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Record

Jan. 14, 1999

Volume 23 No. 16

★ ★ ★ Washington University in St. Louis ⚜ ⚜ ⚜

Jo Noero to design Apartheid Museum

By Ann Nicholson

Architecture Professor Jo Noero's winning designs for the new Apartheid Museum in South Africa draw on notions of memory, showing both the horrors of institutionalized racism and the heroic efforts of the anti-apartheid movement in sharp relief. Noero's first-place designs were selected from 151 entries in a competition sponsored by the City of Port Elizabeth, New Brighton.

"The museum seeks to remember the past in ways that are both familiar and frightening," said Noero, whose designs will help transform the site of a shack settlement into a museum complex. "One of the horrors of apartheid was the sense of normalcy — the ability of its perpetrators to shut out from memory the ghastly consequences of institutionalized racism. And yet, at the same time, the sense of impending terror in the country was undeniable."

> "The Apartheid Museum complex seeks to build new memories."
>
> Jo Noero

The competition is at the core of the City of Port Elizabeth's efforts to upgrade the destitute living conditions in the Red Location shack settlement, while celebrating those who fought to end apartheid.

The museum is designed not only as an attraction for outside visitors, but also as an integral part of the surrounding community. In addition to the museum itself, the complex will include new housing, an art gallery specializing in the work of Eastern Cape artists, a center for creative arts, a market, a library, an adult literacy center and a conference center. Construction costs for the entire project are estimated at $25 million.

Noero's designs for a "walk of heroes" and "hall of columns" celebrate the contributions of those who gave their lives to free their country. Drawing on the talents of the local community, the creative arts center will include studios and shops specializing in everything from indigenous beadwork and ceramics to fine art and sculpture. Additionally, the conference center will dedicate performance space for jazz and marimba bands.

"Part of the legacy of apartheid was the suppression of local culture," said Noero, the Ruth and Norman Moore Professor of Architecture and director of the School of Architecture's graduate program. "The complex seeks to rectify this by showcasing the

See **Noero,** page 2

JOE ANGELES

Putting the fill in philanthropy Several members of Sigma Alpha Epsilon (SAE) fraternity spent the morning of Dec. 16, 1998, at Operation Food Search Inc., helping distribute and load food for a variety of hunger-relief agencies. The brothers of SAE raised $38,000 worth of food via "Point Out Hunger" — a 1990s twist on the old-fashioned canned-food drive in which University students donated their meal-plan "points" and "flexes." On the grocery list: more than 800 cases of under-donated items such as applesauce, fruit cocktail, peaches, pears, beans, peas, corn, spaghetti and soup.

Early birds Researchers catch the worm

By Linda Sage

Collaborators here and in England have obtained the first set of instructions for making an animal by determining the order of the 97 million genetic letters in a worm's DNA. The achievement was reported in the Dec. 11 issue of the journal Science. The announcement, at a press conference at the National Academy of Sciences in Washington, D.C., sparked worldwide media interest and coverage.

"This is a watershed event in the history of biology," said Harold Varmus, M.D., director of the National Institutes of Health. "Unveiling this blueprint is giving us the first picture of what it is like to understand a multicellular, complex organism."

Although a worm that lives in soil, dines on bacteria and is only a millimeter long would seem to have little in common with humans, it already has shown scientists how certain genes contribute to Alzheimer's disease, how some cancer genes work and how the body rids itself of surplus or damaged cells.

Robert Waterston, M.D., Ph.D., the James S. McDonnell Professor, head of genetics and director of the Genome Sequencing Center at the School of Medicine, led the St. Louis team. John Sulston, Ph.D., director of the Sanger Centre in Cambridgeshire, was the British team leader.

During the past eight years, the collaborators have dismantled copies of the DNA of *Caenorhabditis elegans*, a roundworm. After sequencing 2 million fragments from some 3,000 segments, they reassembled the information stepwise in the correct order. The DNA sequence, which contains about 20,000 genes, allows the worm to make and operate its cells and organs.

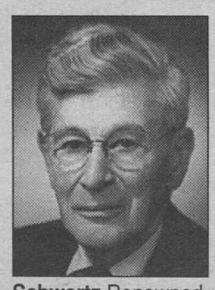
See **Genome,** page 6

Henry Schwartz dies at 89

By Linda Sage

Henry Gerard Schwartz, M.D., the August A. Busch Jr. Professor Emeritus and lecturer in neurological surgery at the School of Medicine, died Thursday, Dec. 24, 1998, in St. Louis from emphysema. He was 89.

Schwartz was one of this century's most influential figures in his field. "He trained more leaders of academic neurosurgery than any other person in the United States during the past 40 years," said Ralph G. Dacey Jr., M.D., the Edith R. and Henry G. Schwartz Professor and head of neurological surgery. "He also was one of a small number of neurosurgeons who established the principle of applying the most recent discoveries in brain science to the care of patients with neurosurgical illnesses."



Schwartz Renowned neurosurgeon dies

See **Schwartz,** page 3

Sastry installed as Byrnes Professor of Engineering

By Tony Fitzpatrick

Shankar M.L. Sastry, Ph.D., professor of metallurgy and materials science in the School of Engineering and Applied Science, was installed as the first Catherine M. and Christopher I. Byrnes Professor of Engineering Dec. 8 at a ceremony in Holmes Lounge.

The professorship is made possible through funds from an anonymous donor in the engineering school.

"I've been in academic life for 26 years, and this is the first time to my knowledge that an appointment has been named for a sitting dean and spouse," Chancellor Mark S. Wrighton said. "The professorship is especially significant because the honorees are so young and because the donor wishes to be anonymous. This is an extraordinary event, honoring three special people,

See **Sastry,** page 6

Papal visit Campus officials take steps to avoid traffic, parking glitches

Pope will not be on campus; public parade begins east of Skinker

By Christine Farmer

Pope John Paul II will not be seen at the University during his papal visit, but Hilltop and Medical Campus officials are seeing to it that faculty, staff and students will have ample parking and access to our facilities.

Contrary to reports in the local media, the welcome parade Jan. 26 will not begin at the University.

"There is no time that the pope and his motorcade will be on Washington University grounds," said Steve Hoffner, assistant vice chancellor for students and director of operations. "The public parade route will begin several hundred feet east of Skinker on Lindell. People who want to see the pope need to go to Forest Park along Lindell. Everything up to that point will be a high-speed motorcade. If people come to the University to see the Pope, they're doing themselves a disservice because they won't see him."

While spectators need to head east of the campus for a view of the pontiff, faculty, staff and students entering campus will be directed to access points along Forsyth Boulevard and Forest Park Parkway, where permits will be checked.

"Beginning on Monday, Jan. 25, the day before the pope arrives, several access points to the University campus will be closed," Hoffner said.

Brookings Drive at Skinker Boulevard and Hoyt Drive at Forest Park Parkway (Millbrook Boulevard) will be closed until the parade gets under way in the afternoon Tuesday, Jan. 26.

"We will have signs up directing people to the controlled entrances. It will be very important for people to have their parking permits displayed in order for us to keep traffic moving," Hoffner said.

Access points to campus will be at Olympian Way and Hoyt Drive off Forsyth Boulevard and at Throop Drive off Millbrook Boulevard.

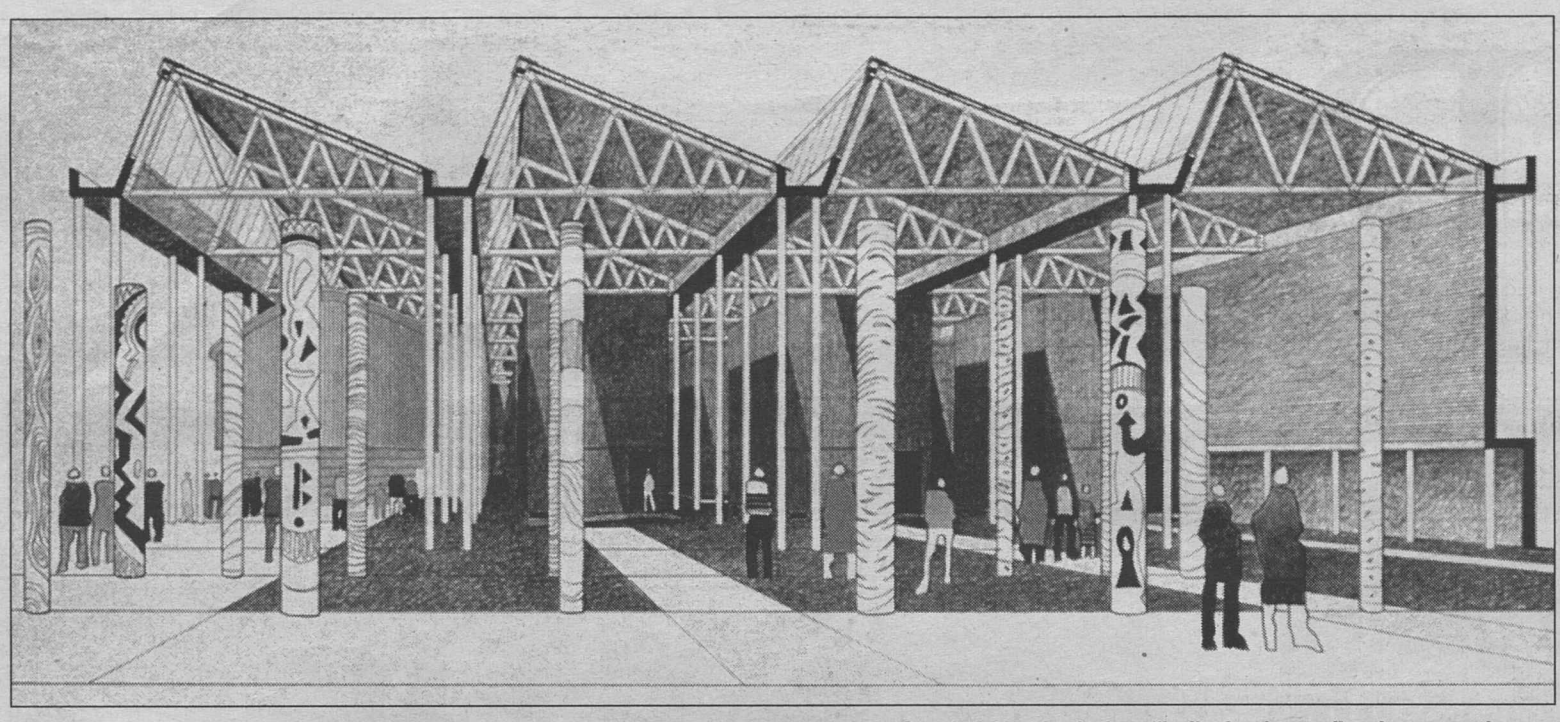
Hoffner also advised people who are expecting visitors to the University during the papal visit to obtain one-day passes from the transportation office in advance.

"Anyone without a University permit or legitimate University business will not be allowed to park on the campus," he said.

Motorists should expect delays due to heavy traffic and road closures. Please note the following list:

• **Tuesday, Jan. 26:** Forest Park

See **Pope,** page 6



Architecture Professor Jo Noero's winning designs for the Apartheid Museum in South Africa include a "hall of columns" to honor anti-apartheid leaders. The large-scale, freestanding "memory boxes" in the background capture the complexities of apartheid and the country's institutionalized forgetfulness about the horrors of racism.

Win-Win MBA students gain experience, help nonprofit agencies

BY NANCY BELT

Who says MBAs can't do good while getting ahead? Seventy MBA students at the John M. Olin School of Business have just proved they can.

As participants in the Taylor Community Consulting Program, they cut short their holiday to return to campus to work on consulting projects for 21 non-profit agencies in or near St. Louis.

The agencies — including Herbert Hoover Boys & Girls Club; Kids in the Middle, which supports children whose parents are in the process of divorce; Cardinal Carberry Senior Living Center; Center for Contemporary Arts; Sherwood Forest Camp; and the National Multiple Sclerosis Society — reflect broad diversity. Most asked for help in developing marketing plans to attract donors or participants or help in product costing or other financial analysis.

The Taylor Program offers such help at no charge, thanks to an endowment by employees of Enterprise Rent-A-Car in honor of Jack Taylor, the company's founder, and his son, Andy Taylor, the company's president.

