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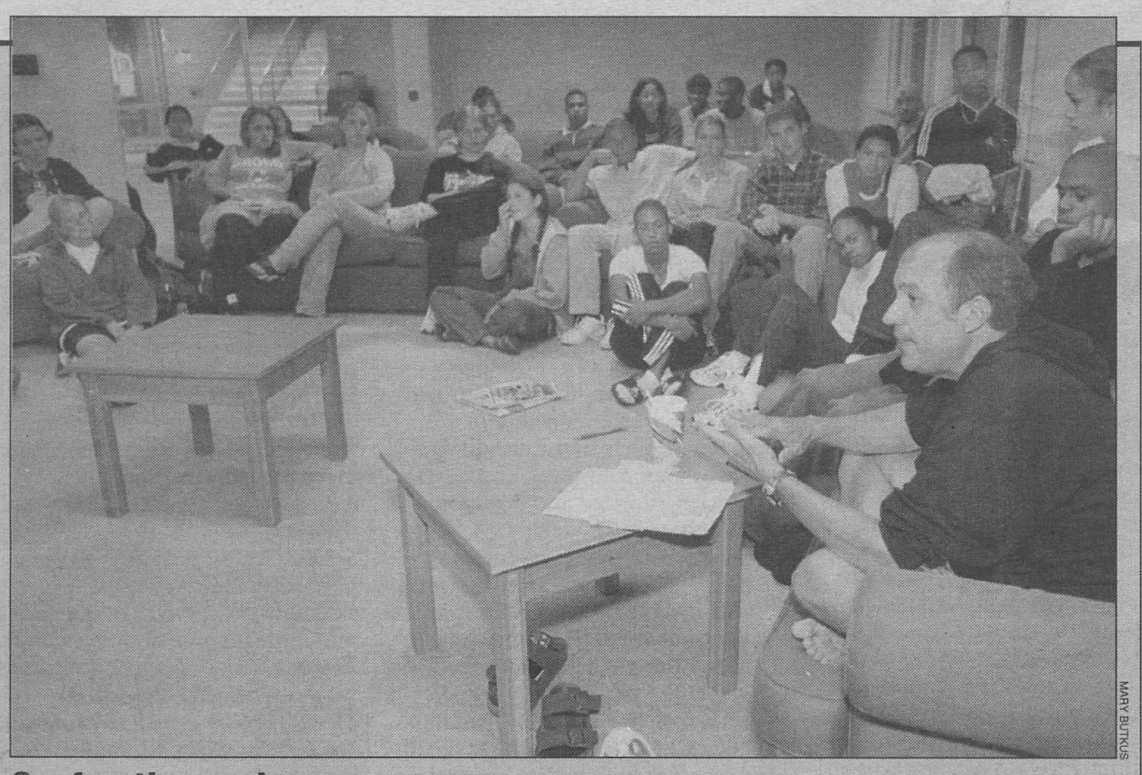
★ ★ ★ Washington University in St. Louis ⚜ ⚜ ⚜



MARY BUTKUS

Confronting racism The Rev. Gary Braun (right foreground), director of the Catholic Student Center, leads a dialogue titled "Racism: Is It a Mental Disease or Is It Human?" Oct. 6 in Friedman Lounge, Wohl Center, as part of a week-long Student Union initiative on race relations. The week's events, similar to programs at colleges and universities across the country, also included small group conversations, panel discussions, a town hall forum and graffiti boards where students could express their views. The U.S. Department of Education sponsored the nationwide effort as part of President Clinton's Initiative for One America.

First for Missouri

New supercomputer, lab will be 'bridge to future'

By Tony Fitzpatrick

Two new National Science Foundation (NSF) grants to Washington University will bring Missouri its first science supercomputing center and an astrophysics simulation laboratory. The laboratory, through cyberspace, will enable users to apply the Einstein theory of general relativity to the simulation of neutron stars and black holes; anyone from the highest tier researcher to the merely inquisitive can thus explore a simulated universe.

