 18

**7-10 p.m. Office of Continuing Medical Education seminar.** "Internal Medicine Review." The topic is gastroenterology. Steinberg Amphitheatre, Jewish Hospital. For schedules and cost info., call 362-6893.

### Saturday, April 23

**8:30 a.m.-4 p.m. Office of Continuing Medical Education seminar.** "Recent Advances in Infectious Diseases," with an introduction by Lawrence D. Gelb, assoc. prof., depts. of Medicine and Molecular Microbiology. Ritz-Carlton Hotel, 100 Carondelet Plaza. For schedule and cost info., call 362-6893.



Senior fashion design student Kristin Twenhafel's (left) three-piece plaid day dress in silk and wool crepe will be one of many creations modeled at the annual School of Fine Arts fashion show April 26. Junior Uki Morrell (right) models the ensemble.

## Student, alumni fashion designs range from practical to exotic

The 65th annual Washington University fashion show, "Real Fashions for Real People, Mostly," will be held at 6:30 p.m. April 26 at the University's West Campus facility, 7501 Forsyth (at Jackson).

The fashions will range from the practical to the exotic. The event begins at 6:30 p.m. with cocktails. The formal, salon-style fashion show will begin at 7:30 p.m. and a reception, catered by Café Provençale, will follow at 8:30 p.m.

The show features designs by 12 seniors and five juniors. Two national scholarships, one from the Kellwood Corp. and one from Lord & Taylor, will be awarded, as well as several design prizes from local companies.

The show also features works designed by alumni of the fashion program.

The fashion industry is increasingly designing for the fashion minority, said Jeigh Singleton, head of the fashion design program. He wanted to address the fashion needs of real people, not "people who just walk down the fashion runway."

To determine what busy women look for in fashion, Singleton invited a group of professional women to a fashion tea last fall to answer questions about their wardrobe requirements for the upcoming spring. Singleton took the information and presented it as a design problem to local alumni of the fashion design program. The alumni designed fashions for these women and the students made them. The fashions will debut at the show.

An additional feature of the event will be a "marketplace" of individual student boutiques. Student designers will be on hand to discuss their sketches and designs. This year's event was organized by a 35-member committee of community volunteers, chaired by Susan Block, a 1976 graduate of the fashion program.

Fashion show tickets are \$45.

The fashion show is sponsored by the School of Fine Arts and designed by Aries Productions of St. Louis.

For more information or to buy tickets, call 935-6515.

## Sports

### Baseball

Last Week: MacMurray 5, Washington 4; Washington 9, MacMurray 7; Washington 11, Maryville 2

This Week: 2 p.m. Wednesday, April 13, vs. Missouri Baptist College, Kelly Field; 1 p.m. Sunday, April 17, at Blackburn College, Carlinville, Ill.; 2 p.m. Monday, April 18, vs. Principia College, Kelly Field.

Season Record: 16-12-1

Washington's top two hitters — sophomore Dane Glueck, Mountain Home, Ark., and junior Bob Wallace, Cary, Ill. — were named to the University Athletic Association (UAA) all-tournament team.

### Men's Tennis

Recent Matches: Washington 6, Principia 1; St. Ambrose 6, Washington 2

This Week: 3 p.m. Thursday, April 14, vs. St. Louis University, Tao Tennis Center; Friday-Sunday, April 15-17, UAA Cham-

pionships, Doubletree Hotel & Conference Center

Season Record: 5-5

### Women's Tennis

Last Week: Washington 7, Wheaton 2; Washington 6, Principia 0; Washington 7, Otterbein 1

This Week: Friday-Sunday, April 15-17: UAA Championships, Doubletree Hotel & Conference Center

Season Record: 11-2

### Men and Women's Track/Field

Last Week: at Greenville College Invitational — Men's Finish: 1st of 8; Women's Finish: 2nd of 8

This Week: 10 a.m. Saturday, April 16, at Arkansas State Invitational, State University, Ark.

## Current, prospective students interact — from page 1

greeters welcome the prospective students and parents. About 120 students also have signed up to eat lunch with prospective students in campus eateries throughout April and answer questions that the visitors may be hesitant to ask in a group tour.

