Washington University is one of 62 U.S. universities to receive a portion of $86 million from the Howard Hughes Medical Institute (HHMI) to improve the quality of science education for American students. The $86 million represents the largest series of grants by a private organization in U.S. history. The grants expand an initiative begun in 1988 and known as the Undergraduate Biological Sciences Education Program. Since then, HHMI has awarded $290 million to 213 colleges and universities to change the face of science education at college campuses and K-12 schools nationwide.

Washington University will receive $1.4 million over four years to provide wide-ranging services and support for undergraduate and K-12 science education. Sarah C.R. Elgin, Ph.D., professor of biology, directs the Washington University Undergraduate Biological Sciences Education Program. The University also was awarded a five-year grant of $1.7 million as part of the program in 1992. Washington University will use the grant to support:

- an undergraduate resource learning center in the natural sciences, and increased opportunities for interdisciplinary student research;
- laboratory experiences for high school seniors, in-service teacher training, such as a hands-on science course for K-6th grade school teachers, equipment and supplies for K-12th grade school teachers, and greater access for teachers to regular undergraduate science courses;
- renovation of and equipment for advanced teaching laboratories in such areas as protein biochemistry, DNA manipulation, and microbial genetics, and computers for simulations and modeling.

The program is the largest of several HHMI initiatives to improve science education from elementary school through postgraduate training. Founded in 1953, the institute is the nation’s largest private philanthropy.

“This program is sparking an historic change in how young Americans learn science,” said Pamela W. Choppin, M.D., HHMI president. “The institute is helping large numbers of students, including many women and minorities, to carry out research in modern facilities. We think students learn science best by doing science instead of just reading about it.”

“We are extremely pleased to continue in this valuable endeavor sponsored by the Howard Hughes Medical Institute,” said Chancellor William H. Danforth. “This support helps bring the excitement of research and discovery to students of all ages, and it gives our faculty the opportunity to work with elementary and secondary science teachers in the area, which benefits science education greatly.”

The Howard Hughes Medical Institute, established in 1953, employs scientists in cell biology, genetics, immunology, neuroscience and structural biology. Hughes investigators conduct medical research in HHMI laboratories at outstanding academic medical centers and universities nationwide, including Washington University. Through its grants program, HHMI supports science education in the United States and a select group of research fellows.

University collaborates with U.S. government on fiber optics project

Washington University has joined forces with major players in the telecommunications industry to explore high-speed electronics and fiber optics technology that will boost greatly the capacity of the Information Superhighway. Washington will provide its internationally renowned expertise in ultra-fast fiber optic research to the architectures and computerized imaging as part of the U.S. government’s Technology Reinvestment Program (TRP). The campuswide Washington University program exploring the possibilities of such systems is called Project Zeus.

Administered by the Advanced Research Projects Agency, the TRP is one of President Clinton’s initiatives to bolster investments in technologies that have both commercial and military applications. Total funding for this project is $34.2 million over four years beginning in September 1994. The Washington University amount comes to approximately $900,000 over four years.

Partners with Washington University in the collaboration are AT&T Bell Laboratories, Rockwell, Rockwell, Southwestern Bell Technology Resources Inc. and Tektronix. The collaboration involves demonstrating network of the future called Synchronous Optical Network (SONET) or SONET OC-192, within the framework of a fail-safe structure called a Self-Healing Ring. The testbed will operate at 10 gigabits (one gigabit is one billion bits) per second (Gbps)—four times the fastest speed of today’s available SONET systems. It will be used to carry Asynchronous Transfer Modes (ATM) based applications.

Telecommunications capabilities of this magnitude will be needed to send such things as television programs through a fiber optics cable.

Continued on page 6

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Spreading decline

2 Fear that being elderly often is accompanied by depression and lowered quality of life

Striking a nerve

3 Nancy Grant encourages her students to explore their feelings about racism and segregation

The Black Swan

5 Richard Selzer describes how he advised Thomas Mann novella for the stage

Mission to Mars

Junior engineering student contributes to next NASA voyage

One of the most intriguing features of the next NASA mission to Mars (1996) will be robots that scavange the Red Planet for rock samples.

Receiving computerized instructions from Mission Control at the Johnson Space Center in Houston, the robots will reach down into Red Planet soil and with their mechanized “arms” actually pick up Martian native, designed a key part of the robotic project, a key component of planned missions to Mars and the Moon later in the decade.