Wai-Mo Suen, Ph.D., professor of physics in Arts and Sciences, is the principal investigator for the grants, totaling $4 million, to support collaborative supercomputing research with investigators here and at other major universities.

One is a three-year $1.8 million grant from the NSF Major Research Instrumentation (MRI) program to purchase a supercomputer and establish a Center for Scientific Computing within the Division of Natural Sciences and Mathematics. Co-investigators on this grant are Claude W. Bernard, Ph.D., professor of physics; Barbara Pickard, Ph.D. professor of biology; Victor Wickerhauser, Ph.D., professor of mathematics; and Michael E. Wysession, Ph.D., associate professor of earth and planetary sciences.

The four co-principal investigators on the grant are but a handful of University researchers who will access the supercomputer to expedite and enhance their research projects.

The MRI program grant will bring a "massively parallel" computer to the Hilltop campus. A massively parallel computer harnesses the power and production of many computer processors simultaneously to process information and graphics at rapid speed.

"The vision is that, with this computer on campus, we will be able to build a community of users of parallel scientific computing," Suen said. "There is a strong core of researchers here already using massively parallel computing at the national centers, but they become stymied when they have to wait for

See **Supercomputer,** page 6

George Bush headlines Founders Day

Former President George Bush will address this year's Founders Day dinner Oct. 30 at the America's Center, St. Louis. The annual event is sponsored by the Washington University Alumni Board of Governors to commemorate the University's founding in 1853.

The event will begin with cocktails at 6:30 p.m., followed by dinner at 7:15 p.m. The program will begin at 8:30 p.m.

The Founders Day ceremony includes the presentation of the Distinguished Faculty awards, the Distinguished Alumni awards and the Board of Trustees' Robert S. Brookings awards.

Bush began his career in government in 1966, when he was elected to the U.S. House of Representatives from Texas' 7th District. In 1971, he was named U.S. Ambassador to the United Nations. Two years later he became chairman of the Republican National Committee. In October 1974, Bush traveled to Peking, where he served as chief of the U.S. Liaison Office during the critical period when the United States renewed ties with the People's Republic of China. In 1976, he was appointed director of the Central Intelligence Agency.

Bush was selected to be Ronald Reagan's running mate in 1980. He served as vice president for two terms. Bush was elected the 41st president of the United States in 1988 and served through 1992.

Since leaving office, Bush has written three books, including "A World Transformed," co-authored with Gen. Brent Scowcroft, and the recently-released "All the Best."

Six alumni will be recognized for "outstanding achievements, public service and exceptional service to Washington University." This year's recipients are Dolores Baja-Lasán, Ph.D. (Social Work, 1959), chancellor of the Philippine Women's University System; John Davis Ezell (Art, 1954), artist and set designer; Mark J. Ginsburg, M.D. (Arts & Sciences, 1973, and house staff, 1981), rheumatologist; W. Patrick McGinnis (Business, 1972), president and chief executive officer, Ralston Purina Co.; William F. Patient (Engineering, 1957), retired chairman of the board, The

Bush: Quarter century of service

See **Bush,** page 6

Wayman Crow Professorship in physics goes to John Clark

John Walter Clark, Ph.D., professor of physics in Arts & Sciences, has been named the Wayman Crow Professor of Physics, effective Oct. 1. A formal installation ceremony will take place in spring 2000.

"John represents a model for an endowed professor," said Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences. "He is internationally respected for his research, and he has been an outstanding teacher at all levels. In addition, he has worked hard to strengthen both the physics department and the University. I'm delighted to name him to this, the second oldest professorship at Washington University."

Clark Distinguished theoretical physicist

Clark received a bachelor of science degree in 1955 and a master of arts in 1957, both from

See **Clark,** page 2

Mouse next in line for DNA sequencing; new network formed

By Linda Sage

The School of Medicine will participate in a major new research program to decipher the genetic makeup of the mouse, one of the most frequently used mammals in medical and behavioral research.