Current students who interact with prospective students are carrying "business cards" with their name and telephone number and are encouraging the visitors to call with any questions after they return home.

Volunteers from SAC are helping undergraduate admission staff answer the April Welcome hotline. Each day, a different student is the official "beeper keeper," and

is on call to answer questions, solve problems and put prospective students in touch with admission officials any time of the day or night.

Despite the hectic pace, Gurney said April is his favorite time on campus. "These prospective students have just been accepted. They're excited about being here. For many, it's their dream school," Gurney said. "You just have to walk around campus or visit the Admission Office and see everyone running around like chickens with their heads cut off. The energy, the excitement is everywhere."

— Susannah Webb

## Pulitzer Prize winner Anna Quindlen 'thinks out loud'

Pulitzer Prize-winning columnist Anna Quindlen will give the Adele Chomeau Starbird Memorial Lecture at 11 a.m. Wednesday, April 20, in Graham Chapel. Her talk, "Thinking Out Loud," is part of the Assembly Series and is free and open to the public. Public seating, however, will be limited. Faculty, staff and students should bring their Washington University ID cards.

Quindlen, author of the 1993 best seller *Thinking Out Loud*, will sign



Anna Quindlen

for commentary for her column "Public & Private," which appears weekly in The New York Times and in newspapers nationwide and was published as the book *Thinking Out Loud*.

"Public & Private" is the third column Quindlen has written for The New York Times. From 1981-83 she wrote "About New York," and in 1986 she created the column "Life in the 30s." A collection of those essays was published as *Living Out Loud* in 1988.

*Object Lessons*, Quindlen's best-selling novel, was published in 1991, and *The Tree That Came to Stay*, a children's book, was published in 1992. Her work has appeared in several magazines, including McCall's and Ms., as well as many anthologies.

Quindlen, a 1974 graduate of Barnard College in New York City, joined the Times in 1977 and has been a general assignment reporter, city hall reporter and the paper's deputy metropolitan editor.

The memorial lecture, established in 1988 by the Women's Society of Washington University, honors Adele Chomeau Starbird, dean of women at Washington University from 1931 to 1959. The lecture is co-sponsored by the Assembly Series; Cadenza, the arts and entertainment weekly published by Student Life; Council of Students of Arts and Sciences; Student Union; Washington Ripple, a political journal; and Women's Society of Washington University. For more information, call 935-5285.

books from 2 to 3 p.m. Wednesday, April 20, in the Campus Bookstore, Mallinckrodt Center. The book signing is free and open to the public.

Quindlen won the 1992 Pulitzer Prize



The ever-popular Stuff-A-Volkswagen contest was held April 8 outside The Umrathskeller (The Rat). The group that stuffed 14 members into a 1969 Volkswagen Bug the fastest won \$200. The Asian Student Association organization won the contest at 12.23 seconds. The contest is one of many events held in conjunction with Thurtene Carnival.

## Increased participation leads to fresh ideas for Thurtene Carnival — from page 1

gram, also is excited about the collaboration. "I can't wait!" she said. "We are collectively trying to inspire, motivate and challenge young ladies in the metropolitan St. Louis area to higher expectations. This support will help to continue and expand program efforts."

In conjunction with the carnival the honorary is sponsoring a pizza party at the Mathews-Dickey Boys' Club on April 14. The group is sponsoring a Thurtene Carnival poster-coloring contest for children at Mathews-Dickey and several local elementary schools. Winners will be announced during the carnival's opening ceremonies. All entries will be displayed at the event.

This year's carnival theme is "Stop The World." By choosing the theme, Thurtene "is asking everyone to put aside everyday activities and join the exciting world of the carnival," said photography major Sara Janjigian, co-chair of public relations for Thurtene, along with Mandy Oberg.

The carnival's opening ceremonies will feature the coed Mathews-Dickey Performance Guild. Representatives and youth from the Mathews-Dickey programs also will attend the carnival. The Thurtene honorary is sponsoring 50 youths from Mathews-Dickey

to attend the carnival on Saturday. The Pikers, Mosaic Whispers and The Greenleafs of Washington University also will provide live entertainment during the carnival.