Herron worked as an employee of McDonnell Douglas and rubbed shoulders with veteran McDonnell Douglas mechanical engineers, was a jaw-dropping component attached to the arm. “All the end-effector did was scrape...”
**Fear of falling may contribute to frailty, depression in elderly**

When an elderly person falls and breaks a hip, the result can be a startling 25 percent were depressed. Compared with others in the study, the very fearful subjects also were much more likely to report depression with life, to avoid leaving the house, to be frail and have poor balance, and to have experienced additional falls during the yearlong study. Because fear and other problems such as frailty and depression tend to occur in the same people, it seems likely that fear plays a big part in causing these problems and the resulting decline in quality of life, said Helen Lach, MSN, co-investigator in the study. That decline probably goes something like this, she said, "When people restrict their activity, they become weaker and are less able to do physical tasks. That ultimately results in the potential for health problems; they don't get out, they don't get groceries. It can create a whole scenario where people have a functional decline that ultimately can result in more physical problems." With a lack of social activity added to the mix, it is easy to see how depression can develop, added Lach, a clinical nurse specialist with the School of Medicine's Program on Aging. But it is not clear whether the decline starts as a result of fear or whether people become fearful after their health begins to deteriorate, the investigators say. With the issue of frailty, for example, "we don't know whether the fear or the frailty," Arfken said.

Rather than being afraid, the elderly can cope better with the possibility of falls by letting certain common sense guide their activities. Lach suggested that some people may need to make some adjustments in their activity so that they don't increase their risk of a major accident. But you don't want to restrict normal everyday activities.

Physicians should play an active role in helping their elderly patients deal with the issue of falls, Lach said. Doctors should ask patients about fear of falling, whether they have occurred, and look for physical reasons for falls. Most importantly, elderly people who are becoming weak or developing balance problems should be referred to exercise or rehabilitation programs, which are known to be effective in people of all ages.

Special attention should also be paid to symptoms of depression, the investigators stress. The illness is under-diagnosed and under-treated in older people, and not something to be taken lightly, they said.

These steps will go a long way toward helping people reduce their risk of falling, the investigators said. But more information is still needed about when and why people develop the fear of falling and about what causes falls, Arfken said. In their latest report, the investigators are looking for environmental hazards that put the elderly at risk for falling. They hope this will help elderly people and their physicians to be better equipped to reduce falls and improve quality of life in older people.

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**CenterNet to feature health policy expert**

Health policy expert Use W. Reinhardt, Ph.D., of Princeton University, will be the next speaker for CenterNet, the Acad- emic Health Center Television Network. At 10 a.m. Wednesday, Oct. 12, in Room 601A of the School of Medicine Library, Reinhardt will address the effect of health market reform on academic health centers. Viewers from medical centers nationwide will be able to ask Reinhardt questions during the video conference. For more information or to reserve a seat, call 362-2793.

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**Female volunteers sought for birth control study**

Researchers in the Department of Obstetrics and Gynecology are seeking volunteers for a multicenter study that will evaluate the safety and effectiveness of an investigational low-dose birth control pill.

Researchers are looking for healthy women between the ages of 21 and 45 who would like to participate in the study, which will enroll 1,750 women. Researchers strongly recommend that the study participants be in a monogamous relationship.

The pill being evaluated contains progestin and estrogen — common ingredients in birth control pills that inhibit ovulation. However, the investigational pill contains a lower dose of estrogen than birth control pills available in the United States.

Over the years, pharmaceutical manufacturers gradually have lowered the estrogen content of birth control pills. The lower-dose pills have been proven to be just as effective in preventing pregnancy. Also, the lower-dose pills appear to be safer — though rare — than the higher doses of complications associated with pills containing higher doses of estrogen, most notably hypertension, heart attack and stroke.

The study will continue for up to three years. Participants will receive free birth control pills and physical and gynecological exams related to the study.

For more information, call Diane Merritt, M.D., at 362-5567.

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**Free flu shots offered**

The School of Medicine Employee Health Service will offer free flu shots for medical school employees and students on the following dates this fall. Bring a valid medical school ID card and wear a loose-fitting shirt.

- Oct. 12: 8:30 to 11 a.m.
- Oct. 26: noon to 2:30 p.m.
- Nov. 19: 9 to 11 a.m.
- Nov. 26: 9 to 11 a.m.
- Nov. 16: 9 to 11 a.m.

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**Washington University Record**

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**Medical Update**

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**Washington University medical students, from left, Aaron Shiels, Heather McGuire and Jenn Wetmore, teach reproductive health to students at Ferguson Middle School. The School of Medicine started the Reproductive Health Education Program in 1992 in an effort to curb high teen pregnancy rates and incidences of sexually transmitted diseases in the Ferguson-Floral Park School District.
nancy Grant's earliest memories involve books. As a child, she would sit curled in an attic chair for hours, pouring through old books from her parents' "Book of the Month" club memberships and nearly stacked piles of Time and National Geographic magazines.