The National Institutes of Health (NIH) announced Oct. 5 that it will initiate this project with $21 million, provided over the next seven months to 10 laboratories that have formed the Mouse Genome Sequencing Network. The network will determine the physical organization of the mouse's 21 chromosomes and will sequence the estimated 3 billion chemical letters in the chromosomes' DNA. It expects to complete a working draft in three years.

Washington University will receive $2.7 million of this funding and expects to receive a total of $24.6 million for the first three years. John D. McPherson, Ph.D., assistant professor of genetics, will be the University's principal investigator for the mouse project.

"Because mice and humans share many of the same fundamental biological and behavioral processes, this animal is one of the most significant laboratory models for human disease," said NIH Director Harold Varmus, M.D. "Knowing the genetic make-up of the mouse, and being able to compare it to the DNA of humans and other animal species, will greatly expedite many avenues of research, including assessing predisposition to disease, predicting responses to environmental agents and drugs, and designing new medicines."

McPherson Principal investigator here

The NIH funding for the Mouse Genome Sequencing Network illustrates the value of the mouse genome to a wide spectrum of biomedical scientists.

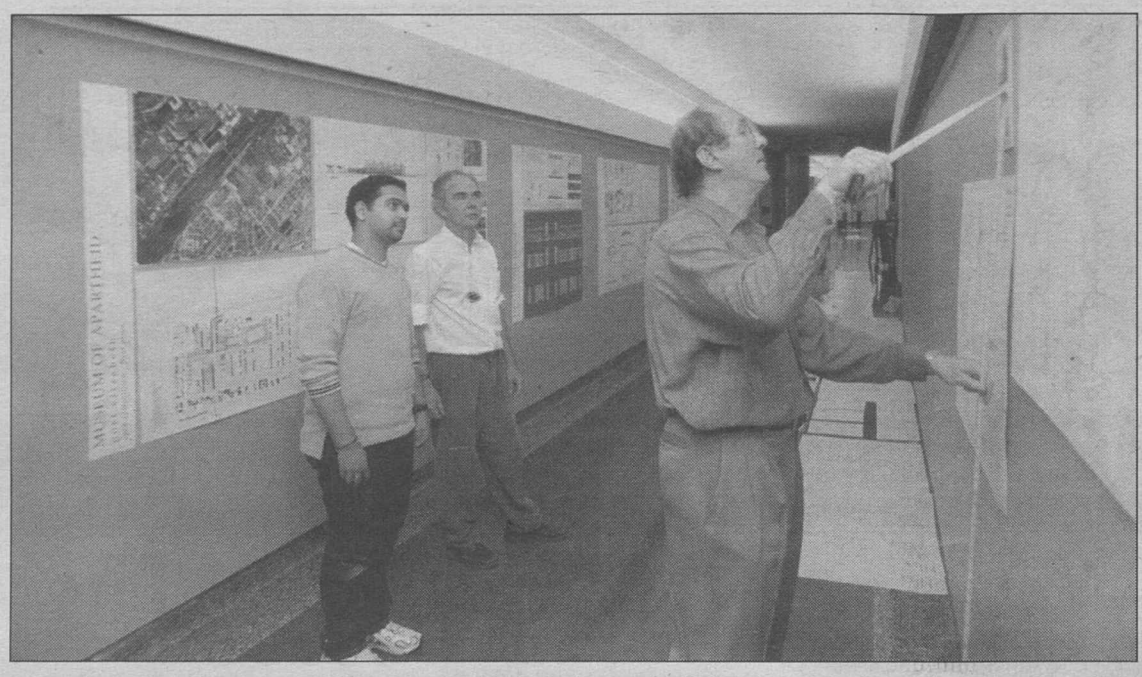
"Every institute at NIH, with support of the NIH Office of the Director, has made a contribution to the first year of funding for the Mouse Genome Sequencing Network, demonstrating the importance of this work to research progress in virtually every area of biomedical research, from hereditary hearing impairments to Alzheimer's," said James F. Battey Jr., M.D., Ph.D., director of the National Institute on Deafness and Other Communication Disorders of NIH and co-chair of the Trans-NIH Mouse Genomics and Genetics Resources Coordinating Group.