Each student, from Jan. 4 through Jan. 11, spent a minimum of 40 hours working with two or three teammates on an agency's betterment project. Most spent much more time than that, some more than 100 hours, and for all it was a total-immersion process.

For some, it represented the kind of learning that most attracted them to the business school. "I knew Olin was known for its community service, and I wanted to be part of that," said Lisa Kagel, MBA '00. Her team worked with St. Louis Hillel at the University, a resource for Jewish college students throughout the area. They explored ways to use Hillel's soon-to-be-renovated kosher kitchen to produce revenue for programming.

"I've always been involved in volunteer work," Kagel said, "and this project was a great match. As we helped Hillel apply marketing concepts, we were applying what we learned in class."

Adding to the effectiveness of the Taylor program each year are consultants from Ernst & Young LLP, whose time is donated by the company. This year, 16 were paired and worked throughout the week with an assigned student team, and two were manager-consultants, also known as the "bucket brigade," who were accessible to all teams during two days at the business school to help "put out fires."

The collaboration allowed students to experience savvy management consulting firsthand. It also allowed consultants to enjoy and assist a learning process contributing in many ways to the community, as well as to observe skills of those who may be potential interns or employees.

"This has been an amazing experience," said Brad Baker, manager at Ernst & Young, who was on the bucket brigade. "It's wonderful to see so many students enjoying helping others and showing great dedication and commitment by giving up a week of their break. It's a great way for all involved to give back to the community."

Taylor program projects provide something an agency truly needs but lacks dollars, time or expertise to acquire. "The head of an agency, who may be a minister, an artist or other professional, has training and focus to provide a specific service, but not usually financial analysis," Baker said. "That's where we can help." Baker was very impressed with the caliber of students involved. "They're bright, eager to help, well prepared, articulate, and they show a high level of commitment," he said.

Participating agencies benefit greatly, too. Charles Caspari, executive director of Sherwood Forest Camp in Lesterville, Mo., which offers a summer camp experience to disadvantaged youth, said the agency was very impressed with results of their Taylor project this year, as well as in previous years. This year, four students and a consultant from Ernst & Young helped develop relational databases including a mailing list of 7,000 for fund-raising and other purposes.

"The students brought solid business skills to the table," Caspari said, "and their expertise and concentrated work, combined with that of Steve Melnick from Ernst & Young, really paid off," he said.

The Taylor program, begun in 1992, has grown dramatically. In 1997, four agencies and nine students participated. In 1998, 19 agencies and 62 students participated. This year, 21 agencies and 70 students participated.

"The numbers have increased for varied reasons," said Russell Roberts, director of the Management Center and professor of entrepreneurship, who directs the program. "Last year, we changed the timing of the program so it would be during semester break rather than the week after final exams, and we added E & Y consultants," he said, "and more and more of our students really want to contribute to the community."

On Jan. 11, each student team made a final presentation to their assigned agency and Enterprise Rent-A-Car and Ernst & Young representatives. In addition to intangibles gained, participating students earned one hour of credit and received grades on the quality of their work and a $100 stipend. Throughout the process, students gained experience that can help them in their careers and throughout their lives, as they provided valuable community service — a good lesson for all.

Noero

Wins competition for Apartheid Museum

— from page 1

contributions and talents of regional artists."

From its abject poverty to its highly charged political significance, the Red Location is an ideal site to preserve the history of black residents' struggle for freedom. The area draws its name from the shacks' red pieces of corrugated iron that were adapted into slum housing from the former barracks of a Boer War concentration camp. Throughout the apartheid era, the Red Location was a site of political and racial tensions that erupted in riots, killings and police brutality.

The museum project is a natural for Noero, a native South African who worked alongside Anglican Archbishop Desmond Tutu to address black South Africans' desperate need for housing and education centers from the late 1980s to the mid-1990s.

In his design for the 50,000-square-foot museum, Noero seeks to capture the inherent contradictions of the apartheid system and create a sense of unease and dislocation.

"The new museum will integrate into the existing neighborhood of the victims of apartheid as a seamless part of their daily life. In this way, the horror of apartheid becomes more apparent simply by its calm presence in the museum side by side with a functioning community," said Noero, a principle of the firm Noero Wolff Architects in Johannesburg.

Noero adopts the theme of "memory boxes" for an exhibition area of the museum to create an overall feeling of awkwardness, ambiguity and complexity. "The exhibits are contained in 12 large, free-standing wooden structures that are 35 feet high, and which signify the memory boxes that people in some parts of the country use to keep valuable items and mementos of their past," Noero explained.

"Visitors must make their own choices of how to negotiate in and around these boxes in the museum," Noero continued. "In this way, they are asked to confront their own readings and understandings of race, class and inequality. The museum asks visitors to navigate this space without satisfying a ghoulish need for voyeurism or the liberal instinct for absolution."

In direct contrast to the memory boxes, visitors to the L-shaped museum will first visit a hall of 40 to 50 columns, designed by artists to resemble totems celebrating those who sacrificed their lives in the anti-apartheid cause.

Having seen first-hand how the apartheid government used architecture and planning as tools of racism and division, Noero now hopes to use architecture to heal.

"The Apartheid Museum complex seeks to build new memories — ones that will not let us forget apartheid's atrocities and those that will allow us to begin to hope for an African renaissance."

News Briefs

A day to remember

Washington University observes Martin Luther King Jr.'s birthday with an official holiday Monday, Jan. 18.

Tax help

W-2 tax forms for 1998 should be in the mail to employees' home addresses no later than Jan. 31. There is new information in Box 14 of this year's form that should be of help to employees, including information on the amount of pretax health insurance premiums, the amount of pretax deferrals to medical spending accounts and the amount of pretax parking deductions (beginning June 1, 1998).

Also to be included are the value of group term life insurance over $50,000, the amount deferred to 403(b) plans (both in Box 13) and the amount of pretax deferrals to child care spending accounts (Box 10).

There is a detailed worksheet available to employees to help them understand how W-2 values are calculated. Interested employees may contact Shared Payroll Services at 935-9835 or 935-9869.

Campus quiz: Where at Washington University can this ornate stonework be found? Answer below.

Weather watch

A previous listing of media outlets carrying information about changes in the University's normal work and/or class schedule because of severe weather was incomplete. The radio station 550 KTRS-AM, which has an off-air telephone snow closing system, requires ID numbers to access its system. The ID numbers for the Hilltop Campus and for evening classes were not included in the previous listing.

To access the KTRS snow closing system, dial 550-KTRS (5877). You will be prompted to enter an ID number. For the Hilltop Campus, the ID number is 1278; for evening classes, the ID number is 1440; and for the medical school, the number is 1439. If there is a closing or cancellation, it will be announced a few seconds after you enter the ID number.

The University community also can watch KSDK-TV Channel 5, KMOV-TV Channel 4, KTVI-TV Channel 2 or KDNL-TV Channel 30, or tune into KMOX-AM (1120), KXOK-FM (97.1) or WSIE-FM (88.7).

Answer: This intricate carving graces the main entrance to the former School of Dentistry building at the Medical Campus, now used for faculty offices and research space.

"News Briefs" includes short items on a wide range of subjects, typically information about resources, benefits and opportunities available to faculty and staff. Readers are invited to submit briefs, which will be used as space permits, to Betsy Rogers, Campus Box 1070, or by e-mail, Betsy_Rogers@aismail.wustl.edu.

Record
Washington University community news

News & Comments: (314) 935-6603, Campus Box 1070, betsy_rogers@aismail.wustl.edu
Medical News: (314) 286-0111, Campus Box 8508, duke@medicine.wustl.edu

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Record (USPS 600-430; ISSN 1043-0520), Volume 23, Number 16/Jan. 14, 1999. Published for the faculty, staff and friends of Washington University. Produced weekly during the school year, except school holidays, and monthly during June, July and August by the Office of Public Affairs, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO, 63130. Periodicals postage paid at St. Louis, Mo.

Where to send address changes, corrections:

Postmaster and non-employees Record, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130

Hilltop Campus employees Office of Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130.

Medical Campus employees Payroll Office, Washington University, Campus Box 8017, 660 S. Euclid Ave., St. Louis, MO 63110.

Medical School Update

Radically new type of surgery tested on first patient

BY LINDA SAGE

A neurosurgeon at the School of Medicine has performed the first human magnetic surgery.

Ralph G. Dacey Jr., M.D., used computer-controlled superconducting magnets to remotely direct a small flexible biopsy instrument into a patient's brain.

"This is a fundamentally new way of manipulating surgical tools within the brain that promises to be minimally invasive," said Dacey. "And it should be a safer way of doing brain surgery because it allows us to use a curved pathway to reach a target. Therefore we can go around sensitive structures, such as those that control speech or vision, instead of going through them."

Dacey is the Edith R. and Henry G. Schwartz Professor and head of neurological surgery. He is testing the new technology, called the Magnetic Surgery System (MSS), by biopsying five patients with tumors in the upper front part of the brain. A biopsy removes a small piece of tissue, enabling physicians to identify a tumor, determine whether it is malignant and plan appropriate treatment.

The first patient, a 31-year-old man, underwent the magnetic surgery Dec. 17, 1998, at Barnes-Jewish Hospital.

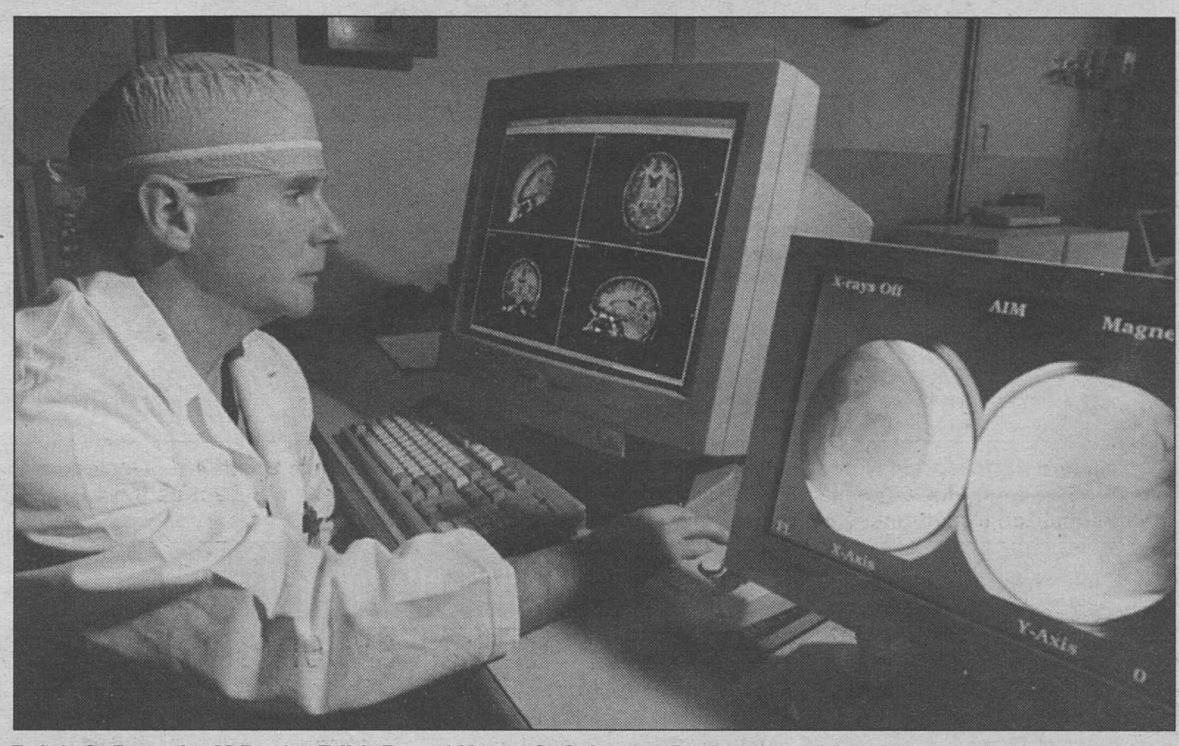
This advanced medical technology has been under development for more than a decade at universities and national laboratories throughout the United States. A St. Louis-based company called Stereotaxis Inc. is spearheading its commercial development.