"I gravitated to the older books. My two brothers have advanced degrees in chemistry and biology so there were a lot of microscopes and insects in my attic but I always went straight for the books," Grant said. "I enjoyed researching things with an eye to getting answers to questions about crises of 20 years ago and knowing how they were resolved. I found it intriguing."

Grant, associate professor of history, credits her gift for shaping her interests today. She was raised in Hartford, Conn., in a family that included many government employees. Her father worked for the U.S. Postal Service, many countries worked for the U.S. Department of Labor. Family get-togethers often involved discussions of the realities of being a federal government employee.

"At a young age I'd listen to their discussions and I was inspired," Grant said. Today, Grant classifies herself as a public policy historian. Her current research focuses on the employment of minorities in the federal government, primarily for the post office (which is the country's largest civilian employer) from the 1940s to 1972.

Surprisingly, Grant's early research involved topical issues apart from her own. As an undergraduate at Smith College, in Northampton, Mass., she became interested in the ethnic and national history of eastern Europe. She wrote her honors thesis on Austrian Kurt Tucholsky, a German Jew who was trying ruthlessly unsuccessfully to find his place in Germany in the 1920s. In the course of her research, Grant frequented the Leo Baeck Institute in New York, a library with a special collection on the writings of German Jews.

"There was this young black woman armed with my serviceable German dictionary sitting in a corner reading the diaries of Tucholsky," she said. "People inevitably were curious and would come up and sit next to me to look at what I was working on."

Though it involved a far-away place and time, Grant's early interest is notably similar to her current interest in the history and relationships of minorities in America.

"This was a volatile period in Europe that I found fascinating and stimulating," Grant said. "While studying European history and minority protection, I was always trying to understand the relationship of minorities in this country but I thought it would be useful and be a good opportunity to study something slightly removed from my own experience."

It was during college that Grant's early research led her to a healthy mistrust of others' interpretations of the past. Since then, she has always conducted her own primary research and, as in her youth, can lose herself for hours in shelves of forgotten volumes. Grant only studies areas that have never been extensively researched; topics that she says cause the reference librarian to say quizzically, "Ooo! I don't know anyone who's written about that!"

"I read interpretations of various people, but I have to see the documents myself," Grant said. "I enjoy reading in libraries but it is also more exciting when I am allowed into the stacks to look up the materials myself. It's like a little victory; you aren't held hostage by librarians who would give you a little piece here and there."

In her senior year, Grant decided to be an American historian and study the issues, problems and tensions of her own country. Because she talks a lot, asks a lot of questions and studies history, people inevitably were curious and would come up and sit next to me to look at what I was working on."

According to Gerald Farly, Ph.D., professor of English and director of the African and Afro-American Studies Program, the conference was a risky proposition.

"The feelings between blacks and whites in this country have been pretty antagonistic in recent years. It was rather dangerous to attempt to bring together Jews and blacks to talk about issues in historical books that may have been explored in such depth. The conference was a big responsibility that we were willing to undertake."

As a historian, Grant said she believes she has many responsibilities to society. Through her research, she has realized the power historians wield by deciding which records to keep and which to throw away. Early into her current study, she was told (alas) by a post office archivist that all pertinent records had been destroyed by fire, thrown away or lost.

"Historians also play an important role as educators, both in the classroom and in the community. It is a role Grant thoroughly enjoys. At the University and in the larger community, she is active on several committees, panels and advisory boards. When appropriate, she introduces historical significance to policy and other discussions. But it is in the classroom that Grant feels she has the greatest impact. Colleagues and students alike respect the importance of her history lessons and her courage in addressing some of the most controversial issues of the day."

"She tackles the tricky, difficult issues confronting our society and, without making it an agenda, shows us how historical precedents affect policy and race relations today," said Sharrn Votral, a graduate student in history. "I appreciate her as a professor and as an advisor. It is nice to have such an active female academic in the department, and I have learned from her wisdom."

Regardless of race, Grant said she believes everyone can learn from the history of African Americans and other minorities in the United States, and begin to differ with those who say they have been untouched by racism or discrimination. In her history classes, which are predominated by white students, she is sometimes asked to talk historically about their relationship in ways I don't think it is a question that may not be answered readily. But, to her, it is important to study the horrors of slavery and the struggles of the civil rights movement."

"They want to know about their African-American history. We have to live in the present and not forget the past," Grant said. "Everyone of us who lives in America has been affected by the issues we study in African-American history."

"Every one of us who lives in America has been affected by the issues we study in African-American history. No one lives in a vacuum."

In her classes, reflections about the history of minorities in this country often lead to discussions of the status of minorities in today's culture, and on today's college campuses as they study student involvement in the civil rights movements of the 1960s, and today's efforts to establish African-American studies programs and ethnically specific residence halls on many American campuses, students often complain that the world is not as integrated as they would like Grant's most vivid illustration — which also supports her contention that social change is slow — is the "History of Racial Minorities" class she teaches in Room 100 Bush Hall.