Research on the mouse genome will occur in two stages, following the strategy now being used by the international Human Genome Project to sequence the genetic blueprint of the human. Scientists working on the mouse genome first will focus their efforts on completing an intermediate working draft version of the animal's genetic instructions. This first stage will be completed no later than 2003. They then will turn their attention to filling any gaps in the draft and finishing the sequence in high-quality final form by 2005.

"Many scientists have told us that sequence data, even in working draft form, is very useful to their research. For that reason, the Human Genome Project and now the mouse sequencing effort will complete their work in these two stages," said Francis Collins, M.D., director of the National Human Genome Research Institute (NHGRI) of NIH. NHGRI is leading the NIH's participation in the Human Genome Project.

By spring 2000, the Human Genome Project will produce a working draft of the genetic blueprint of the human. By 2003, or possibly sooner, the finished high-quality version of the human

See **Genome,** page 6



JOE ANGELES

Second year architecture graduate student Ashwin Toney (left) and Jo Noero (center), the Ruth and Norman Moore Professor of Architecture, counsel Professor Paul Donnelly as he installs his designs in a new Givens Hall exhibit titled "Critical Practice — Works in Progress" now on view. Noero's designs hang on the wall at left. The work of Associate Professor Adrian Luchini is also part of the exhibit.

Linking practice and theory

Architecture faculty exhibit rich variety of work

BY ANN NICHOLSON

An exhibit of current projects by three distinguished School of Architecture faculty members stresses the paramount interrelationship between architectural practice and theory.

The exhibit, "Critical Practice — Works in Progress," highlights select architectural work by Jo Noero, the Ruth and Norman Moore Professor of Architecture and director of the graduate program; Paul Donnelly, professor of architecture; and Adrian Luchini, associate professor of architecture.

In addition to their commitment to teaching, all three are internationally recognized practitioners. Noero and Donnelly each have their own firms, and Luchini is director of design for Sverdrup Facilities in St. Louis. The exhibit of their architectural drawings, renderings and photographs runs through Oct. 31 on the main floor of Givens Hall.

"The study of architecture should be constructed out of a carefully thought out relationship between practice and theory — between the equipping of students with the necessary skills for an effective practice of architecture and the testing and production of knowledge of that practice," Noero said.

Donnelly noted: "While the exhibit demonstrates a wide array of architectural projects, as both practitioners and educators we are each focusing on critical issues within the field and striving to advance the art of architecture through our work."

Noero has selected four projects that demonstrate his commitment to fine architecture while addressing critical community needs. His latest project, new parliamentary offices in Botswana, combine design, energy efficiency and elements of the indigenous culture to create a prominent new facility for the republic's ministers and president.

Noero's winning designs for the new Apartheid Museum in Port Elizabeth, South Africa, incorporate both the horrors of institutionalized racism and the heroic efforts of the anti-apartheid movement. In conjunction with the museum complex, Noero has developed experimental, low-cost housing for the adjacent Red Location community.

In the Bohemian Hill area of South St. Louis, Noero is transforming a blighted area into a vibrant community. The project combines the expertise of Noero; Donald Royse, professor emeritus of architecture; Carolyn Toft, lecturer; and several community and business groups who are currently working on a planned project of 45 rehabilitated homes and apartments and 67 new homes, the first two of which are under construction.

Donnelly, a practicing architect and engineer, is exhibiting his current work on a 40,000-square-foot facility for Family Services of Greater Boston. The project involves renovating 30,000 square feet of a historic warehouse and an addition of 10,000 square feet. Though adding highly contemporary space, Donnelly's designs strive to respect the integrity of the original building 100 years after its construction. The project demonstrates that contemporary form can be compatible with and complementary to historic form without mimicking it.

Luchini's three exhibited projects seek to improve existing conditions in three dramatically different types of space. His cutting-edge renovations of the Orlando International Airport are designed to transform 6 acres of uninspiring space into a dynamic, welcoming atmosphere using special lighting and a unique series of wave designs suspended from the ceiling.