"We expect the system to have a wide range of applications because it puts three components — visualization, localization and navigation — together for the first time, creating an interventional workstation," said Bevil Hogg, the company's CEO. "Future possibilities may include implanting electrodes into the brains of patients with movement disorders, repair of aneurysms and other blood vessel abnormalities, delivering therapeutic drugs or chemotherapy agents to parts of the brain, cardiac electrophysiology and removal of arterial plaque."

> "This is a fundamentally new way of manipulating surgical tools within the brain that promises to be minimally invasive."
>
> RALPH G. DACEY

Surgeons currently use images of the brain to see a tumor, and they can localize instruments that have sensors. But until now, there has been no way to navigate tools automatically through the brain along an optimal path. To obtain a biopsy, for example, neurosurgeons manually push a rigid needle toward a tumor, passing through whatever lies en route. The MSS, which looks like a magnetic resonance imager, directs a catheter to a predetermined part of the brain along a pathway planned by the surgeon.

Matthew A. Howard III, M.D., associate professor of neurosurgery at the University of Iowa, and M. Sean Grady, M.D., professor of neurosurgery at the University of Washington, accompanied Dacey during the surgery. Howard and Grady are co-inventors of the original magnetic surgery system, along with Rogers Ritter, Ph.D., professor of physics at the University of Virginia. Howard conceived the idea in 1984, when he was a medical student at the University of Virginia.



BOB BOSTON

Ralph G. Dacy Jr., M.D., the Edith R. and Henry G. Schwartz Professor and head of neurological surgery, sits at the console of the Magnetic Surgery System that he used Dec. 17 to magnetically guide a catheter through a patient's brain to a tumor.

Last week's surgery began when Dacey drilled a finger-sized hole in the patient's skull. He placed a plastic bolt in the hole to provide a subsequent entryway for surgical instruments. He also attached six small metal markers to the outside of the skull to enable the computer to localize the catheter.

Dacey then viewed magnetic resonance images (MRIs) of the patient's brain on the screen of a computer console. The 3-D views and virtual slices through the brain allowed him to plan the best route to the tumor.

The surgeons next placed the patient's head in the MSS, positioning it between the superconducting magnets with a titanium frame. Opening the plastic bolt in the skull, they introduced a tiny magnet into the brain. The magnet was attached to a guidewire, which was covered by a plastic catheter. "The catheter is much narrower than a drinking straw but a bit fatter than spaghetti," said Andrew F. Hall, D.Sc., the company's cardiovascular program manager.

Sitting at the computer console, Dacey guided the small magnet to the tumor. As the magnet moved along the preplanned path, the computer advanced the guidewire and catheter one millimeter at a time, always checking the trajectory.

After the magnet reached the tumor — about a five-minute trip — Dacey gently pulled it and the guidewire out of the brain, leaving the catheter in place to act as a tunnel. He then inserted a specially designed biopsy tool along the catheter. Because the tool was flexible, it followed the preplanned path. A few minutes later, Dacey had snipped out a tissue sample for the pathology lab. After taking additional samples from other parts of the tumor, he removed the catheter and cranial bolt and closed the small hole in the skull.

"This is the first time magnetic surgery has been done anywhere in the world," Dacey said. "It eventually should allow us to be much more innovative in delivering electrodes or drugs for direct therapy of a variety of brain diseases."

Helping others

Employees give generously to the less fortunate during the holidays

During the holiday season, many School of Medicine departments and offices gave generously of their time and money to help those less fortunate. This list highlights some of the efforts:

• The Internal Medicine Business Office adopted the Helena Hatch Special Care Center, a program for women who are HIV positive and their families. The office provided refreshments for the Helena Hatch holiday party and donated children's gifts.

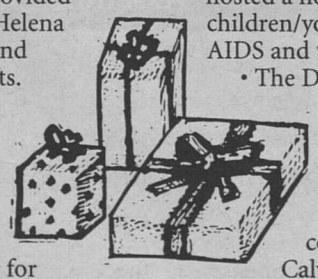
• The Department of Surgery's year-round Casual for a Cause program donated cash and merchandise to Our Little Haven, a shelter for children affected by AIDS and substance abuse.

• The Dean's Office and the Faculty Practice Plan gave toys to children at Our Little Haven and cash to St. Joseph's Home for Boys.

• The Program in Physical Therapy collected used clothing for the Family, Food and Friendship Center and the New Life Evangelical Center.

• The Department of Anesthesiology adopted a family who had a child in St. Louis Children's Hospital. The department donated gifts and cash to the family, which included a mother, nine children and a grandchild.

• Project ARK (AIDS/HIV Resources for Kids) and the Coalition Empowering Families Affected by AIDS coordinated a community toy drive for local HIV- affected and infected children. Project ARK also hosted a holiday party for 25 children/youth with HIV/AIDS and their families.



• The Department of Orthopedic Surgery gave food, clothing, toys and baby items to the congregation at Calvary New Life Tabernacle in Gerald, Mo.

• The Cutaneous Surgery Center in the Division of Dermatologic Surgery adopted a family from the St. Louis Post-Dispatch's "100 Neediest Cases." The employees provided the family with gifts, a Schnucks' gift certificate and groceries.

• The Department of Neurology Business Office adopted a family from the "100 Neediest Cases" and provided the family with cash, presents and groceries.

Schwartz

Acclaimed neurosurgeon trained top talent

— from page 1

Schwartz chaired the Department of Neurological Surgery from 1946 to 1974, and the training program he established attracted some of the finest talent in the nation. Out of the 37 residents he fully trained, 16 went on to direct training programs at other U.S. medical schools. Seven of those have been elected president of the Society of Neurological Surgeons, the leading organization for academic neurosurgeons in North America. "It is very gratifying to know that your brood is contributing to the welfare of the profession," Schwartz said in 1996.

To express their gratitude, 60 former neurosurgery residents jointly contributed $1 million to endow the Edith R. and Henry G. Schwartz Chair in Neurological Surgery in 1996.

In 1983, Schwartz's colleagues and former residents established the Henry G. Schwartz lectureship, which is delivered every year at the medical school. The former residents also commissioned a 1974 portrait of Schwartz, which hangs in the Henry G. Schwartz Archives and Rare Book Room on the seventh floor of the Bernard Becker Medical Library. The Schwartzes helped support the library's expansion and provided ongoing support for its Archives and Rare Book Section.

Schwartz was born in New York City March 11, 1909. He obtained a bachelor's degree in 1928 from Princeton University, which he entered at age 15. He then earned a medical degree from Johns Hopkins University School of Medicine, where he and his future wife were classmates. From 1932 to 1933, he was an intern in surgery at Hopkins, and he spent the following three years as a National Research Council Fellow and then anatomy instructor at Harvard Medical School.

The Schwartzes moved to St. Louis in 1936, when Schwartz became a fellow in neurological surgery at Washington University. During that year, he made the first direct recording in the United States of electrical activity from the human brain. In 1937, he joined the school's faculty as an instructor, performing one of the earliest randomized studies in neurosurgery, on the effect of lumbar puncture in reducing the pressure inside the skull in severe head injuries.

During World War II, Schwartz served in Africa, Algiers, Italy and France as assistant chief of surgery and chief of neurosurgery in the U.S. Army's 21st General Hospital. While in Africa, he developed a procedure for handling wounds to the head and nerves that became standard for the military. For this accomplishment, he received the prestigious Legion of Merit in 1945.

In addition to his academic appointments, Schwartz was acting surgeon-in-chief at Barnes Hospital in St. Louis from 1965 to 1967 and chief neurosurgeon at Barnes and St. Louis Children's hospitals from 1946 to 1974. He became the August A. Busch Jr. Professor in 1970 and took emeritus status in 1984. During this period, he was instrumental in establishing a craniofacial reconstruction program at Washington University Medical Center.

Schwartz's preeminence in his field is evident from his many honors. These include the Distinguished Service Award from both the American Board of Neurological Surgery and the Society of Neurosurgeons, the Harvey Cushing Medal from the American Association of Neurological Surgeons, and election in 1985 as honorary president of the World Federation of Neurosurgical Societies. He was a member of the editorial board of the Journal of Neurosurgery from 1958 to 1968 and editor from 1975 to 1984.

He also was chairman of the American Board of Neurological Surgery and president of the American Academy of Neurological Surgery, the Southern Neurosurgical Society, the Society of Neurological Surgeons and the American Association of Neurological Surgeons.

Schwartz was cremated Dec. 28, and a memorial will be held at a later date. Donations to honor him may be made to the South Side Day Nursery, 2930 Iowa Ave., St. Louis, Mo. 63118, or to the medical school, Box 8509, 4444 Forest Park Ave., St. Louis, Mo. 63108.

Survivors include Schwartz's sister, Jean Grottano of New York City, and the Schwartzes' three sons: Dr. Henry G. Schwartz Jr., of Ladue, Mo.; Michael R. Schwartz of Birmingham, Mich.; and Dr. Richard H. Schwartz of Salt Lake City, Utah. There also are six grandchildren and four great-grandchildren. Schwartz's wife, "Reedie" – Edith Courtenay Robinson, M.D., a pediatrician and pediatric psychiatrist – died in 1994.

University Events

'Barbarella' • Family Night • Miracle Drugs • Hoops

"University Events" lists a portion of the activities taking place at Washington University through Jan. 23. For a full listing of medical rounds and conferences, see the School of Medicine's website at medschool.wustl.edu/events/. For an expanded Hilltop Campus calendar, go to www.wustl.edu/thisweek/thisweek.html.

Exhibitions

"A Definite Claim to Beauty: William Morris' Kelmscott Press and Its Influence." Through Jan. 29. Olin Library, Special Collections, fifth floor.

Films

Friday, Jan. 15

7 and 9:30 p.m. Filmboard Feature Series. "Barbarella." (Also Jan. 16, same times.) Cost: $3 first visit; $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Friday, Jan. 22

7 and 9:30 p.m. Filmboard Feature Series. "Get Shorty." (Also Jan. 23, same times, and Jan. 24, 7 p.m.) Cost: $3 first visit; $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Midnight. Filmboard Midnight Series. "Spaceballs." (Also Jan. 23, same time, and Jan. 24, 9:30 p.m.) Cost: $3 first visit; $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Joe Deal's Getty photos in Gallery of Art show

By Liam Otten

Richard Meier's Getty Center in Los Angeles is one of the most ambitious and distinctive architectural projects in recent memory. For photographer Joe Deal, dean of Washington University's School of Art, the billion-dollar project sparked a 14-year-long odyssey to document both the construction's progress and its transformation of the surrounding landscape.

Last year, Deal's photographs were exhibited as part of the festivities surrounding the Getty's opening. Now St. Louis audiences will have a chance to view Deal's work firsthand when "The Getty Center: Photographs by Joe Deal, Models by Richard Meier" arrives at the University's Gallery of Art. The show opens with a reception from 5 to 7 p.m. Jan. 22, and remains on view through March 21.

The Getty first offered Deal a commission to photograph the evolution of the new center back in 1983, even before an architect had been chosen.

Deal, who was then teaching at the University of California-Riverside, admits that at first, reluctant to be tied to one place for the eight or nine years the project was estimated to take, he hesitated to accept the Getty project. "I'm not really an architectural photographer and I wasn't very interested in trying to interpret someone else's work," Deal recalled. "On the other hand, it was an intriguing proposal — an opportunity to photograph an undeveloped property that was, ironically, located in one of the country's most expensive and highly developed areas. It was an island of scarred mountainside surrounded by a carefully constructed landscape of swimming pools, flowering trees and tile rooftops."

Deal spent the next six years documenting both the existing site and the numerous preparations for construction. Though his work stopped when he joined the Washington University faculty in 1989, it resumed in 1992, when he began making periodic trips to Los Angeles as his schedule allowed.

The solo show also includes some of Meier's scale models for the project. "The models are really beautifully crafted," Deal said. "Hopefully the show will be engaging for those interested in photography and for those interested in the building process and architectural problem-solving."

Gallery hours are 10 a.m. to 5 p.m. weekdays and 1 to 5 p.m. weekends. Both the reception and the exhibit are free and open to the public.