"Impossibly, I look up and see 125 students representing many minorities in the room. I am sitting with others from their own racial ethnic group. Depending on the race and the ethnic group, it is a difficult lecture for those who have residence halls on many American campuses, students often complain that the world is not as integrated as they would like. Grant's most vivid illustration — which also supports her contention that social change is slow — is the "History of Racial Minorities" class she teaches in Room 100 Bush Hall.

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Exhibitions


Calendar
October 6–15

Exhibitions


Films
Thursday, Oct. 6
7 and 9 p.m. Filmboard Series. "Shame" (1986). Room 100 Brown Hall. Cost: $3.
24-hour Filmboard hotline, call 935-5983.

Friday, Oct. 7


Tuesday, Oct. 11

Wednesday, Oct. 12

Friday, Oct. 14


Lectures
Thursday, Oct. 6


Music
Wednesday, Oct. 11
7:30 p.m. Opera concert. Directed by Jan Provence, instrumental coordinator and lecturer in music, the performance features Robert Shenkman, director. Saint Louis Opera Theatre. Room 100 Cupples Hall II. 935-5581.

7:30 p.m. Wind ensemble concert. Directed by John Provence, instrumental coordinator and lecturer in music, the performance features Robert Shenkman, director. Saint Louis Opera Theatre. Room 100 Cupples Hall II. 935-5581.

Sunday, Oct. 13
2:30 p.m. Wind ensemble concert. Directed by John Provence, instrumental coordinator and lecturer in music, the performance features Robert Shenkman, director. Saint Louis Opera Theatre. Room 100 Cupples Hall II. 935-5581.

Tuesday, Oct. 14
7:30 p.m. Opera concert. Directed by Jan Provence, instrumental coordinator and lecturer in music, the performance features Robert Shenkman, director. Saint Louis Opera Theatre. Room 100 Cupples Hall II. 935-5581.

8 p.m. Gabrielle Trio concert. Features violinist James Haney, violist Joseph Kloska and cellist David M. S. Levine. Sponsored by the St. Louis Symphony Orchestra. In the auditorium, Steinberg Hall. 935-5581.

Saturday, Oct. 15
4 p.m. Biochemistry and molecular biology seminar. "mRNA Destabilization by the Virion Host Shutoff Protein of Herpes Simplex Virus," Michael A. Cusanovich, vice chairman, Department of Biochemistry and Molecular Biology. Room 226 Umrath Hall. Room 226 Umrath Hall. 935-5581.

Saturday, Oct. 15
Author Showcase. "Getting Into Graduate School...What Works, What Doesn't." Sponsored by The Office of Continuing Education and the Career Planning Center. Room 7 Prince Hall. Limited seating. For more info and to register: call 935-3000.

Miscellany
Thursday, Oct. 6
4 p.m. Peace Corps lecture. "How They Get From A to B: a story about a small furry animal who got lost after falling out of a car window." Also Oct. 8, 10, 14, 15, and 17 at 7 p.m. Room 627 Brown Hall. Cost: $3.

Friday, Oct. 7
8 p.m. Edson Theatre "OVACTIONE" series presents dancer/choreographer Danilo Erzlau and his cadre of movement artists. Co-sponsored by Dance St Louis. Also Oct. 8, 10, 14, 15, and 17 at 8 p.m. Edison Theatre. Cost: $20 for the general public; $16 for senior citizens, faculty and staff, and $11 for students. 935-6543.

Saturday, Oct. 8


Performance
Friday, Oct. 7
8 p.m. Edson Theatre "OVACTIONE" series presents dancer/choreographer Danilo Erzlau and his cadre of movement artists. Co-sponsored by Dance St Louis. Also Oct. 8, 10, 14, 15, and 17 at 8 p.m. Edison Theatre. Cost: $20 for the general public; $16 for senior citizens, faculty and staff, and $11 for students. 935-6543.
Brooklyn-born Njeri to read from works

Award-winning author Ihab Njeri will read from her book Every Good-bye Ain’t Gone as well as her work in progress at 7 p.m. Tuesday, Oct. 11, in Hurst Lounge, Room 20 Duncker Hall. A book-signing will follow her reading, which is free and open to the public.