Approximately 40 student organizations are busily preparing for the carnival, which will feature six facades, a variety of foods ranging from Ted Drewes frozen custard to Philadelphia cheese steaks, lots of games, such as Sigma Chi's Pudding Pie-throwing Contest, and 18 rides.

Students will begin building the facades and carnival booths on April 18. "You can bet that there will never be a moment after that when students are not creating their masterpieces on the lot," said Janjigian. Oberg, a German major, is excited about the increase in carnival participation among first-year students and others living in the residence halls. "With the increase, we will see lots of fresh ideas," she said.

Janjigian also is excited about the various ethnic organizations participating in Thurtene Carnival. "The campus diversity is exhibited through the ethnic foods, talented performers and the creative ideas behind the booths and facades," she said.

On April 22, KTVI-TV Channel 2 cameraperson Jim Chambers will tape a carnival segment to be aired at 8:25 a.m. July

5 on "Good Morning America." During the brief segment, Janjigian, Oberg and Howie Olson, Thurtene president, will greet the nation by shouting "Good Morning America!"

Thurtene Carnival will result in a temporary loss of 600 parking spaces when the Millbrook and Skinker parking lot is closed April 18-26. Drivers with permits are encouraged to use the University's shuttle parking location at the West Campus, said Gary Sparks, director of transportation. For more information, contact the Transportation Department at 935-5601.

In addition to Albers, Janjigian, Oberg and Olson, the Thurtene members and their responsibilities are: Charlie Neer and Corey Ryan, vice presidents; Elizabeth Smiley, treasurer; Liz Jokerst, internal business; Jon Baldwin, external business; Matt Holton and Joe Levy, construction/electronics; and Matt Morrison and Hacker Plotkin, security. Jim Burmeister, director of special services for the Office of Public Affairs, is the group's adviser, along with Chris Wollmuth, a graduate student in architecture.

For more information, call Janjigian at 935-2350. — Carolyn Sanford

## Campus Watch

The following incidents were reported to the Hilltop Campus Police Department April 4-10. Readers with information that could assist the investigation of these incidents are urged to call 935-5555. This list is provided as a public service to promote campus safety.

### April 4

11:34 a.m. — A book was reported stolen from the Campus Bookstore in Mallinckrodt Center at 11:15 a.m. A student was arrested when she was found in possession of the book. The incident has been referred to the Judicial Administrator. 3:47 p.m. — Two wallets belonging to students were reported stolen from the weight room hallway of the Athletic Complex some time between 3:15 and 3:35 p.m. The wallets were recovered later at the Athletic Complex but the currency was missing.

### April 5

11:59 a.m. — Tennis shoes and clothing belonging to a student were reported stolen from the women's locker room in the Athletic Complex some time between 4 p.m. March 31 and 11:40 a.m. April 5.

### April 6

7:42 p.m. — A clarinet and a case belonging to the Music Department were reported stolen from the center court of Wohl Center some time between 7:50 p.m. March 24 and 9 a.m. March 25.

### April 8

9 a.m. — The portrait of Betty Compton that was reported stolen March 8 was recovered at 7 a.m. on the fifth floor of McMillen Lab. Police have no suspects in the incident.

9:11 a.m. — Damage was reported to an alarm activator box and washing machine at Lee Residence Hall some time between 4:30 p.m. April 7 and 8 a.m. April 8. 11:03 a.m. — A student's sports jacket and compact discs were reported stolen from the first floor of Olin Library at 5 p.m. April 7. 12:37 p.m. — Currency from a staff member's wallet was reported stolen from Room 207 Blewett A Hall some time between 10:15 and 10:25 a.m. 5:18 p.m. — Two Missouri state validation stickers were reported stolen from a staff member's vehicle parked in the lot north of Bixby Hall at 5:15 p.m. 5:30 p.m. — A student's 21-speed mountain bicycle was reported stolen from a bicycle rack on the northeast side of Rebstock Hall sometime between 4 and 5:30 p.m. 11:54 p.m. — Graffiti was reported written on a stairway railing of Mallinckrodt Center some time between 11 and 11:45 p.m.