His designs for the Southeast Missouri State University Performing Arts Center contrast his new addition — 100,000 square feet of "dancing" contemporary form — with renovations for an existing 1850s seminary. The smallest project, a 3,500-square-foot home in coastal Maine, uses design elements to underscore the relationship between architecture and landscape.

"Although our styles are very different, we are each fully engaged in both architectural practice and teaching," Luchini noted. "The overall message is not only that you can successfully do both, but also that the combination of teaching and practice affords you the unique opportunity of critically thinking through what you practice."

Clark

New Wayman Crow Professor of physics

— from page 1

the University of Texas, Austin, and a doctorate in 1959 from Washington University. During the years 1959-1963, he was successively a National Science Foundation postdoctoral fellow at Princeton University, an associate research scientist at the Martin Co., Denver, and a NATO postdoctoral fellow at both the University of Birmingham, England, and the French nuclear research establishment in Saclay.

He joined the Washington University faculty in 1963 as assistant professor of physics and was awarded an Alfred P. Sloan Foundation Fellowship in 1965. He was promoted to associate professor in 1966 and full professor in 1972, and he served as interim department chair during 1996-1997.

Clark's career is distinguished by a wide-ranging involvement in both traditional and non-traditional branches of theoretical physics.

For three decades he has played a leading role in the development and application of flexible and robust methods for quantitative prediction of the properties of strongly interacting quantum many-particle systems.

In recognition of his pioneering work in this field, Clark was awarded the Eugene Feenberg Medal for Many-Body Physics in 1987.

Since the mid-1970s, Clark's research has been increasingly cross-disciplinary in character. An early interest in neural networks as models for brain function led to studies of the complex dynamical behavior and statistical properties of these systems, as well as learning rules that allow them to store and retrieve information.

Clark's published work includes some 200 articles in professional journals and topical volumes. He has co-edited and co-authored six books, including "Scientific Applications of Neural Nets," published in 1999 by Springer-Verlag.

Working with faculty at the School of Medicine, he is currently engaged in theoretical research in neural information processing and computational neuroscience that is centered on the joint supervision of Ph.D. candidates interested in theoretical biology.

Clark has taught an unusually wide assortment of courses, both at the undergraduate and graduate levels. Since 1983, he has offered a course in neural modeling called "Physics of the Brain," which has traditionally attracted some of the most talented undergraduate students at the University. He has supervised the research of more than 20 Ph.D. recipients, 10 of whom have held tenured faculty positions.

The Wayman Crow Professorship in Physics was established in 1860 to honor Wayman Crow, who, together with William Greenleaf Eliot, was responsible for the University's founding.

Assembly Series

Veteran TV commentator, writer exploring 'Images of the Future'

Assembly Series

Who PBS' Tony Brown

Where Graham Chapel

When 11 a.m. Wednesday, Oct. 20

Admission Free and open to the public

Veteran television commentator Tony Brown will deliver the Black Arts & Sciences Festival keynote address as part of the Assembly Series at 11 a.m. Wednesday, Oct. 20, in Graham Chapel. The lecture, entitled "Images of the Future," is free and open to the public.

Brown is a writer, producer, radio host, educator and entrepreneur, but he is best known for "Tony Brown's Journal," the nation's longest-running black public affairs program and second longest-running series on the Public Broadcasting Service (PBS). The program features contemporary newsmakers and commentary on issues of special interest to the African-American community.

Throughout his career, Brown has worked in many different media. He has been a syndicated newspaper columnist, and he has written, directed and produced a film titled "The White Girl." The movie, whose title refers to a street name for cocaine, carries a strong anti-drug message. This summer, Brown inaugurated a radio show, "Tony Brown's Chicago," which airs on WLS-AM.

Brown has authored two books, "Black Lies, White Lies: The Truth According to Tony Brown" and "Empower the People: Overthrow the Conspiracy That Is Stealing Your Money and Your Freedom."

Dedicated to improving educational opportunities for African-Americans, Brown founded, taught and served as the first dean of the School of Communications at Howard University. Throughout his career, Brown has led initiatives to increase the number of minorities with careers in the media.