The Brooklyn-born Njeri, a contributing editor at the Los Angeles Times and a Columbia Journalism Graduate, published her acclaimed memoir, Every Good-bye Ain’t Gone, in 1990. She won the American Book Award that same year for the book. "When Ralph Ellison wrote about black life in America, he created a metaphor that would endure. Now Ihab Njeri conjures up her history and healing, to be published in spring 1995," Njeri, who frequently lectures on multicultural issues, also has written on diversity issues for the Los Angeles Times. In 1992 she was a Pulitzer Prize finalist for cultural criticism. Among Njeri’s honors are a National Endowment for the Humanities Fellowship for outstanding scholars and a John Hay Whitney Foundation Award for feature writing, a Penney-University of Missouri joint award for feature writing and a Los Angeles Press Club Award for excellence in environmental reporting.

Njeri’s visit is sponsored by the African and Afro-American Studies Program, Women’s Studies Program, American Culture Studies Institute and the Department of English. For more information, call 935-5690.

Athletics

Men’s Soccer

Last Week: Washington 4, Westminster 0; Rochester 3, Washington 0; Brandeis 2, Washington 1; Simpson 2, Washington 0; Buena Vista 3, Washington 0.

This Week: 7 p.m. Thursday, Oct. 6, at Simpson University, Clarinda, Iowa; 1 p.m. Saturday, Oct. 8, vs. Fontbonne College, Francis Field and Dunlop Stadium.

Men and Women’s Cross Country

Last Week: At Loyola Lakefront Invitational — Men: 66th of 18; Women: 8th of 14.

This Week: 11 a.m. Saturday, Oct. 8, at University of Cincinnati-Roehlo Minor Invitational, Rolla, Mo.

The men’s team led by junior Aja Flanagan, Kanukee, Ill., who turned in a personal-best eighth-kilometer time of 26:37, to finish 16th among 197 finishers. On the women’s side, sophomore Jerylin Flanigan, Kankakee, Ill., who turned in a personal-best five-kilometer effort to finish 14th among 143 Division II and III competitors.

Men’s Tennis

Last Week: At Millikin’s Dorothy McClure Memorial Tournament, Decatur, Ill.

This Week: 3 p.m. Friday, Oct. 14, at College of St. Louis University, St. Louis, Mo.

At the Dorothy McClure Memorial Tournament Washington won five of the six singles flights and captured two of the three doubles levels.

Edison produces world premiere of Selzer play, "Black Swan"

The production will be directed by Henry I. Schuyler, chair of the Performing Arts Department. Tickets are $52, with student discounts available. Tickets are available at the Edison Theatre box office or through Metrotix at 314-532-0200.

Physician-turned-author Richard Selzer will lecture at 11 a.m. Wednesday, Oct. 12, as part of a five-week series. The lecture, which is free and open to the public, is titled “On Writing ‘The Black Swan,’” and will be held in Grinnell Chapel. (See related story above.)

In his talk, Selzer will describe the process of adapting the work for the stage. Later, Selzer will speak on his book, the story of a surgeon and his young son who took his young son with him on house calls. He ended up fulfilling both expectations. Selzer has received numerous awards and fellowships for his writing, among them eight honorary degrees and Guggenheim, Rockefeller and National Endowment for the Arts fellowships.

The author will join students at the School of Medicine for an informal discussion during his visit.

This talk is sponsored by Student Union, the Program for the Humanities in Medicine, Edison Theatre, Pre-Med Society, International Writers Center and the Department of English. For information, call 935-5297.

Acclaimed Gabrielli Trio to perform Oct. 15

The Gabrielli Trio will perform a free concert at 8 p.m. Oct. 15 in the Stemberg Hall Auditorium. The event, which is sponsored by the Department of Music, is open to the public.

The Gabrielli Trio features violinist James Gabrielli, celloist Michael Haber, founder of the trio, and pianist Seth Carlin, professor of music at Washington University, who was named a prizewinner in the International Busoni Competition and has appeared as a soloist with orchestras such as the St. Louis Symphony and the Boston Pops.

For more information, call 935-5881.
As part of an ongoing series on the teaching of ethics at Washington University, this story examines ethics in the School of Engineering and Applied Science. Future stories will focus on the schools of social work, art history and art, as well as the College of Arts and Sciences.

Historical pedagogy for ethics in engineering dates back to ancient Greek mythology and Daedalus, a mortal who built wings in an effort to reach the heavens. His attempt to defy gravity was punished by the gods through an engineering failure when the wings being welded together was melted by the sun, hurting Daedalus' son, Icarus, to his death. The moral was simple: the power to modify even slight elements of nature, can appreciate the ancient lessons of Daedalus. A modern parallel might be last summer's flooding of the Mississippi River, the magnitude of which was attributed largely to attempts to restrain the river with levees and commercial development.

Until the middle of the century, engineering activities were negligible in comparison with the global forces of nature. Today's technology has changed the relationship man and nature, prompting new ethical questions in engineering, including: At what cost should engineers of technology evolve?