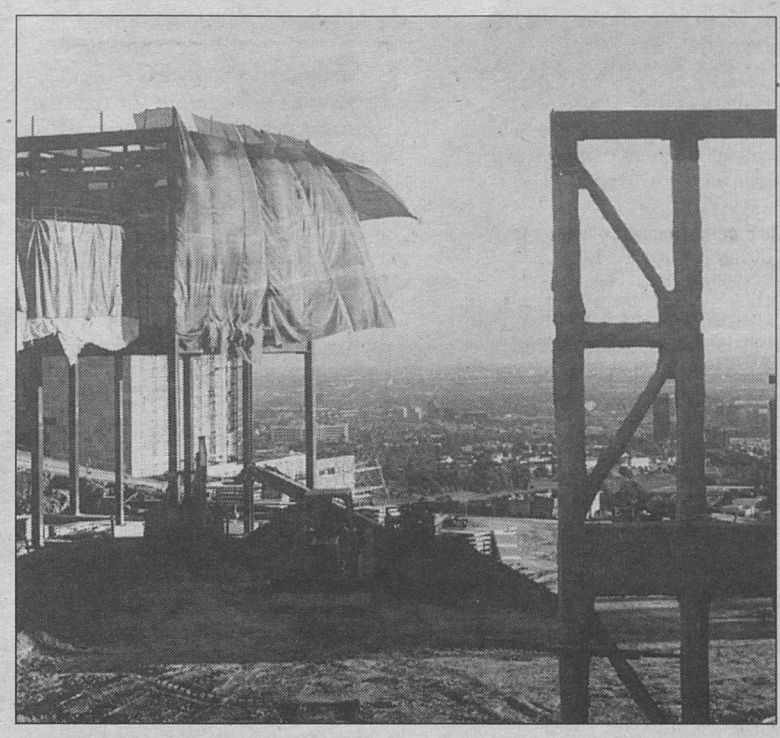
'The Getty Center'

What Photographic exhibit

Where Gallery of Art

When Jan. 22-March 21

Admission Free and open to the public



An untitled photograph from Joe Deal's "*Topos* Portfolio (1984-1997)," which documents the construction of the J. Paul Getty Center in Los Angeles.

Lectures

Thursday, Jan. 14

Noon. Genetics seminar. "Genetics of Coronary Artery Disease." Alan Templeton, prof. of biology. Room 823 McDonnell Medical Sciences Bldg. 362-3365.

4 p.m. Chemistry seminar. "Autonomous Genomes." David G. Lynn, U. of Chicago (coffee 3:40 p.m.). Room 311 McMillen Lab. .935-6530.

5 p.m. Vision science seminar. "Cell-Specific Expression in the Retina: New Approaches Using Xenopus." Barry Knox, assoc. prof. of biochemistry and molecular biology, State Univ. of N.Y. Health Science Center-Syracuse. East Pavilion Aud. 362-3365.

Friday, Jan. 15

9:15-10:30 a.m. Pediatric Grand Rounds. "Closing the Ductus Arteriosus: Traveling into Thin Air." Ron Clyman, prof. of pediatrics, senior member, Cardiovascular Research Institute, U. of Calif.-San Francisco. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and physiology seminar. "The Role of Tau Mutation in Dementia." Alison Goate, assoc. prof. of genetics in psychiatry. Room 426 McDonnell Medical Sciences Bldg. 362-3365.

4 p.m. Hematology Division seminar. "Enteropeptidase, Initiator of a Digestive Protease Cascade." Evan Sadler, prof. of medicine. Room 8841 Clinical Sciences Research Bldg. 362-3365.

4 p.m. Neuroscience biweekly seminar. "Activity-Dependent Mechanism of Visual System Plasticity in the Frog." Hollis Cline, Cold Spring Harbor Labs, N.Y. Cori Aud., 4565 McKinley Ave. 362-3365.

4 p.m. Pathology special seminar. "Receptor Redistribution as a Major Part of T Cell Signal Amplification." Christoph Wuelfing, Stanford U. Room B Eric P. Newman Education Center. 362-3365.

Monday, Jan. 18

4 p.m. Biology seminar. "How Do 6,000 Proteins Make a Cell? Understanding the Yeast Proteome." Mark Johnson, prof. of genetics. Room 322 Rebstock Hall. 935-6822.

Tuesday, Jan. 19

Noon. Molecular microbiology seminar. "Cryptococcus Neoformans: A Sugar Coated Pathogenic Fungus." Tamara Doering, asst. prof., dept. of pharmacology, Cornell U. Cori Aud. 4565 McKinley Ave. 362-7258.

3 p.m. Mathematics analysis seminar. "Some Unbounded Linear Operators on the Fock Space of Entire Functions." Harold Shapiro, prof., Royal Institute of Technology, Stockholm, Sweden. 935-6760.

4 p.m. Chemistry seminar. "Antibiotics — the 20th-Century Miracle Drugs and How They are Being Tarnished." Shahriar Mobashery, Wayne State U., Detriot. (coffee 3:40 p.m.). Room 311 McMillen Lab. 935-6530.

Wednesday, Jan. 20

6:30 a.m. Anesthesiology Grand Rounds. "An Update on Lung Volume Reduction." Joel Cooper, Evarts A. Graham Professor of Surgery, chief of cardiothoracic surgery. Wohl Aud. 362-6978.

11 a.m. Assembly Series lecture. "They Sought a City: Martin's Dream or Malcolm's Nightmare?" James Hal Cone, Charles A. Briggs Distinguished Professor of Systematic Theology, Union Theological Seminary, New York. Graham Chapel. 935-5285.

Noon. Orthopedic surgery seminar. "Modulation of the Secondary Injury Cascade of Acute Spinal Cord Injury." Lawrence G. Lenke, assoc. prof. of orthopedic surgery. J. Albert Key Library, 11300 West Pavilion, One Barnes-Jewish Hosp. Plaza. 747-2803.

4 p.m. Chemistry dept. seminar. "Hierarchically Ordered Oxides: A Nano-To-Macroscale Continuum." Peidong Yang, U. of Calif.-Santa Barbara (coffee 3:40 p.m.). Room 311 McMillen Lab. 935-6530.

7:30 p.m. School of Art lecture/slide series. Visiting artist Matt Mullican. Steinberg Aud. 935-8664 or 935-7497.

Thursday, Jan. 21

4 p.m. African and Afro-American Studies program. "African Americans in Public Health." Kenneth R. Manning, Thomas Meloy Professor of Rhetoric and the History of Science, M. I. T. Women's Bldg. Formal Lounge. 935-5690.

Art, politics, novels, opera on tap at University College

First of four short courses begins Jan. 27

This spring, University College in Arts and Sciences will present four short courses on artist Max Beckmann, the conservative movement in politics, the Gothic novel and the 1999 St. Louis Opera Theatre season.

Lynn DuBard, a curatorial research assistant at the Saint Louis Art Museum, will present "Max Beckmann and Modernism in France." In four sessions, the course will explore Beckmann's art in the context of his Parisian contemporaries Matisse, Picasso, Braque, Leger and Rouault. It will be closely tied to an upcoming exhibition at the museum. The course meets from 1 to 2:30 p.m. Wednesdays Feb. 3-17 and March 3. The cost is $100 and also includes a symposium Feb. 27, with leading international scholars lecturing on the artistic crosscurrents between Germany and France in the early 20th century.

Paul Murphy, Ph.D., visiting assistant professor of history in Arts and Sciences, will offer a four-session course on "The Conservative Movement and American Politics." The course will examine the origins of the movement, the sources of its internal divisions, its rise to power in Republican Party politics and factors in its success. Classes will be held from 3 to 4:30 p.m. every Wednesday in February. The course fee is $80.

Guinn Batten, Ph.D., assistant professor of English in Arts and Sciences, will teach "The Gothic Novel" as part of an ongoing literature seminar co-sponsored by the Department of English. The four-week class will explore the ways Gothic novels have grown in popularity through four texts — Matthew Lewis' "The Monk," Mary Shelley's "Frankenstein," Bram Stoker's "Dracula" and Oscar Wilde's "The Picture of Dorian Gray." The course meets from 11 a.m. to 12:30 p.m. the following Wednesdays: Jan. 27, Feb. 24, March 24 and April 28. The course costs $80.

Hugh Macdonald, Ph.D., the Avis Blewett Professor of Music and chair of the Department of Music in Arts and Sciences, and Sue Taylor, Ph.D., lecturer in music, will team up to present the course "Mozart, Verdi and Bizet — Mainstays at Opera Theatre of St. Louis." The four-week course will focus on jealousy as a theme using productions from the opera theatre's 1999 season, including "The Marriage of Figaro," "Otello," "The Pearl Fishers" and "The Merchant and the Pauper." The course meets from 2 to 3:30 p.m. every Monday in April. The course costs $80.

Students will be notified of course location upon registration. For more information or to register, call 935-6788.

Noted theologian James Hal Cone to speak

James Hal Cone, professor of theology at Union Theological Seminary, New York City, will deliver the keynote address for the fifth annual Chancellor's Fellowship Conference. His presentation, titled "They Sought a City: Martin's Dream or Malcolm's Nightmare," will be at 11 a.m. Wednesday, Jan. 20, in Graham Chapel. The lecture is free and open to the public.

Cone is the Charles A. Briggs Distinguished Professor of Systematic Theology at Union, where he specializes in black theology, liberation theology, spiritual and blues music and African-American history. He is the author of 10 books, including "Speaking the Truth: Ecumenism, Liberation and Black Theology"; "God of the Oppressed"; "My Soul Looks Back"; "Martin & Malcolm & America: A Dream or a Nightmare"; and the two-volume "Black Theology: A Documentary History."

Assembly Series

Who Theologian James Hal Cone

Where Graham Chapel

When 11 a.m. Wednesday, Jan. 20

Admission Free and open to the public

Cone has served on the editorial/advisory boards of the Journal of Religious Thought and Sojourners and was the associate editor of the Henry McNeal Turner/Sojourner Truth Series in Black Religion from Orbis Books. In 1992, he was presented with the American Black Achievement Award in the category of religion given by Ebony Magazine and in 1994 with the Theological Scholarship and Research Award from the Association of Theological Schools.

Cone has taught at Union since 1969. Before that, he taught at Adrian College in Michigan from 1966 to 1969 and at Philander Smith College in Little Rock, Ark., from 1964 to 1966.

He earned bachelor's degrees from Philander Smith College and Garrett Theological Seminary, and master's and doctoral degrees from Northwestern University.

For more information, call 935-5285.

4 p.m. Biology seminar. Mark McPeek, assoc. prof. and chair, Dept. of Biology, Dartmouth College. Room 322 Rebstock Hall. 935-6706.

4 p.m. Cancer Center seminar series. "Tumor Suppressors and Small GTPases: Filling in the GAPs." Jeffrey DeClue, investigator, Laboratory of Cellular Onocology, National Cancer Institute, Bethesda, Md. Third Floor Aud., Children's Hosp.747-0359.

4 p.m. Chemistry seminar. "New Cyclizations and Multicomponent Couplings." John Montgomery, Wayne State U., Detroit (coffee 3:40 p.m.). Room 311 McMillen Lab. 935-6530.

4 p.m. Joint Center for East Asian Studies Colloquium Series. "The Yellow Peril to Modern Minority: Asians in the Americas, 1492 to 1998." Evelyn Hu-DeHart, prof. and chair, Dept. of Ethnic Studies, U. of Colo.-Boulder. Room 30 January Hall. 935-4448.

4:30 p.m. Mathematics colloquium. "Doubly Orthogonal Systems of Analytic Functions." Harold Shapiro, prof., Royal Institute of Technology, Stockholm, Sweden (tea 4 p.m., Room 200 Cupples I Hall). Room 199 Cupples I Hall. 935-6760.

Friday, Jan. 22

9:15-10:30 a.m. Pediatric Grand Rounds. "Chronic Sinusitis: Medical and Surgical Management." Rodney Lusk, dir., pediatric otolaryngology assoc. and prof. of medicine. Clopton Aud., 4950 Children's Place. 454-6006.

11 a.m. Biology seminar. Mark McPeek, assoc. prof. and chair, dept. of biology, Dartmouth College. Room 202 Life Sciences Bldg. 935-6860.

Noon. Cell biology and physiology seminar. "Specificity in Signal Transduction by Translocation, Localization and Synchronization." Tobias Meyer, assoc. prof., cell biology dept., Duke U. Room 426 McDonnell Medical Sciences Bldg. 747-4233.