### April 9

6:49 p.m. — A visitor's wallet was reported stolen from the fourth floor of Olin Library some time between 3 and 4 p.m.

### April 10

7:20 p.m. — A student's mountain bicycle was reported stolen from a bicycle rack just west of the Women's Building some time between 6 and 7:20 p.m.

Four incidents of institutional vandalism also were reported last week.

## New dance work showcases local athletes

Twenty-one St. Louis-area athletes will be the centerpiece of a new dance work, "Out of Season," that is being created by choreographer David Dorfman. The athletes and Dorfman's six-member company will perform the work together as part of a concert by David Dorfman Dance at 8 p.m. April 22 and 23 and 2 p.m. April 24 in Edison Theatre.

David Dorfman Dance is co-sponsored by Edison's "OVATIONS!" series and by Dance St. Louis.

The athletes are from enormously varied backgrounds. Dorfman selected them at a Feb. 19 audition/workshop. They are creating the work in three-hour practice sessions every weeknight from April 4-21.

Some of the St. Louis participants are athletes with no dance experience whatsoever; others have taken one or two dance classes over the years. A few have had several years of dance training.

Dorfman has created "Out of Season" with athletes in five other cities. The project, which has gathered praise from audiences and participating athletes alike, was featured in the Nov. 1, 1993, issue of Sports Illustrated. The St. Louis performance has been made possible through a National Endowment for the Arts grant to Edison's "OVATIONS" series.

"Why should dancers be the only ones who dance?" Dorfman has said. "Ath-

letes and dancers have so much in common. It's like Arabs and Israelis. It's so close and so far away. I'm trying to bring the two camps together."

Dorfman knows from personal experience how dancers and athletes are linked. While growing up in Chicago, he played in a Little League world championship and lettered in high school baseball and football. He graduated from Washington University with a major in business in 1977 and continued to take dance classes there while working at Saks Fifth Avenue. In 1979 he decided to follow a dance career, created his first dance in 1981, and founded his own company in 1985.

Dorfman's work is noted for its risk-taking, often bone-crunching choreography, influenced by his years as a serious athlete and his profound interest in human relationships and feelings. Even at their most abstract, Dorfman's dances have an emotional core. As expressed by a critic for the Boston Phoenix, "David Dorfman makes rich, textured dances that spring from the heart and land on a nerve."

Tickets are \$20 for the general public; \$15 for children, senior citizens and Washington University faculty and staff; and \$10 for Washington University students. For tickets and more information, call the Edison box office at 935-6543, Dance St. Louis at 534-5622 or Metrotix at 534-1111.

# For The Record

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

## Of note

**Engin D. Akarli**, Ph.D., associate professor of history, received the 1993 prize for the Best History Book by a Missouri Resident from the Missouri Conference on History. He was recognized for his book titled *The Long Peace: Ottoman Lebanon, 1861-1920*. He also presented a talk on "Abdulhamid II's Reign (1876-1909): The Perspectives on a Much Maligned Period of Ottoman History" at McGill University's Institute of Islamic Studies in Montreal, Canada. ...

**Andy Bernheimer**, a senior in architecture, received an honorable mention in the San Jose (Calif.) Veterans Memorial Design Competition. He designed a series of metal boxes that each would have contained an item belonging to veterans from the San Jose area. The City of San Jose sponsored the competition, which was open to practicing architects as well as students. ...

**Gayle J. Fritz**, Ph.D., assistant professor of anthropology, and **William E. Wallace**, Ph.D., associate professor of art history and archaeology, each received \$4,750 grants from the National Endowment for the Humanities. Fritz received the grant for her project on "Maize Agricultural and Complex Hunter-gatherers in the Lower Mississippi." Wallace's project is titled "The Social World of Michelangelo." ...

**William H. Gass**, Ph.D., David May Distinguished University Professor in the Humanities and director of the International Writers Center, received the 1994 Mark Twain Award for distinguished contributions to Midwestern literature from the Society for the Study of Midwestern Literature. He will be honored at a program on May 13 at Michigan State University in East Lansing. ...