"There is a joke popular among engineers that whenever a great project, such as the Apollo Mission, goes well it is considered a brilliant scientific success; if it fails, it is also a failure due to 'engineering failure,"" said Andrew D. Dimarogonas, Ph.D., the William Palm Professor of Mechanical Design.

"Similarly, engineers are often blamed for everything from air pollution, through their designs, to floods, through their construction of levees, locks and dams. This is one of the great ethical misinterpretations of our time.

In addition to new technology, legal, commercial, and societal complexities related to the world of engineering make it imperative that today's students graduate with an awareness of the ethical dilemmas they will face as engineers.

The Accreditation Board for Engineering and Technology requires engineering schools to teach ethics, but does not specify how that task should be accomplished. Students at the School of Engineering and Applied Science are required to take "Senior Design Project," which introduces them to the American Society of Mechanical Engineers' code of ethics, as well as issues of design ethics, product liability and organizational and individual responsibility, among other topics. In addition, students can choose from several electives that address ethical concerns, including recycling and disposal of nuclear waste. Advisors also inform their students about ethics courses offered through the College of Arts and Sciences' Department of Philosophy.

"Basic ethical dilemmas haven't changed at all throughout history. But 100 years ago, it was not as easy to use an engineering design for anything outside the realm of changing technological, legal, corporate and societal realities.

"As a result, an engineer working for a large company may be unable to judge the social implications of the final design, simply because he or she does not always know what that final design will be. By the nature of their job, engineers often are the first to discover if a product is potentially defective. At this point, an engineer must weigh his or her loyalty to society against loyalties to the company. "Whistling while it is a team sport," is a term that engineers use in discussions of ethics at the school, and in the larger profession. A recent emphasis on "green design," and design for recyclability, and other environmental concerns also are incorporated into the engineering curricula at universities worldwide.

The purpose of unexplained complexity in the engineering profession, Dimarogonas stresses, is to motivate engineering students individual responsibility, as well as organizational and societal responsibility.

"It is not enough to impose ethical constraints on the work of a single engineer," he said. "We need to address the ethics of the organizations and of the engineering profession as a whole, in conjunction with other factors involved in modern engineering design decision, such as medicine, law, politics, economics, environment, etc. This transition is not an academic exercise in futility, but it reflects a real need of our times."

— Susan Webb

University accelerates data transmission — from page 1 of issue

high-speed communications services as measured on demand, interactive video, teleconferencing, meetings, long-distance medical diagnosis and sophisticated forms of already underway future information highways at the lowest cost.

SONET is an international standard for optical transmission systems formed under the leadership ofmathematics and fiber optic transport. The SONET standards allow fiber optic equipment manufactured by different companies to be interconnected easily.

ATM switching and transmission technique based on the concept of carrying information in small, fixed-sized units called cells for efficient transport of multimedia information.

Washington University is an international proponent in ATM networks and switching architectures. The Project Zeus switch, designed by Jonathan S. Turner, Ph.D., professor and chair of computer science, connects the campus of colleges to the Project Zeus ATM network. The switch can transmit video, audio and text data 10,000 times faster than current telephone lines.

A new switch architecture Turner invented approximately a year ago provides more efficient support of interactive communications and is designed to operate at 2.4 Gb, 4 Gb, 16 Gb and 64 Gb speeds.

The improved multicast communication (communication between many different parties) enables the construction of large-scale networks.

The campus partners will bring various equipment, technological and managerial expertise to the program. Turner and the Washington University contribution is to provide gigabit switching capacity and sophisticated image-processing equipment that will be demonstrated over the network at much higher speeds than currently available so that the images can be seen from point to point in real-time.

The medical and scientific images applications applications run in parallel to the network so that data gathered are directly delivered to image-processing computers, which then in real-time compute the set of images and send them to a display terminal.

"Being able to process these data in real time enables you to make adjustments on the fly," Turner said.

"In our switch project, everything is coming together here in St. Louis. Southwestern Bell is the hub of the activity where many of our collaborators will be working on the demonstration of the technology. And Washington University will provide the gigabit ATM switching and the set of applications to come from the project."
McLeod named Educator of the Year

J. E. McLeod, dean of the College of Arts and Sciences, has received an Educator of the Year award from the St. Louis American, a weekly newspaper covering the city's African-American community. The award recognizes outstanding faculty who have provided African-American youth with the education and preparation that will lead them to achievement.

McLeod and four other educators of the year recently were honored at the news- paper's event, which was hosted by former Miss America Debbra Turner and arts editor John H. Ervin. Scholars Program for talented, college-bound black high school students, was named dean in 1992. He first came to the University in 1974 as an assistant professor of English, and became a professor in 1979. Today, McLeod chairs the Department of English and Comparative Literature.