Performances

Friday, Jan. 22

8 p.m. OVATIONS! Series performance. Phelim McDermott's "70 Hill Lane." (Also Jan. 23, same time.) Cost: $23. Edison Theatre. 935-6543.

Miscellany

Friday, Jan. 22

5:30-8 p.m. Third Annual Eliot Society Family Night. WU vs. U. of Rochester in both men's and women's basketball games. (Buffet 5:30-8 p.m.). Clowns for the children and door prizes. Athletic Complex. For reservations, call 935-5191.

Sports

Friday, Jan. 15

6 p.m. Women's basketball team vs. New York U. Field House. 935-5220.

8 p.m. Men's basketball team vs. New York U. Field House. 935-5220.

Sunday, Jan. 17

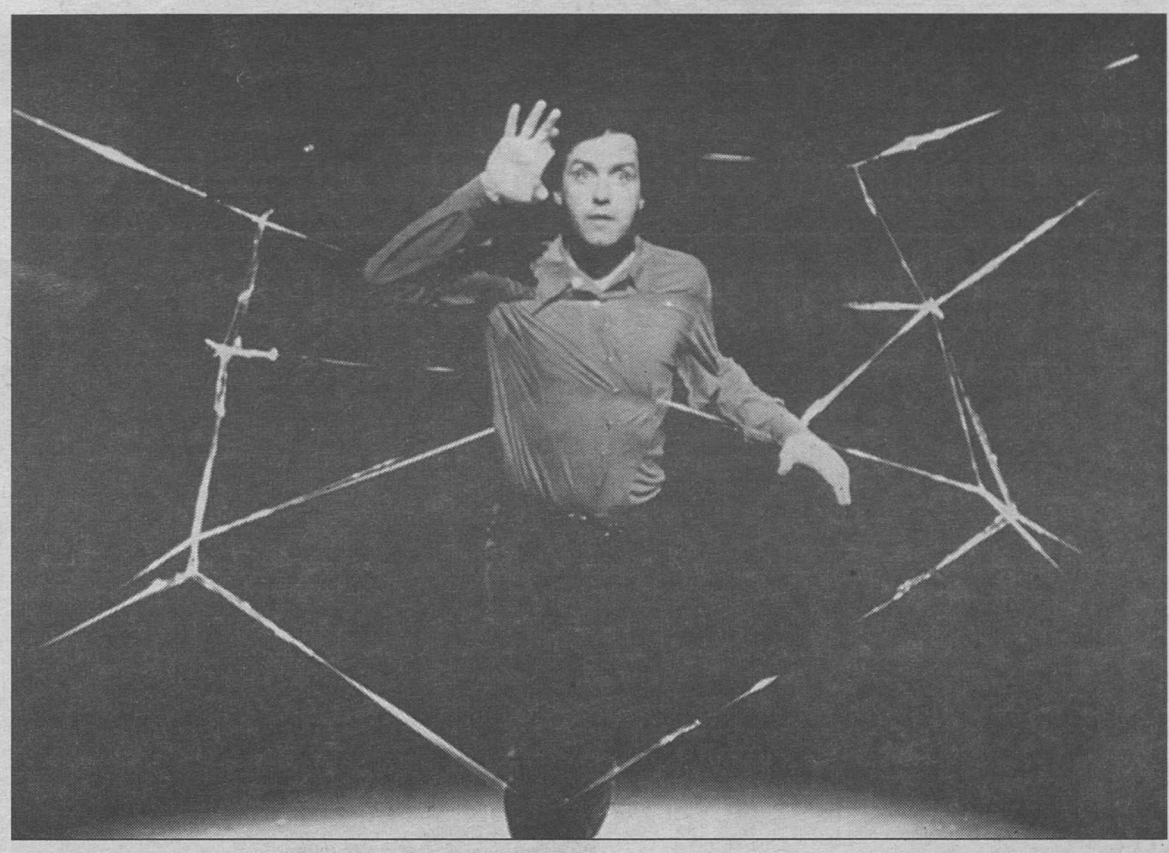
1 p.m. Men's basketball team vs. Brandeis U. Field House. 935-5220.

3 p.m. Women's basketball team vs. Brandeis U. Field House. 935-5220.

Friday, Jan. 22

6 p.m. Women's basketball team vs. U. of Rochester. Field House. 935-5220.

8 p.m. Men's basketball team vs. U. of Rochester. Field House. 935-5220.



Phelim McDermott and London's Improbable Theatre spin inventive stage sets from scotch tape and newspaper.

Poltergeists Improbable Theatre to perform

When he was 15, the story goes, Phelim McDermott's family home was invaded by a good-natured poltergeist who tossed around toys and crockery and generally scared the pants off the future playwright. Now, some 20 years later, McDermott and the Improbable Theatre have memorialized that early taste of the supernatural with "70 Hill Lane," a new theatrical piece that is part ghost story, part autobiography and part improvised performance art, coming to the Edison Theatre Jan. 22 and 23.

The performances begin at 8 p.m.

Titled for McDermott's childhood address in Manchester, England, "70 Hill Lane" finds its 30-ish author spinning a series of tales in a spare London apartment. Humorous reminiscences about "Polty," as the poltergeist has been nicknamed, and everyday trials such as losing one's keys combine with haunting stories of ex-lovers, of McDermott's parents — their dancing, their silences — and of his grandmother's final days.

And yet the real magic of "70 Hill Lane" is in how these monologues are enacted on stage. Using little more than scotch tape and newspaper, puppeteers Guy Dartnell and Steve Tiplady conjure before the audiences' eyes a series of ephemeral creations that variously serve as stage set, prop and character. A human-scale three-story house is spun around McDermott as he speaks; objects suddenly appear and launch themselves into the air; an apparition of McDermott's late grandmother floats quietly across the stage.

'70 Hill Lane'

Where Edison Theatre
When 8 p.m. Jan. 22, 23
Cost $23

Over the last decade, McDermott has established a solid reputation in the London theater scene as an actor, playwright and director. His first show, "Cupboard Man," won a Fringe First award, while his next outing, "Gaudete," won a Time Out Director's Award. In 1996-97, he directed "A Midsummer Night's Dream" for the English Shakespeare Company, which won a TMA Regional Theatre Award for Best Touring Production.

"70 Hill Lane" is only the second production by the Improbable Theatre, which was founded in 1996. Nevertheless, the show has garnered international attention, with performances in Egypt, Malaysia, Belgium, Germany, Greece, Canada and the United States.

Tickets are $23 and are available at the Edison Theatre Box Office, 935-6543, or through MetroTix, 534-1111. Call for discounts. The performances are sponsored by Edison Theatre's OVATIONS! Series. For more information, call 935-6543.

Woman's Club 'University Night' set

The Woman's Club of Washington University is inviting University faculty, administration, staff, graduate students and their guests to its annual University Night event Jan. 23.

This year's theme, "London Theatre Trip," will offer the Improbable Theatre production of "70 Hill Lane" at 8 p.m. at Edison Theatre, followed by a reception at the home of Evy Warshawski, managing director of Edison Theatre, 6463 Forsyth Blvd. Actors from the show also have been invited to the reception, which will feature a buffet of cheese, port, dessert and coffee.

The cost for theatre tickets and the reception is $21. Tickets for only the reception cost $3. Make checks payable to Woman's Club of Washington University and send to Lorraine Gnecco, 7431 Tulane Ave., University City, Mo. 63130 by Jan. 18.

The Woman's Club is open to women who serve as or are married to members of the University faculty, administration and staff. Alumnae and female graduate students and postdoctoral fellows also are welcome.

Artist Matt Mullican at School of Art Jan. 20

Artist Matt Mullican will lecture on his work for the School of Art at 7:30 p.m. Wednesday, Jan. 20, in Steinberg Hall Auditorium. The lecture is free and open to the public and is held in conjunction with an exhibition of Mullican's work at the Forum for Contemporary Art, 3540 Washington Ave., St. Louis, which opens Jan. 22.

In a career that spans three decades, Mullican has explored a unique artistic vision that interprets the world as a series of simple yet mysteriously resonant graphic symbols. Drawing on the "objective" language of warning labels and highway signs, Mullican creates an idiosyncratic oeuvre — in media ranging from painting and sculpture to video tape and computer graphics — that includes everything from creation myths to the Industrial Revolution, from the natural world to social mores.

Matt Mullican

What Art lecture
Where Steinberg Hall Auditorium
When 7:30 p.m. Wednesday, Jan. 20
Admission Free and open to the public

"Matt Mullican is a cosmologist," said Michael Byron, associate professor of painting in the art school, who has contributed an essay on Mullican's work to the catalog that accompanies the exhibition. "He has gone to great lengths to produce — in a myriad of materials that includes banners, stained glass, granite and metal — a system of symbols describing his view of the universe. He has developed a visual grammar for various aspects of existence, codifying everything, tangible and intangible, and providing a system through which to order the world.

"The impact and breadth of Mullican's work have yet to be fully integrated and appreciated here in the United States," Byron added, pointing out that most of Mullican's large-scale projects are located in Europe.

Mullican's work has been featured twice in the international exhibition DOCUMENTA in Kassel, Germany, and has been the subject of solo shows in the Netherlands, Switzerland, Poland and Italy. He has created work for the Museum of Modern Art's "Projects" series and other venues. He currently is working on a commission for the Schiphol International Airport in Amsterdam.

For more information about the lecture, call 935-6500.

Sports Section

Women hoopsters extend record streak

The women's basketball team, ranked No. 1 nationally for the first time in school history, improved to 12-0 on the year (1-0 in the University Athletic Association [UAA]), and ran their school-record winning streak to 20 games with a pair of road wins last week. WU broke the school record for consecutive wins with its 19th straight victory, 89-44 at Haverford College, last Friday. The Bears, whose last loss was a 65-50 setback at Emory University Feb. 15, 1998, led 45-22 at halftime and cruised to the win.

Junior Alia Fischer scored 17 points and added 11 rebounds. Sophomore Tasha Rodgers scored 16 points, hitting a career-high eight field goals in just 10 attempts. Junior Emily Harold scored eight points, grabbed seven rebounds and dished a career-high nine assists. Fellow junior Beth Ruether, who tied the NCAA single-game record for most three-pointers made (eight) without a miss in an 88-61 win over the University of the South Dec. 30, scored eight points and tallied a career-high six assists. All 13 players scored and grabbed at least one rebound.

The Bears opened the 1999 UAA season with a 78-54 win at No. 6 Johns Hopkins Sunday, Jan. 10. After trailing 5-4 early, the Bears ran off the next 13 points to take the lead for good. Fischer tallied 25 points and pulled down a season-high 13 rebounds to go along with four assists, four steals and four blocks. Rodgers had 18 points, five rebounds and three steals and Harold scored eight points and grabbed 10 rebounds.

WU opens the conference home schedule at 6 p.m. Friday, Jan. 15, when they host UAA rival and 1997 national champion New York University. The Bears host Brandeis at 2 p.m. Sunday, Jan. 17, in the Field House.