**Tim Olsen**, staff accompanist in performing arts, received a grant to participate in Words and Music: An Inter-American Composition Workshop to be held at Indiana University in Bloomington's Latin American Music Center. The workshop will be held from June 28-July 18. As an active workshop participant, Olsen's music will be a topic of discussion, rehearsal and critique. ...

**Janet S. Rader**, M.D., assistant professor of obstetrics and gynecology, received a \$21,000 grant from the Wendy Will Case Cancer Fund for a project titled "Human Leucocyte Antigens, Human Papillomavirus and Invasive Cervical Cancer." ...

**M. William Rochlin**, Ph.D., a postdoctoral fellow in neurobiology, received a \$42,487 grant from the Spinal Cord Research Foundation for a project on "The Role of Myosin II in Axon Outgrowth." ...

**Susan Sylvia**, a doctoral candidate in psychology, received a \$21,000 Behavioral

Sciences Dissertation Grant from the American Lung Association. The title of her dissertation is "Asthma Morbidity: Roles of Maternal Adjustment and Support." ...

During the recent Mid-American Interfraternity Council Association and Mid-American Panhellenic Council Association Conference (MAPCA) held in Cincinnati, the **Women's Panhellenic Association** (WPA) won the Sutherland Award for overall excellence by a panhellenic, the highest honor a panhellenic organization can receive. The WPA also received awards in the categories of Greek relations and programming, as well as rush and scholarship. In addition, junior **Jamie Gray**, president of the WPA, was elected to serve as the vice president of the Central Area (covering Missouri, Illinois and Iowa) for MAPCA.

## Speaking of

At the Biomedical Engineering Society's annual fall meeting held in Memphis, **Joseph J. H. Ackerman**, Ph.D., professor and chair of chemistry, presented an invited talk on "Novel Engineering Approaches to Biomedical Magnetic Resonance." ...

**Garland E. Allen**, Ph.D., professor of biology, gave a talk titled "The Human Genome Project: The New Hereditarianism in a Declining Capitalist Society" at York University in Toronto, Canada. His presentation was the final talk in a series of public lectures on "The New Genetics: Shaping Our Future" sponsored by the university's Science, Technology, Culture and Society Programme. ...

**Miri Goldstein**, a doctoral candidate in psychology, and **Michael J. Strube**, Ph.D., professor of psychology, will deliver a presentation titled "Individual Differences in the Relationship Between Positive and Negative Judgments of Behavior" at the American Psychological Society's sixth annual convention. They also will speak on "Understanding Correlations: Two Computer Exercises" at the First American Psychological Society's Annual Institute on the Teaching of Psychology. Both conferences will be held this summer in Washington, D.C. ...

**Richard J. Walter**, Ph.D., professor and chair of history, presented a lecture on "Views of Buenos Aires, 1900-1940" at Vanderbilt University's Latin American Studies Center in Nashville, Tenn.

## On assignment

**Clark Cunningham**, J.D., professor of law, traveled to India to participate in the development of a model clinical curriculum for the National Law School of India. The model curriculum ultimately will be used by law schools throughout India.

## To press

**Michael Valente**, Ph.D., associate professor of otolaryngology (audiology), edited a textbook titled "Strategies for Selecting and Verifying Hearing Aid Fittings" published by Thieme Medical Publishers of New York City.

## Guidelines for submitting copy:

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

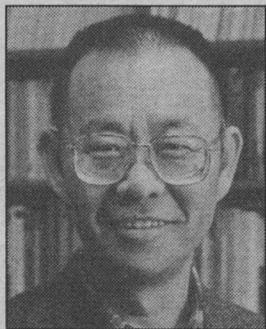


The School of Law Trial Team won third place honors at the National Trial Competition recently held in Dallas. The team of second-year law students finished third after losing a 5-4 split decision to eventual champion Stetson University of Deland, Fla. Pictured (left to right) are team members Matthew J. Britton, Patricia L. Corran, St. Louis City Circuit Judge David C. Mason, who served as coach, John E. Hullverson and Dorsey D. Ellis Jr., dean of the law school. Mason, a 1983 alumnus of the law school, was a member of the school's team that won the National Trial Competition that year. He has coached the Trial Team since 1990.