Recipients will be honored at the University's 15th national contest

A University Advertising class advertising campaign was the top entry among 25 entries from 15 schools at the 15th National Student Advertising Competition recently held in Houston.

McLeod attended the University of Missouri in Columbia in 1973 and received a graduate degree in mathematics. He completed a limited amount of graduate courses at the University of Nebraska in Lincoln in 1978. He was in postdoctoral training from 1990 to 1993 in the Department of Microbiology and Immunology at the University of Michigan.

The deadline for entry in the competition is Nov. 4. The foundation will award approximately $1,000 to three three-year Graduate and Minority Graduate Fellowships in March. Fellowships are expected to contribute significantly to research, teaching and industrial applications in science, technology, engineering and mathematics.

Applicants needed for graduate fellowships

The National Science Foundation is seeking applicants for its Graduate and Minority Graduate Fellowships for 1995. The deadline for entry in the competition is Nov. 4. The foundation will award approximately $1,000 to three three-year Graduate and Minority Graduate Fellowships in March. Fellowships are expected to contribute significantly to research, teaching and industrial applications in science, technology, engineering and mathematics.

Separate competitions are conducted for Graduate Fellowships and Minority Graduate Fellowships, each with a separate call for applications. Graduate Fellowships are available to members of ethnic minority groups that traditionally have been underrepresented in science and engineering.

All applicants must be American citizens, permanent residents or permanent residents of the United States. Those eligible to apply include those who have received a bachelor's degree in science or engineering from an accredited college or university in the United States.

Applicants must submit a completed application, including a statement of research interests, a statement of career objectives, a curriculum vitae, and three letters of recommendation. Applications must be postmarked by Nov. 4, 1995.

For information, call (615) 241-4300 or (615) 241-4513 (fax). Individuals also may write to ORI at P.O. Box 3010, Oak Ridge, Tenn., 37831-3010.
**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. 

**Project Coordinator**

950023. George Warren Brown School of Social Work. Bachelor's degree; strong communication and interpersonal skills; experience in grant writing and management; willingness under pressure; typing 50 wpm with accuracy; knowledge of American Indian culture preferred. Clerical tests required.

**Research Assistant**

950025. Department of Biology. Requirements: Bachelor's degree in a science major; research experience; computer literate; ability to work evenings and weekends. Clerical tests required.

**School Accountant**

950049. Accounting Services. Requirements: Undergraduate degree in accounting or finance; experience as a Certified Public Accountant; a master's degree in business administration is a plus; several years of public accounting experience; excellent accounting skills and a working knowledge of GAAP; three to five years of fund accounting experience, preferably in a complex university environment; an analytical mind with a high degree of intelligence and the ability to "think on his/her feet"; experience working with local area network security; knowledge of word processing/ spreadsheet and data base management software; excellent interpersonal skills; work easily and successfully with complex computing environments; ability to summarize complex analyses into clear presentations; flexibility; ability to work independently; ability to thrive under pressure; accuracy and attention to detail. Resume required.

**Administrative Assistant**

950077. Board of Trustees. Requirements: High school graduate, some college preferred; efficiency in word processing and data processing; experience in outer skilled with ability to use computer creatively to increase productivity; ability to coordinate numerous event preparation details; willingness to work outside of office hours to set up meeting rooms; ability to maintain good office records for efficiency and accuracy; excellent telephone skills and reporting; need for accuracy, even in routine things; willingness to assist in any other task; pleasant with fellow workers and external constituencies on campus 50 wpm with accuracy. Clerical tests required.

**Communications Technician II**

950081. Communications Services. Requirements: Certificate of training and/or equivalent experience in communications, including experience with telephone and computer networking; ability to perform strenuous work and maintain accuracy; experience in working flexible hours and overtime; use of personal vehicle required with mileage reimbursement; ability to work independently; computer literate in telephone color code. Resume required.

**Assistant Publications Editor**

950082. Public Affairs. Requirements: Some college, bachelor's degree preferred; outstanding writing ability and experience in writing and editing promotional copy; proficiency with typesetting and print production; skill and interest in proof-reading; concern with detail and accuracy; ability to work well with wide range of others. Resume required.

**Administrative Secretary**

950083. Accounting Services. Requirements: College degree, business or voca- tional school graduate; a minimum of one year experience in word processing, spreadsheet and production; technical expertise in word processing and print production; skill and interest in proof-reading; concern with detail and accuracy; ability to work well with wide range of others. Resume required.

**Library Assistant, Part time**

950088. Department of Library Services. Requirements: Some college, bachelor's degree preferred; good communication skills; strong service orientation; ability to understand, interpret and implement a wide variety of policies and procedures, especially on week-ends and evenings when workload increases; typing 60 wpm with accuracy. Resume required.