Brown received a bachelor's degree in sociology and a master's degree in psychiatric social work from Wayne State University in Detroit.

Brown's lecture is part of a week-long series of activities that mark the University's annual Black Arts & Sciences Festival. For more information about the Assembly Series, visit the Assembly Series web page (http://wupa.wustl.edu/assembly) or call 935-5285. For more information about the Black Arts & Sciences Festival, contact programming co-chairs Keri Mcwilliams by e-mail at kamcwill@art.wustl.edu or N'Jai-an Patters by e-mail at nepatte@artsci.wustl.edu.

Radcliffe's Dunn keynotes Olin Conference Oct. 21

Assembly Series

Who Mary Maples Dunn

Where Graham Chapel

When 4 p.m. Thursday, Oct. 21

Admission Free and open to the public

Mary Maples Dunn, acting dean of the Radcliffe Institute for Advanced Study at Harvard University, will deliver the keynote address for the annual Olin Conference as part of the Assembly Series. The title of this year's conference is "Definitions of Success," and the keynote address will take place at 4 p.m. Thursday, Oct. 21, in Graham Chapel. The lecture is free and open to the public.

Dunn has been a leader in women's higher education for more than 30 years. She has written a number of books, including "Women of America: A Teacher's Guide," "The Founding of Pennsylvania" and "William Penn: Politics and Conscience." Her current research is focused on women and religion in colonial America.

From 1995 to 1999, Dunn directed the Arthur and Elizabeth Schlesinger Library at Radcliffe College. She served as president of Smith College, Northampton, Mass., from 1985 to 1995 and as academic deputy to the president at Bryn Mawr College, in Pennslyvania, from 1981 to 1985. She was dean of Bryn Mawr's undergraduate college from 1979 to 1985.

Dunn has received fellowships from the Newberry Library in Chicago, the Institute for Advanced Study at Princeton and the National Endowment for the Humanities. She serves as chairman of the board of trustees at the Academy of Music in Northampton, Mass., and as a trustee for the Clarke School for the Deaf, also in Northampton.

Dunn earned a bachelor's degree from the College of William and Mary, Williamsburg, Va., in 1954. She received master's and doctoral degrees from Bryn Mawr College in 1956 and 1959 respectively.

For more information, visit the Assembly Series web page (http://wupa.wustl.edu/assembly) or call 935-5285.

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

Editor Betsy Rogers
Associate Vice Chancellor Judith Jasper Leicht
Executive Editor Susan Killenberg
Medical News Editor Diane Duke Williams
Assistant Editors David Moessner • Christine Farmer
Production Mona Lorne

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Medical School Update

An added benefit

Immune system protein could be critical in kidney disorders and other diseases

BY BARBRA RODRIGUEZ

Evolution has an uncanny way of reusing good blueprints, as researchers recently were reminded when they discovered that a protein involved in immune-cell interactions might be important for kidney function.

Andrey S. Shaw, M.D., principal investigator of the research on the CD2-associated protein, said, "Defects in CD2AP may play a critical role in some kidney diseases."

The research is published in the Oct. 8 issue of Science. The first authors of the paper are post-doctoral fellow Neng-Yao Shih, Ph.D., and research associate Jun Li, who both work in Shaw's laboratory at the School of Medicine.

Shaw, associate professor of pathology, led a team of researchers who studied the protein. His group originally cloned the gene as a molecule important for T cell function. The researchers were surprised to find that CD2AP also is specifically expressed in the kidney glomerulus, which filters toxins and other substances from the blood.

The researchers found that mice lacking CD2AP had defective glomeruli and died of renal failure. When they analyzed these mice, they found that CD2AP was expressed in the kidney, mainly in a cell known as a glomerular epithelial cell. The glomerular epithelial cell has a complex shape with foot-like extensions that wrap around capillaries of the glomerulus, forming spaces for the flow of blood filtrate that are called slit diaphragms. In the mice lacking CD2AP, the epithelial cells were damaged and the slit diaphragms were lost.