## Tzyh-Jong Tarn receives award for best research article

**Tzyh-Jong Tarn**, D.Sc., professor of systems science and mathematics, has received the prestigious Best Research Article Award from the Japan Foundation for the Promotion of Advanced Automation Technology.

Tarn and three other authors received the award for their article titled "Effect of



Tzyh-Jong Tarn

Motor Dynamics on Non-linear Feedback Robot Control." The article appeared in the February 1991 issue of the IEEE Transactions on Robotics and Automation journal. IEEE is the acronym for the Institute of Electrical and Electronics Engineers Inc. Tarn and the other authors, A. K. Bejczy of the NASA Jet Propulsion Laboratory in Pasadena, Calif., Xiaoping Yun, assistant professor of computer science at the University of Pennsylvania in Philadel-

phia, and alumnus Zuofeng Li, D.Sc., junior medical physicist at Barnes Hospital, received the award at a ceremony recently held in Tokyo.

The article was selected among those articles published between May 1990 and April 1993 in the publications of The Society of Instrument and Control Engineers of Japan, The Japan Society of Mechanical Engineers, Robotics Society

of Japan, The Japan Society of Precision Engineering, IEEE Industrial Electronics Society, and IEEE Robotics and Automation Society.

The Japan Foundation for the Promotion of Advanced Automation Technology was established in March 1989 to promote research and development activities for well-balanced industrial and economic development.

## Opportunities available for faculty to study abroad

American scholars, ranging from junior faculty to professors emeriti, are eligible to apply for Fulbright Scholar Awards for study abroad during the 1995-96 academic year. The deadline to apply for research and lecturing grants is Aug. 1, 1994. Other deadlines exist for special programs.

Opportunities are available for faculty to lecture or conduct advanced research in nearly 140 countries. Applications are accepted from faculty teaching at all types of institutions, as well as from professionals working outside academia.

The awards range from two months to a

full academic year. Many assignments are flexible based on the recipient's needs. Openings exist in almost every area of the humanities and social, natural and applied sciences, as well as the arts and professional fields such as business, journalism and law.

Program funding is provided by the U.S. Information Agency on behalf of the American government and cooperating governments and host institutions abroad.

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

## Introducing new faculty members

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

**Weili Lin**, Ph.D., assistant professor of radiology at the School of Medicine's Mallinckrodt Institute of Radiology, comes from Case Western Reserve University in Cleveland, where he received a doctorate in biomedical engineering in 1993. His research interests include developing magnetic resonance imaging techniques for studying brain function, cardiovascular magnetic resonance, fast imaging and signal processing methods. He received a bachelor's degree in biomedical engineering in 1986 from Chung Haung Christian University in Taiwan, Republic of China. He received a master's degree in biomedical engineering in 1990 from Case Western Reserve University.

# Opportunities & personnel news

## Hilltop Campus

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

### RN/LPN

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

### Administrative Assistant

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

### Secretary

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

### Assistant Coordinator of Prospect Management

940181. *Major Gifts and Capital Projects*. Requirements: Bachelor's degree or equivalent knowledge; superior stenographic and computer skills; knowledge of journalism style and skill in writing; experience in preparing mailings; typing 50 wpm with accuracy. Clerical tests required.

### Counselor or Psychologist

940186. *Student Counseling Service*. Requirements: Advanced professional clinical training and skill in psychology, counseling or social work; ability to provide treatment and outreach services to university students; experience and skill with students from minority backgrounds and/or with men's issues highly desirable. Resume required.

### Counselor or Psychologist, Part-time

940190. *Student Counseling Service*. Requirements: Advanced professional clinical training and skill in psychology, counseling or social work; ability to provide treatment and outreach services to university students; experience and skill with students from minority backgrounds and/or men's issues highly desirable. Resume required.