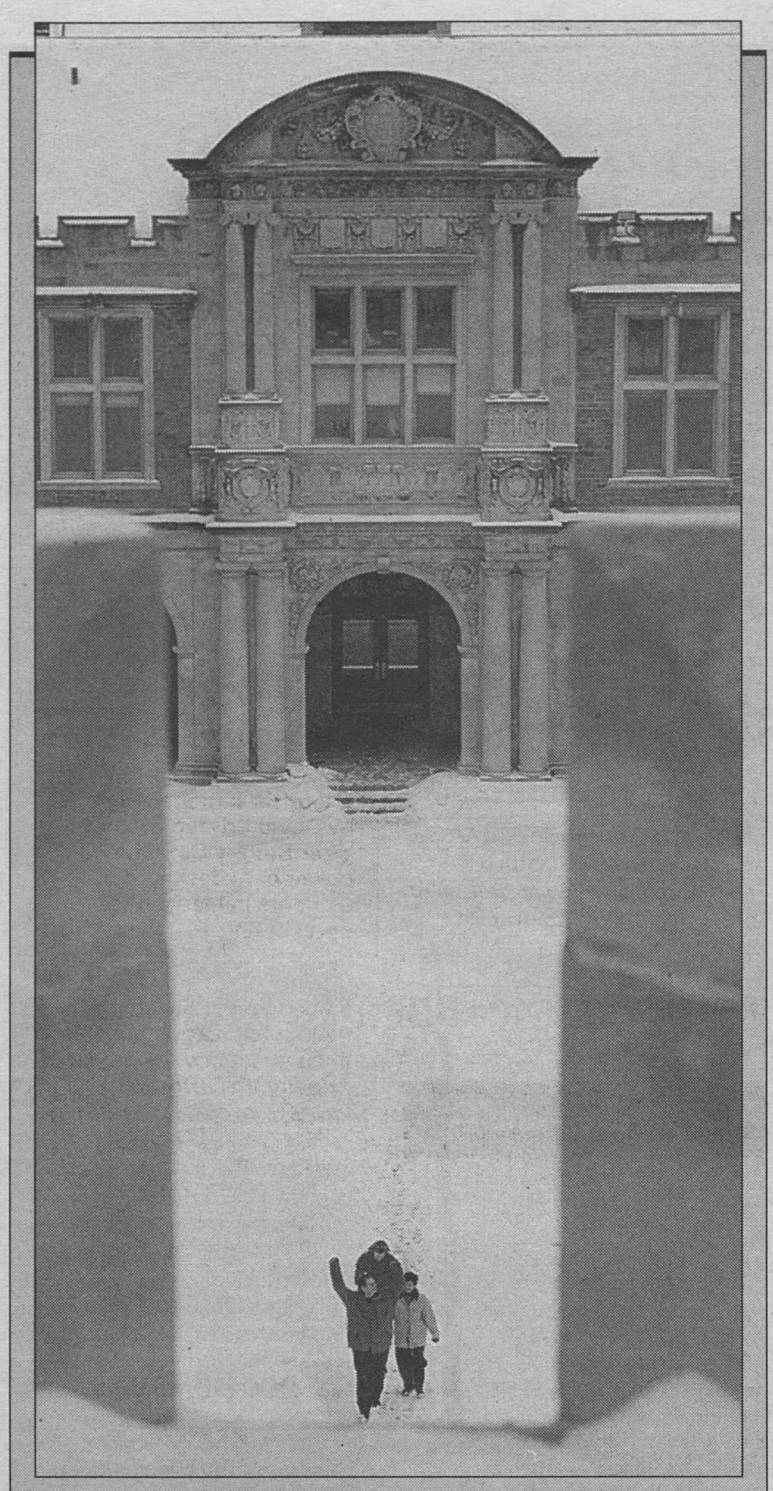
Men's basketball splits pair of games

The men's basketball team recorded a 75-58 non-conference win at Haverford College Friday, Jan. 8, before falling to Johns Hopkins University 68-61 in its conference opener Sunday, Jan. 10. Against the Fords on Friday, WU took a slim 30-29 lead into halftime but used a 16-2 run early in the second half to pull away for their sixth win of the season.

Sophomore Chris Alexander scored a game-high 26 points, 18 of which came in the second half, to pace the Bear attack. Senior point guard Brian Panek scored a season-high 19 points and sophomore Ryan Patton tallied 11 points, four rebounds, three assists and two steals.

In the game against Johns Hopkins, the Blue Jays took a 6-2 lead early, but neither team could muster more than a two point edge, and JHU took a 30-29 margin into halftime. The Bears came within two points twice in the second half, the last time with 4:28 left, but they couldn't quite get over the hump as Johns Hopkins recorded a seven-point win. Junior Dave DeGreef posted a game-high 19 points and added a team-high 12 rebounds to lead WU. Alexander scored 12 points before injuring his ankle late in the game. Senior David Cerven also added 12 points. The loss dropped the Bears record to 6-6 overall and 0-1 in the UAA. WU will host its 1999 UAA conference home opener Friday, Jan. 15, at 8 p.m. against New York University. The Bears entertain Brandeis University Sunday, Jan. 17, at noon in the WU Field House.

Compiled by Kevin Bergquist, director, sports information, and Keith Jenkins, asst. director, sports information.



Winter comes After a mild autumn, winter came with a vengeance over the New Year's weekend, draping the campus with snow and ice — including the quadrangle, seen here from the crenelations atop the Brookings Hall tower. Temperatures are expected to moderate through this week.

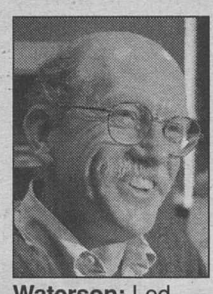
Genome

Researchers obtain worm's genetic 'instructions'

— from page 1

The worm sequence is eight times longer than the yeast sequence that was announced in 1996, and it is the first for an organism with more than one cell. Therefore, it will enable biologists to determine how multicellular organisms like ourselves are put together.

Comparing the endeavor to space exploration, Francis Collins, M.D., director of the National Human Genome Research Institute (NHGRI), said, "If getting the sequence of a bacterium was analogous to Alan Shepard going up and coming right back down, getting the sequence of yeast was rather like John Glenn going up and circling the globe a few times and coming back down. On that scale, getting the sequence of the roundworm is rather like going to the moon." The NHGRI gave the School of Medicine about $35 million for the worm project.



Waterson: Led American team

Because counterparts to three-fourths of known human disease genes have been found in the worm, the animal will be invaluable for medical research because it can be studied in ways that are impossible in humans.

As well as discovering the functions of genes, scientists will determine how groups of genes work together and how the harmful effects of faulty genes can be overcome, making the worm a powerful tool for drug discovery. *C. elegans* also has featured prominently in biology studies, so sequence-based research should reveal how genes choreograph events such as development, reproduction and aging that are common to worms and humans.

Posting each day's findings on the World Wide Web has "set the standard" for public access.

Scientists around the world have free access to data from the two labs, which post each day's findings on the World Wide Web. "This has set the standard for publicly funded genome sequencing," Collins said.

Asked about the project's most surprising findings, Waterston listed the large number of genes in the worm — about a fourth as many as in humans — and the organization of the animal's chromosomes. "The DNA in the middle holds critical genes that seem to be protected from evolution," he explained. "The ends can be thought of as gene nurseries and graveyards where genes are rapidly formed or lost."

Other scientists are mining the worm sequence. "Having all of the genetic information needed to specify an animal puts biology on a very firm footing," Waterston said. "The task ahead is to figure out what the sequence means and how it is used. Because of the similarities among organisms at the level of genes, that is likely to tell us a lot about what is going on in humans."

The worm project also jump-started the sequencing of the three feet of DNA that carries human genes. By 1996, Waterston and Sulston had persuaded the scientific community that their technologies were a match for a genome with 3 billion letters.

The technologies have advanced so far that the collaborators would sequence the worm's DNA in less than nine months if they started today. So they are confident that a working draft of the human genome will emerge by 2001 and a very accurate sequence will be in hand two years later.

"Now that we've pieced together several issues of the Sunday New York Times," Waterston said, "we can decipher the Encyclopedia Britannica."

Sastry

Engineer named first Byrnes professor

— from page 1

Chris and Cathy Byrnes and the inaugural chairholder, Dr. Shankar Sastry."

Byrnes praised the engineering school community. "It speaks highly of our school culture," he noted, "that someone would make an anonymous gift such as this."

The professorship recognizes the contributions that the Byrneses have made to the University. They came to the University in 1989, when Byrnes became professor of systems and control and chair of the Department of Systems Science and Mathematics. Byrnes was named the engineering school's eighth dean in 1991. He is internationally known in his field of automatic controls, and has received several distinguished international awards for his scholarly work. He serves on the board of directors of several corporations and is chairman of the board of the Center for Emerging Technologies in St Louis.

Catherine M. Byrnes has volunteered her time and energy to several not-for-profit organizations and is a troop leader for the Girl Scouts. She is an active supporter of the engineering school's effort to enhance engineering education and research. She and her husband are parents of three children, Kathleen, Alison and Christopher Jr.

Sastry: Pioneer in materials science

Sastry has performed pioneering research in metals and materials science since the 1970s. After receiving a Ph.D. in metallurgy and materials science in 1974, Sastry spent two years as a National Research Council research associate/visiting scientist at Wright Patterson Air Force Base in Ohio. There he conducted pioneering research in titanium aluminides as substitutes for nickel base superalloys in advanced gas turbine engine applications.

From 1977 to 1991, Sastry worked at the McDonnell Douglas Research Laboratories, where he eventually became chief scientist and program director of metals and composites. The super plastic forming processing maps he developed there have proven to be extremely useful in the manufacturing of airframe components. His pioneering research in rapid solidification processing of titanium alloys formed the basis for subsequent research in the field.

Sastry came to Washington University in 1991 in the Department of Mechanical Engineering and has been a principal investigator on grants funded by the National Science Foundation, Air Force Office of Scientific Research, NASA and the U.S. Army Research Office in the areas of aluminum alloys and composites, nanocrystalline materials, high temperature materials, composite solders, thermomechanical fatigue of solder joints, hydrogen effects in titanium alloys, and consolidation and deformation process modeling.

Pope

Planning for traffic, parking during visit

— from page 1

Parkway will be closed from approximately 1:30 to 3 p.m., and all access roads to Forest Park Parkway (Millbrook Boulevard) will be blocked during that time. The University's shuttle service will not operate from noon to 3 p.m.

• **Wednesday, Jan. 27:** Forest Park Parkway is likely to be closed again from 5:30 to 6:30 p.m. during the pope's departure.

Hoffner said the latter closure will present a major challenge because it's during rush hour.

"No one will be able to get out onto Forest Park Parkway. All the north/south streets that cross the parkway will have traffic blocked at this time," he said.

Bill Taylor, director of the Police Department, said people will need to be patient, because huge crowds are expected for the two-day event.

"Estimates are that between half a million to a million people from outside the St. Louis area will be here. We are concerned with getting the pope expeditiously to the parade starting point at Lindell," he said.

Near the medical campus, Lindell between Euclid and Newstead avenues will be closed to all but residential and VIP traffic from approximately 1 p.m. on Jan. 26 to 6:30 p.m. Jan. 27th.

Because the pope will be staying at the archbishop's residence several blocks from the Washington University Medical Center campus, large crowds are expected for the duration of his visit. The medical campus is advising employees and patients to allow extra time to get to and from the medical center, and carpooling is strongly encouraged. Extra assistance will be provided for employees and patients at medical center parking lots and garages. Employees are encouraged to carry badges at all times to help with accessibility.

Based on the most recent American visit (Denver 1993), the medical center is prepared to provide services for at least 1,000 additional emergency room visits during the two-day visit. Normal volume at Barnes-Jewish Hospital is 200-220 visits per day.

Many department heads have received inquiries from employees about taking time off to see the pontiff.

"The University shares in the excitement of those employees who will take part in the papal visit festivities," said John Loya, vice chancellor for human resources. However, Loya added, University policy does not provide leave for such events, and employees will need to use vacation time to see the pope during work hours.

For updated information, call the public hotline at 935-9844.

Campus Watch

The following incidents were reported to University Police from **Dec. 7–Jan. 10.** Readers with information that could assist in investigating these incidents are urged to call **935-5555.** This release is provided as a public service to promote safety awareness and is available on the University Police Website at **rescomp.wustl.edu/~wupd.**

12:13 p.m. — A student reported that between 11 a.m. and noon someone stole an unattended laptop computer, valued at $2,000, from the second floor of Anheuser-Busch Hall.

2:01 a.m. — Several fraternity members discovered a man inside #4 Fraternity Row carrying a laptop computer. The students chased the man from the house. As he was leaving, he threw the computer against a wall, causing it extensive damage. The man fled in a Dodge minivan. An investigation is continuing.

University Police also responded to 19 additional reports of theft, 13 reports of vandalism, four reports of trespassing, two additional reports of burglary, two reports of attempted burglary, two arrests for outstanding warrants, two reports of fires, two disturbance reports, two reports of telephone harassment and a drug paraphernalia confiscation.

Employment

Use the World Wide Web to obtain complete job descriptions. Go to **cf6000.wustl.edu/hr/home (Hilltop)** or **medicine.wustl.edu/wumshr (Medical).**

Medical Campus

This is a partial list of positions at the School of Medicine. Employees: Contact the medical school's Office of Human Resources at 362-7196. External candidates: Submit resumés to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, Mo. 63110, or call 362-7196.