**Medical Sciences Writer**

950089. Medical Public Affairs. Requirements: Certificate of training and/or equivalent experience in journalism or communications, with a specialization in medical and/or science writing; a graduate degree is highly recommended; approximately five years self-directed experience in the field and public relations; a demonstrated knowledge of media requirements and operations; a demonstrated ability to write and edit; plan, organize and implement a regular schedule of scientific writing; developing medical science features; ability to work well with others and to supervise their work as needed; ability to work effectively with faculty, administration and researchers. Resume required.

**Manager, Indian Studies**

950091. Indian Center. Requirements: Bachelor's degree in anthropology preferred; ability to communicate effectively in written and oral English; knowledge of the cultural context of Indian studies; ability to coordinate numerous event preparation details; willingness to work outside of office hours to set up meetings; ability to maintain good office records for efficiency and accuracy; excellent telephone skills and reporting; need for accuracy, even in routine things; willingness to assist in any other task; pleasant with fellow workers and external constituencies on campus 50 wpm with accuracy. Clerical tests required.

**Medical Secretary I**

950092. Office of the Dean, School of Medicine. Requirements: Bachelor's degree; strong communication and interpersonal skills; ability to "think on his/her feet"; ability to work evenings and weekends. Clerical tests required.

**Medical Secretary II**

950093. Office of the Dean, School of Medicine. Requirements: Bachelor's degree; strong communication and interpersonal skills; ability to "think on his/her feet"; ability to work evenings and weekends. Clerical tests required.

**Metabolism**

950120-R. Risk Management. Requirements: Some college, bachelor's degree preferred; ability to communicate effectively in written and oral English; knowledge of the cultural context of Indian studies; ability to coordinate numerous event preparation details; willingness to work outside of office hours to set up meetings; ability to maintain good office records for efficiency and accuracy; excellent telephone skills and reporting; need for accuracy, even in routine things; willingness to assist in any other task; pleasant with fellow workers and external constituencies on campus 50 wpm with accuracy. Clerical tests required.

**Executive Secretary**

950003. Alumni and Development Programs. Requirements: College degree or equivalent knowledge; three years general office experience; strong personal computer background; excellent verbal and written communication skills; exceptional service to co-workers, volunteers and vendors; ability to deal with multiple tasks; ability to work efficiently; organized, accurate and timely manner with minimal supervision; willingness to work extra hours when required; typing 60 wpm with accuracy. Clerical tests required.

**Medical Secretary**

950149-R. Metabolism. Requirements: High school graduate or equivalent, supervisory experience preferred; knowledge of IBM and Lotus/Excel preferred; back- ground in accounting or accounting help- ful; typing 60 wpm.

**Medical Secretary I**

950188-R. Pediatrics. Requirements: High school graduate or equivalent; two years related experience; knowledge of medical terminology; ability to operate routine office equipment; typing 40 wpm.

**Medical Secretary II**

950204-R. Surgery. Requirements: High school graduate or equivalent, medical secretarial experience preferred; experience with grants application; typing 60 wpm. Will be dealing with patients and handling several projects at one time.

**Medical Secretary III**

950207-R. Neurology. Requirements: Two years of college; two years related experi- ence preferred; knowledge of WordPerfect; typing 60 wpm. Will have frequent contact with a neurologist’s disease patients and their families.

**Data Assistant**

950229-R. Psychiatry. Schedule: Part time, 20 hours per week, Mondays through Fridays, flexible hours. Requirements: High school graduate or equivalent; some college preferred; experience with Macintosh and Microsoft WordPerfect and data management; experience with research preferred; typing 50 wpm.

**Administrative Coordinator**

950343-R. Transportation. Requirements: High school graduate or equivalent; some college preferred; IBM computer experience; typing 65 wpm.

**Departmental Accounting Assistant**

950361. Chemistry. Requirements: High school graduate or equivalent; three years related experience; knowledge of general office procedures; typing 40 wpm; experience with Macintosh; knowledge of university procedures and usage of forms highly desired.

**Q&A**

**Addressing employee questions concerning the Washington University community**

**Q:** Why are personal telephone payments sent off campus? We used to be able to pay bills at the Cashier's Office or through campus mail.

**A:** The answer is two-fold. When the campus telephone system was installed in August 1991, we anticipated that office was unable to continue handling employee payment of personal telephone bills. As a result, billing for personal telephone calls is currently handled off-campus by Boatsman's Bank.

**The University's accounting and billing departments are in the process of researching the possibility of payroll deducting personal telephone bills.** — William O'Reilly, director of communications

**Employees are encouraged to submit questions to the Washington University employees that have been submitted online at www.wustl.edu. Questions that have been submitted online or that have been submitted online that have been answered.**