### Senior Project Leader

940192. *Computing and Communications*. Requirements: Some college; minimum five years data processing experience; proven ability to design, program and install major data processing systems; proven ability to lead others in data processing projects development; proven ability to design, write and install MANTIS or FOCUS systems. Resume required.

### Admission Counselor

940194. *Undergraduate Admission*. Requirements: Bachelor's degree; a recent Washington University graduate is strongly desired; availability for a great deal of evening and weekend work; flexible, team-oriented, well organized, a sense of humor. Responsibilities include: recruitment travel, application evaluation, work with alumni and parents admission program and other responsibilities as assigned. This entry level position carries a two-year appointment. Resume required.

### Mechanic (HVAC)

940195. *Facilities Planning and Management*. Requirements: High school graduate; formal training in air conditioning, heating, and refrigeration work from a qualified technical school, plus five years experience as a heating, air conditioning and refrigeration mechanic; comprehensive training in instrumentation and controls; proficient in trouble-shooting and systems analysis; proven ability to work from blueprints, drawings and sketches, and perform duties and responsibilities; knowledge of thermodynamic characteristics of refrigerants, heat transfer of air and water and have certification for reclaiming refrigerants; furnish own hand tools; willingness to work overtime at night and on days off when called upon for emergency matters; must follow all safety rules. Application required.

### Accounts Payable Processing Clerk

940208. *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 required.

### Administrative Assistant

940212. *Board of Trustees*. Requirements: Some college; typing 50 wpm with accuracy; efficient in word processing and data processing; creative in using and improving existing lists and forms, as well as devising new ones; enjoy bookkeeping, both keeping track of budgets and expenses and preparing reports for the Board of Trustees account; skilled in proofing minutes and reports; appreciate need for accuracy, even in routine things; interested in maintaining an organized filing system for efficient retrieval; pleasant with fellow workers and external constituencies on the phone; willingness to work occasionally outside of office hours for setting up meetings. Clerical tests required.

### Area Coordinator-Residence Halls

940215. *Residential Life*. Requirements: Master's degree in higher education or related field and residence hall experience; seeking a responsible individual who wants immediate experience with program design, development and implementation in an energetic, student-oriented organization; personal initiative, creativity, enthusiasm for student services and a strong commitment to team-oriented process highly desirable. This is a live-in position. Resume required.

### Supervisor-Scientific Computing

940222. *Physics*. Requirements: Master's degree, doctoral degree preferred; ability to supervise professional computer personnel, hardware personnel, systems analyst; work in large-scale computing; ability to support software on multiple platforms; experience with 'C'; experience with UNIX; experience with FORTRAN; experience with graphics for multiple platforms; personal computing/Macintosh networking experience preferred. Resume required.

### Financial Manager

940223. *University College*. Requirements: Bachelor's degree; typing 40 wpm with accuracy; familiarity with university accounting systems preferred; ability to handle several activities under pressure; accuracy and timeliness essential; personal and telephone communication skills; attentiveness to detail. Clerical tests required.

### Research Technician

940230. *Biology*. Requirements: Bachelor's degree in biological sciences; successful candidate will be responsible for conducting research at the bench, note keeping and maintenance of lab records and strain collections; conscientious, meticulous and careful candidate sought. Resume 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.

### Social Worker MSW

940428-R. *Psychiatry*. Schedule: Part-time, 20 hours per week. Requirements: Master's degree in social work or ACSW licensed clinical social worker; ability to identify the critical unit to work within therapy. Will be doing assessments and intervention in family therapy.

### Medical Research Technician

940655-R. *Anatomy*. Requirements: Bachelor's degree, preferably in the biological sciences; one year undergraduate chemistry course work; strong biology background; experience with microscopy and molecular biology preferred; familiarity with computers, preferably Macintosh.

### Statistical Data Analyst

940663-R. *Biostatistics*. Requirements: Bachelor's degree, master's degree preferred; SAS experience with data analysis or data management; aptitude for numbers; strong communication skills.