Program Analyst 981699

Database Analyst 990045

Custodian Services Supervisor 990517

Administrative Assistant 990761

Technician 990827

Animal Care Technician 990861

Hilltop Campus

Information regarding positions may be obtained in the Office of Human Resources, Room 130, West Campus. If you are not a WU staff member, call 935-9836. Staff members call 935-5906.

Mechanic (Bargaining Unit Employee) 990104

Publications Editor/ Coordinator 990115

Administrative Assistant 990119

Director, Arts and Sciences Annual Fund/Director of Development, Olin Library 990120

Researcher 990122

Department Secretary 990124

Government Grants Senior Specialist 990132

Shelving Assistant 990135

Assistant Director, Development Services 990139

Circulation Services Assistant 990141

Accounting Operations Project Manager 990142

Switchboard Operator (part time) 990143

Administrative Assistant 990144

Apartment Referral Service Coordinator 990145

Receptionist 990146

Assistant Records Manager 990147

Public Service Coordinator (part time) 990152

Accounts Payable Representative Trainee 990153

Accounts Receivable Service Representative 990155

Associate Director, Annual Giving Programs 990156

Earth and Planetary Sciences Library Assistant 990158

Associate Dean and Director, Weston Career Resources Center 990160

Department Secretary II 990161

Notables

Of note

William H. Gass, Ph.D., the David May Distinguished University Professor in the Humanities in Arts and Sciences; **Henry I. Schvey,** Ph.D., chair and professor of the Performing Arts Department in Arts and Sciences; and **Lorin Cuoco,** associate director of the International Writers Center in Arts and Sciences will take part in a reading honoring the writers of St. Louis who have been immortalized in the Walk of Fame on Delmar Boulevard, at 1:30 p.m. Sunday, Jan. 24, at Blueberry Hill Restaurant and Bar. Gass will read from his own works, Schvey will read from A.E. Hotchner's "King of the Hill," and Cuoco will read from Marianne Moore. Other writers with University ties who will have works read include Stanley Elkin, T.S. Eliot, Howard Nemerov, Mona Van Duyn and Tennessee Williams.

Kathleen B. Hall, Ph.D., associate professor of biochemistry and molecular biophysics, recently received a four-year $929,759 grant from the National Institute of General Medical Sciences for a project titled "Molecular Recognition of RNA by the Human U1A Protein."

On assignment

Jo Noero, the Ruth and Norman Moore Professor of Architecture and director of the graduate program in architecture, recently served on the jury for the international Urban Housing Plus: Integrated Urban Development Solutions Competition. The student design competition was sponsored by the Association of Collegiate Schools of Architecture (ACSA). The award topic was the subject of a panel at the ACSA International Conference in Rio de Janeiro, Brazil.

Speaking of

David J. Pittman, Ph.D., professor emeritus of psychology in Arts and Sciences, recently presented a paper titled "Major Issues in Determining the Social Costs of Alcohol Dependency" at the 42nd International Council on Alcoholism and Addictions' International Institute at St. Julians, Malta. ...

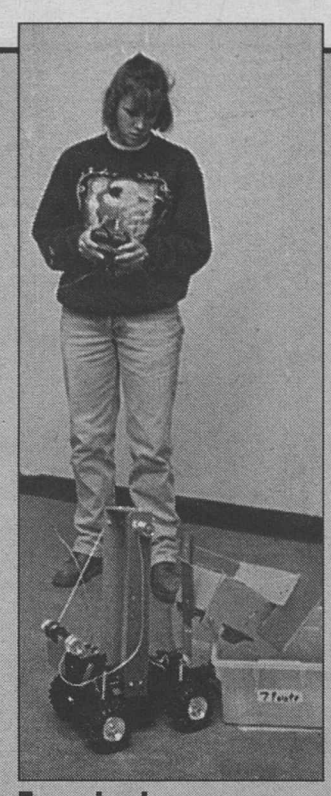
Rai Ajit K. Srivastava, Ph.D., research associate professor of medicine, was a guest speaker at the A. Scaturro Foundation meeting on "The Hypercholesterolemia: From Genetics to Clinics," held Oct. 10, 1998, in Sciacca, Italy. The topic of his lecture was "Estrogen-mediated Regulation of Gene Expression." Srivastava also organized a workshop on "Techniques in Molecular Biology" for the researchers at Palermo University and Catania University, both in Italy.

To press

Frances H. Foster, J.D., J.S.D., professor of law, recently published two articles, "The Illusory Promise: Freedom of the Press in Hong Kong, China" in the Indiana Law Journal, and "Translating Freedom for Post-1997 Hong Kong" in the Washington University Law Quarterly. Her article titled "Towards a Behavior-based Model of Inheritance? The Chinese Experiment" will appear this fall in the University of California at Davis Law Review.

Guidelines for submitting copy:

Send your full name, complete title(s), department(s), phone number and highest-earned degree(s), along with a description of your noteworthy activity, to Notables, c/o David Moessner, Campus Box 1070, or e-mail David_Moessner@aismail.wustl.edu. Items must not exceed 75 words. For information, call 935-5293.

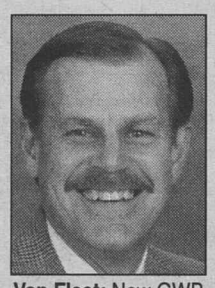


Energized Some 100 Energizer batteries, donated by David Printup of Energizer Battery Co., St. Louis, power cars designed by students in Mechanical Engineering 141, including junior Joanna Reich (above). The cars had to maneuver up a winding ramp, pick up golf balls and place them in buckets. Mark Jakiela, Ph.D., the Lee Hunter Associate Professor of Mechanical Design, teaches the course.

Van Fleet to direct social work alumni and development

Ronald N. Van Fleet II has been appointed director of development for the George Warren Brown School of Social Work, according to David T. Blasingame, vice chancellor for alumni and development programs.

As director, Van Fleet will manage and supervise all aspects of the social work school's development efforts. Prior to this appointment, Van Fleet served as associate director of development for the John M. Olin School of Business and was instrumental in many of the school's achievements, including building a very active Executive MBA alumni association.



Van Fleet: New GWB development director

"We are fortunate to have Ron direct the efforts in the School of Social Work," Blasingame said. "He is an enthusiastic, dedicated team player who brings much enthusiasm and many strengths to the position."

Shanti K. Khinduka, Ph.D., dean of the social work school, said: "We are pleased to have Ron join our team as we continue to meet the existing challenges identified in our Project 21 Plan. Ron already has done very impressive work at Washington University, which will help us all in his new position."

Van Fleet joined the University in 1987 as director of admissions for the School of Law. Before leaving the University in 1997, he was associate director of development for the business school from 1993 to 1997.

During that time, he managed the Executive MBA alumni association, coordinated Olin's Eliot Society membership campaign and facilitated Olin's Century Club speakers series. He also was active in launching Olin's alumni seminar series program.

Van Fleet holds a bachelor's degree in history, graduating in 1974 from Graceland College in Iowa, and a master's degree in recent American history, graduating in 1976 from the University of Missouri at Kansas City.

Obituaries

Luman E. Wilcox, former geophysicist

Luman E. Wilcox, a geophysicist who was associated with the School of Engineering for 15 years, died Saturday, Dec. 12, 1998, at his home in Manchester, Mo., after suffering from pancreatic cancer. He was 66.

Wilcox served as affiliate professor part-time of engineering from 1978 to 1988 and then as a lecturer in the School of Technology and Information Management from 1988 to 1993.

School of Medicine faculty members receive promotions

The following School of Medicine faculty received promotions on record as of Aug. 31, 1998.

Usha P. Andley, Ph.D., to associate professor of ophthalmology and visual sciences (also assistant professor of biochemistry and molecular biophysics)

Dorothy A. Andriole, M.D., to associate professor of surgery (general surgery) (also assistant dean of student affairs and medical education)

James A. Bartelsmeyer, M.D., to associate professor of obstetrics and gynecology

Premsri Tang Barton, M.D., to associate professor of radiology

Amy J. Bastian, Ph.D., to assistant professor of physical therapy and of neurobiology

Joe E. Belew, M.D., to associate professor of clinical obstetrics and gynecology

Gregory W. Botteron, M.D., to assistant professor of medicine

Eric J. Brown, M.D., to professor of molecular microbiology (also professor of medicine and of cell biology and physiology)

L. Michael Brunt, M.D., to associate professor of surgery (general surgery)

Andrew C. Chan, M.D., Ph.D., to associate professor of medicine (also associate professor of pathology)

Michael R. Chicoine, M.D., to assistant professor of neurological surgery

David P. Cistola to associate professor of biochemistry and molecular biophysics

Thomas G. Cole, M.D., Ph.D., to research professor of biochemistry in medicine

Linda B. Cottler, Ph.D., to professor of epidemiology in psychiatry

Constance S. Courtois, M.D., to assistant professor of radiology

Stephen R. Crespin, M.D., to associate professor of clinical medicine

Samuel E. Dagogo-Jack, M.D., to associate professor of medicine

Rosa Maria Davila, M.D., to associate professor of pathology

Farrokh Dehdashti, M.D., to associate professor of radiology

Lucian V. Del Priore, M.D., Ph.D., to associate professor of ophthalmology and visual sciences

Brian K. Dieckgraefe, M.D., Ph.D., to assistant professor of surgery (general surgery)

John F. DiPersio, M.D., Ph.D., to professor of medicine (also associate professor of pathology and of pediatrics)

J. Christopher Eagon, M.D., to assistant professor of surgery (general surgery)

Julaine Florence, P.T., M.H.S., to research associate professor of physical therapy (also research assistant professor of neurology)

James W. Forsen Jr., M.D., to assistant professor of otolaryngology

Victoria Fraser, M.D., to associate professor of medicine

Jonathan D. Gitlin, M.D., to professor of pediatrics (also professor of pathology)

Alison M. Goate, D.Phil., to professor of genetics in psychiatry and of genetics

Daniel E. Goldberg, M.D., Ph.D., to professor of medicine (also associate professor of molecular microbiology)

William E. Goldman, Ph.D., to professor of molecular microbiology

Diana L. Gray, M.D., to associate professor of obstetrics and gynecology (also associate professor of radiology)

Ann M. Gronowski, Ph.D., to assistant professor of pathology

Robert J. Gropler, M.D., to associate professor of radiology

Xianlin Han, Ph.D., to research assistant professor of medicine

S. Paul Hmiel, M.D., Ph.D., to assistant professor of pediatrics

Elizabeth Israel, M.D., to assistant professor of medicine

Mark C. Johnson, M.D., to assistant professor of pediatrics

Ronald Kinateder, M.D., to assistant professor of clinical surgery (general surgery)

George Robert Kletzker, M.D., to assistant professor of clinical otolaryngology

David Koh, M.D., to assistant professor of medicine

Marin N. Kollef, M.D., to associate professor of medicine

John M. Lasala, M.D., Ph.D., to associate professor of medicine

David A. Leib, Ph.D., to associate professor of ophthalmology and visual sciences (also assistant professor of molecular microbiology)

Ben Wen Li, M.D., to research assistant professor of medicine

Mark E. Lowe, M.D., to associate professor of pediatrics and associate professor of molecular biology and pharmacology

Peter D. Lukasiewicz, Ph.D., to associate professor of ophthalmology and visual sciences (also assistant professor of anatomy and neurobiology)

Susan B. Mallory, M.D., to professor of medicine (dermatology) (also associate professor of pediatrics)

Diane F. Merritt, M.D., to professor of obstetrics and gynecology

Steven B. Miller, M.D., to associate professor of medicine

Robert Nease Jr., Ph.D., to associate professor of medicine

Gerald Newport, M.D., to assistant professor of clinical obstetrics and gynecology

Anne Fagan Niven, Ph.D., to research assistant professor of neurology

Barbara Norton, Ph.D., to assistant professor of physical therapy

David R. Piwnica-Worms, M.D., Ph.D., to professor of radiology (also associate professor of molecular biology and pharmacology)

Helen M. Piwnica-Worms, Ph.D., to professor of cell biology and physiology (also HHMI associate investigator in cell biology and physiology)

Katherine Parker Ponder, M.D., to associate professor of medicine (also assistant professor of biochemistry and molecular biophysics)

William G. Powderly, M.B., B.Ch., B.A.O., to professor of medicine

Jodie Rai, M.D., to assistant professor of obstetrics and gynecology

Treva K. Rice, Ph.D., to research assistant professor of biostatistics

Shirley A. Sahrmann, Ph.D., to professor of physical therapy and of cell biology and physiology (also associate professor of neurology)

Mitchell G. Scott, Ph.D., to associate professor of pathology (also clinical research assistant professor of medicine)

Robert B. Shuman, M.D., to associate professor of clinical medicine

L. David Sibley, Ph.D., to associate professor of molecular microbiology

Matthew J. Silva, Ph.D., to assistant professor of orthopedic surgery

David Siroospour, M.D., to assistant professor of clinical surgery (general surgery)

Joseph M. Smith, M.D., Ph.D., to associate professor of medicine (also professor of biomedical engineering and assistant professor of biomedical computing in the Institute for Biomedical Computing)

Rai Ajit Srivastava, Ph.D., to research associate professor of medicine

Joseph W. St. Geme, M.D., to associate professor of pediatrics and of molecular microbiology

Paul M. Stein, M.D., to associate professor of clinical medicine

Kongsak Tanphaichitr, M.D., to associate professor of clinical medicine

Pablo Tebas, M.D., to assistant professor of medicine

Jeffrey H. Teckman, M.D., to assistant professor of pediatrics

Rene Tempelhoff, M.D., to professor of anesthesiology and of neurological surgery

Mark Thoelke, M.D., Ph.D., to assistant professor of clinical medicine

Robert W. Thompson, M.D., to associate professor of surgery (general surgery), of cell biology and physiology and of radiology

Erik P. Thyssen, M.D., to assistant professor of clinical medicine

Dwight Towler, M.D., Ph.D., to associate professor of medicine (also assistant professor of molecular biology and pharmacology)

Linton M. Traub, M.S., to research assistant professor of medicine (also research assistant professor of cell biology and physiology)

Elbert P. Trulock III, M.D., to professor of medicine

Thomas Mark Vesely, M.D., to associate professor of radiology and of surgery (general surgery)

Herbert W. Virgin IV, M.D., Ph.D., to associate professor of pathology (also associate professor of molecular microbiology and assistant professor of medicine)

Gabriel Waksman, Ph.D., to associate professor of biochemistry and molecular biophysics

Mark A. Watson, M.D., Ph.D., to assistant professor of pathology

Leonard B. Weinstock, M.D., to associate professor of clinical medicine (also assistant professor of clinical surgery)

Alvin S. Wenneker, M.D., to professor of clinical medicine

Susan R. Wente, Ph.D., to associate professor of cell biology and physiology

David B. Wilson, M.D., Ph.D., to associate professor of pediatrics and of molecular biology and pharmacology

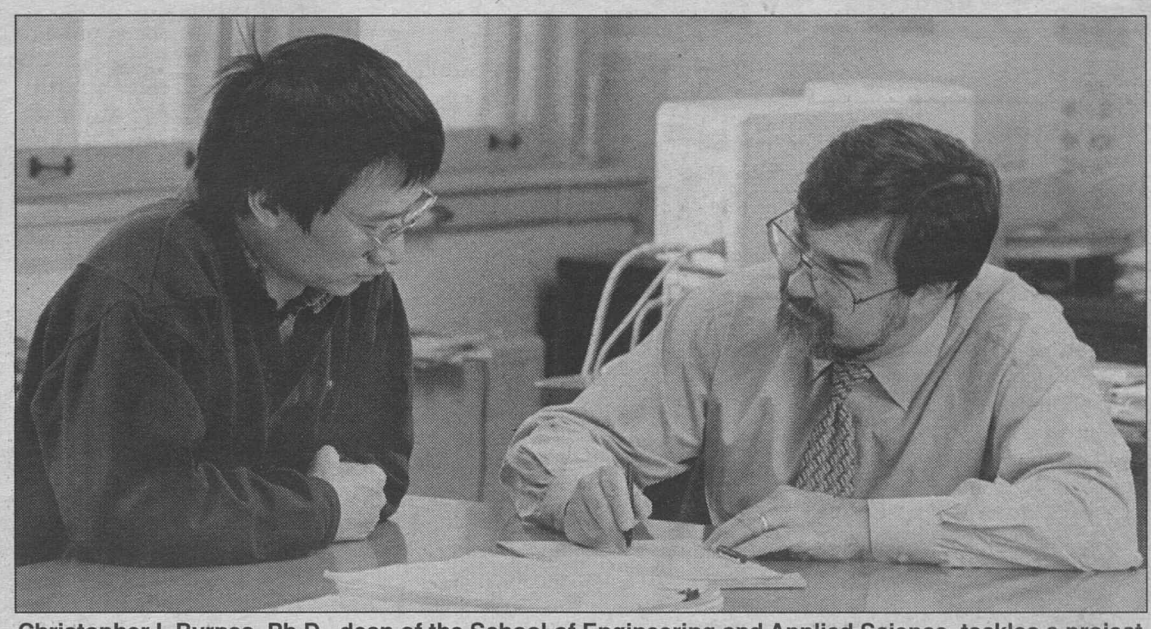
Pamela K. Woodard, M.D., to assistant professor of radiology

Dmitriy A. Yablonskiy, Ph.D., to assistant professor of radiology (also professor of physics)

Washington People

On Nov. 20, 1998, Christopher I. Byrnes, Ph.D., stood in the famed Blue Room of the City Hall of Stockholm, Sweden, to receive one of the highest honors an engineer can receive in the world, the honorary doctor of technology degree from the Swedish Royal Institute of Technology.

Byrnes, dean of the School of Engineering and Applied Science since 1991, was being honored in the same plush setting where Nobel Prize winners are feted, and he was in good company. Also recognized that day — in festivities that ran for 12 hours — was the 1997 Nobel Prize winner for physics, Claude Cohen-Tannoudji, professor at the College de France, Paris. Byrnes' recognition came for two decades of pioneering research in linear



DAVID KILPER

Christopher I. Byrnes, Ph.D., dean of the School of Engineering and Applied Science, tackles a project with former graduate student Wei Lin.

'It doesn't get any better than this'

Chris Byrnes savors School of Engineering's culture and community

By Tony Fitzpatrick

control systems analysis and his solution of longstanding systems science problems. He came back home from Scandinavia's leading engineering school with a diploma, an elegant top hat and ring, and the gratifying feeling that "it can't get much better than this."

It got better than that less than three weeks later, when Shankar M. L. Sastry, Ph.D., was installed as the first Catherine M. and Christopher I. Byrnes Professor of Engineering Dec. 8, 1998, an appointment made possible by an anonymous donor in recognition of the Byrneses' many contributions to the engineering school.

After a warm introduction from Chancellor Mark S. Wrighton, who noted the rarity of the professorship, and comments from Catherine Byrnes, Chris Byrnes praised the engineering school family and the culture that encouraged an anonymous donor. "It doesn't," he added with conviction, "get better than this."

Byrnes' life progression, in short, is a story of making things better — for his research specialty, systems science and control; for the institutions he's served; and for the engineering school.

The institutions where he's taught are legion. Byrnes has been a tenured professor at three universities since 1978 —Harvard, Arizona State and Washington University — and in that span he has held visiting appointments at institutions in Austria, France, Germany, Italy, Japan, The Netherlands, Sweden and the former USSR, as well as Harvard, Stanford and the University of Kansas. At both Harvard and Arizona State, Byrnes held joint appointments and taught courses in computer science, electrical engineering, mathematics and physics.

He is an international figure in systems science, and his reputation as a leader of a large, progressive engineering school is constantly growing. His problem-solving abilities are legendary, making him an attractive specialist to institutions worldwide.

Systems Science

Byrnes' field is systems science and control. It owes much of its modern development to technology that came during and after World War II. Radar, for instance: The Battle of Britain was won not by using many separate radar stations but by integrating them into an active system that could manage detecting many planes quickly. Television, with its 10,000 active elements, is another example. The systems approach is to design a number of subsystems and interconnect them with amplifiers and other feedback devices and then tune the feedback devices so that, in the case of TV, the system deals with a small number of subsystems to get both a good picture and quality sound.

Over the years, Byrnes and his collaborators have used innovative geometric and algebraic methods to improve a variety of automatic control problems, ranging from electrical power systems and the synthesis of speech to signal processing, among many others.

The gala end of 1998 for Byrnes contrasts vividly to his upbringing in the Bronx section of New York City. The oldest of four children, Byrnes was raised by a mother who stayed at home and a father who worked as a city bus driver and later as a dispatcher.

Byrnes has been a man on the go from his college days, when he landed a summer job in 1969 with the United Nations between his sophomore and junior years at New York's Manhattan College. The United Nations sent Byrnes to an IBM school for a month to learn computers from the ground floor up, and at age 20 he had become a U.N. economic forecaster.

Byrnes went on to the University of Massachusetts, receiving a master's degree and a Ph.D. in mathematics in 1973 and 1975.

At the time, computer science was not the established discipline that it is today. Nonetheless, Byrnes was drawn more closely to computing and engineering applications. At the University of Massachusetts, he was greatly influenced by the mentoring of the late Marshal H. Stone, Ph.D., a famous mathematician who had not overseen a doctoral candidate in more than two decades until Byrnes came along. Through Stone, Byrnes became exposed to research beyond classical mathematics including computing, quantum mechanics and electrical engineering.

> **"I visited Washington University a lot in the late '70s and early '80s, and I always knew I wanted to come here, when the time was right."**

At 27, Byrnes went to Harvard. There he worked with the renowned mathematician David Mumford, Ph.D., and with Roger Brockett, Ph.D., a world leader in automatic control and systems engineering in the Division of Applied Science. He moved on to Arizona State in 1984 and came to Washington University in 1989 as professor of systems and control and chair of the systems science and mathematics department.

Washington University had been prominent in Byrnes' thoughts since his Harvard days.

"I visited Washington University a lot in the late '70s and early '80s, and I always knew I wanted to come here, when the time was right," Byrnes said. "In 1989, Catherine and I were eager to come here, and one of the attractions was the appointment of my collaborator Alberto Isidori, of the University of Rome, and the outstanding reputation Washington University has had in my field."

Eighth dean

Byrnes became only the eighth dean of the engineering school in 1991. As dean, he has ushered in many innovations, strengthened ties and activities with alumni and helped boost undergraduate applications from 1,400 in 1994 to over 3,000 in 1998, at a time of declining national enrollments in engineering. The school has developed an internationally recognized research program in networking and telecommunications and started a very popular Department of Biomedical Engineering in 1997.

When asked about his greatest professional accomplishment, Byrnes said, without hesitation: "Serving as dean of engineering at Washington University. Despite the serious challenges a decade ago to engineering nationwide, the school has emerged stronger and better for several reasons." He cited recruiting and retaining outstanding faculty, the involvement and support of alumni and a clearly focused strategic plan, which the entire school family helped develop.

Byrnes praised the school's students for their drive and leadership and the faculty, noting that in the past five years faculty members have been involved in the start-up of 15 companies, and 13 faculty members have received prestigious career award grants.

Looking into the next millennium, Byrnes is optimistic and very grateful. "I am so proud of the School of Engineering and Applied Science. I believe our phenomenal success in undergraduate recruitment will make us equally successful in graduate recruitment, and there are many major accomplishments that we'll achieve. As Cathy and I said at the installation of Dr. Shastry, "It doesn't get any better than this."

When Sweden's Royal Institute of Technology honored Chris Byrnes in November, the 12-hour festivities included a cannon salute outside the Stockholm City Hall. The shell casing then became a vase, placed on Byrnes' table by an usher.

Christopher I. Byrnes, Ph.D.

Education Manhattan College, B.A.,1971, mathematics; University of Massachusetts, M.A., 1973; Ph.D., 1975

Position Dean of the School of Engineering and Applied Science, professor of systems and control

Distinctions Honorary Doctor of Technology, from the Royal Institute of Technology, Sweden, 1998; Fellow, Japan Society for the Promotion of Science, Institute of Electrical and Electronic Engineers (IEEE), Academy of Science of St. Louis. Chairman of the Board, Center for Emerging Technologies, St. Louis

Family Wife, Catherine M. Byrnes; three children, Kathleen, Alison and Christopher Jr.

Hobbies Deep-sea fishing, cooking, travel, languages and cultures