### Executive Director, Billing and Collections

940680-R. *Administration*. Requirements: Bachelor's degree with emphasis in business, finance or related field, MBA or MHA highly desired; seven to 10 years experience in large faculty, private practice or large healthcare facility; emphasis on management of patient accounts, budgeting and third-party reimbursement; good human relations and interpersonal skills.

### Graduate Student Coordinator

940688-R. *Biology and Biomedical Sciences Graduate Affairs*. Requirements: High school graduate or equivalent, some college preferred; three to five years experience in independent responsible position; good oral and written communication skills; excellent organizational skills; experience with personal computing and word processing; typing 55 wpm.

### Contract Administrative Assistant

940692-R. *Planning*. Requirements: Associate's degree from two-year paralegal or legal assistant program; knowledge of business law, especially contracts and warranties; strong written and verbal communication skills.

### Secretary II

940696-R. *Administration*. Schedule: Part-time, 20 hours per week, days flexible. Requirements: High school graduate or equivalent, bachelor's degree preferred; two years secretarial experience; excellent organizational and communication skills; individual with IBM personal computer experience preferred; typing 60 wpm. Position is located at Monsanto, 800 N. Lindbergh.

## Oldest remnants of early crust studied — from page 1

ried. Through the mechanics of plate tectonics, which also build mountains and cause earthquakes, granitic rock is formed during volcanic activity, then gradually, over millions of years, destroyed through subduction. Subduction is the rock-recycling method whereby one of the Earth's dozen or so gigantic plates descends below the edge of another. This action destroys the layer of rock built up on the upper plate. Some of the rocks melt and later resurface in volcanoes; others are incorporated deeper into the Earth's crust. The "recipe," however, to make the crust involves a wide host of chemical elements, and Dymek's analysis shows that the chemical ingredients found in newer sedimentary rocks are essentially the same as those found in the very old rocks he analyzed.

To give some perspective on Dymek's findings, consider that the Earth formed 4.5 billion years ago and that the oldest identified rocks are approximately 3.9 billion years old. Dymek's analysis shows that continent-building began somewhere in the intervening 600 million years, although it is doubtful if scientists ever will be able to pinpoint the exact time that Earth began its geological history because there is so little of the Earth's early materials left.

### 'Ordinary kinds' of rocks

According to Dymek, the chemical analysis indicates that the source rocks from which the Isua sedimentary rocks were originally derived "are ordinary kinds of geological materials; that is, igneous rocks known as basalt, andesite, dacite and rhyolite. These are the kinds of volcanic rocks found in island arcs to the present day."

An island arc is a chain of islands, generally found near a continent. The samples provide evidence that Greenland, like the present-day Aleutian Islands off the coast of Alaska, might have been a chain of islands nearly four billion years ago.

"We think that the Isua samples in part record the evidence for a very ancient volcanic island arc," said Dymek. "The only remnants of that land form are the sediments. This might fall in line with the belief that, instead of large continents in place billions of years ago, there were great numbers of microcontinents that had yet formed together into large continental masses. Instead of North America, there was a series of Madagascars in existence, perhaps moving around the Earth's surface via plate tectonics. These island groups had yet to collide and be swept up into continents." Madagascar, an island nation off the southeast coast of Africa, was a part of the African continent millions of years ago.

The samples Dymek and his colleagues studied are what geologists call metamorphic rocks. They were first deposited as sedimentary materials, which, after deep burial in the Earth's crust, were converted under extreme temperatures and pressures into new minerals during ancient mountain-building events. The chemical compositions of the rocks and the minerals formed during metamorphism provide a record of conditions prevailing in ancient mountain belts and information about the chemical composition of the Earth's ancient crust. This allows geologists to interpret events from the distant past.

Dymek's sample rocks are relatively intact, preserved from the erosional degradation that most sedimentary rocks undergo over the course of Earth history. These rocks also are valuable because they are one of the few surviving direct records of the heating process that went on in ancient mountain belts.

While scientists have found crustal fragments of the mineral zircon that date to about 4.2 billion years ago, the Isua rocks and similar ones from the Northwest Territories in Canada are considered to be the oldest intact remnants of the Earth's early crust.

— Tony Fitzpatrick