The mice, developed by Shih and Li, died of kidney failure by the time they were 6 weeks old. The researchers, including co-author Jeffrey H. Miner, Ph.D., assistant professor of medicine and of cell biology and physiology, found progressive damage to the foot-like extensions as early as one week after the mice were born.

How could missing CD2AP have such a dramatic effect on the kidneys? To address this question, Shaw revisited a model concerning CD2AP's potential role in T cells of the immune system. He developed this model with colleagues Michael L. Dustin, Ph.D., associate professor of pathology, and Paul M. Allen, Ph.D., the Robert L. Kroc Professor of Pathology.

T cells defend the body from microbes by interacting with another immune system cell. Shaw previously showed that CD2AP plays an important role in organizing the T cell surface, helping the cell form a molecular bridge with other immune cells.

The molecular bridge forms as a T cell molecule binds to another molecule on the other cell. CD2AP helps position the molecule, CD2, and anchor it at the right place in the membrane. CD2 also serves as a border guard, keeping proteins in separate regions on the T cell surface.

Shaw and his group were struck by the similarities between CD2 and a recently identified protein called nephrin, which is expressed in glomerular epithelial cells. Nephrin, the major component of the slit diaphragm, functions as a molecular bridge between epithelial cells and as a barrier between two distinct surfaces of the epithelial cell. This suggested to Shaw that CD2AP might function by binding to nephrin.

The gene encoding nephrin was cloned last year and identified as the culprit in the most common type of hereditary kidney syndrome, congenital nephrotic syndrome of the Finnish type. Occuring in one of every 10,000 Finns, the syndrome results from lack of nephrin and produces kidney damage, as occurs in Shaw's research animals that lack CD2AP.

This similarity suggests that a defect or lack of CD2AP might be involved in some cases of congenital nephrotic syndrome and other kidney diseases. "This opens up a whole area of inquiry, where we wonder how the slit diaphragm is altered in human kidney diseases and whether a predisposition to kidney failure may be related to genetic defects in the slit diaphragm or kidney epithelial cells," Shaw said.

MARY BUTKUS

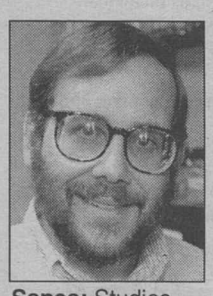
Walking in a patient's shoes First-year Program in Physical Therapy students Geoffrey Nelle (left) and Anne Schmidt (right) practice gait training techniques under the watchful eye of Tammy Burlis, an instructor in the program. Using a gait belt, Nelle helps Schmidt stand in preparation for walking with the support of parallel bars.

Sanes named Alumni Endowed Professor of Neurobiology

BY LINDA SAGE

Joshua R. Sanes, Ph.D., professor of anatomy and neurobiology, has been named the Alumni Endowed Professor of Neurobiology.

"The Washington University Medical Center Alumni Association launched these professorships in 1978 to help attract and retain renowned physicians and scientists," said William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine. "We are delighted that this sixth chair will honor Joshua Sanes, an intellectual leader in the field of neuroscience."



Sanes: Studies synapses

Alumni professorships combine unrestricted gifts from medical alumni and former house staff with gifts from friends of the medical school. The minimum endowment for each position is $1.5 million.

Sanes joined the University in 1980 as an assistant professor. He studies intercellular connections called synapses. These junctions pass information between cells, like the plug between a modem and a computer. A synapse called the neuromuscular junction connects the tip of a nerve cell to a muscle fiber, enabling the nerve to control the muscle. Other synapses solder the brain's 10 billion neurons into circuits that allow us to speak or read or plan movements.

"As far as we know, all of our behavior depends on synapses," Sanes said. "And some neurological and psychiatric disorders — Alzheimer's disease and schizophrenia, for example — seem to involve flaws in synapse formation or function. Knowing how synapses are made is essential to understanding and eventually correcting synaptic derangements."

Signals from the growing tip of a motor nerve cell organize the synaptic region of a muscle fiber. In turn, the muscle signals back to the nerve, turning the tip into a terminal. Signals from the terminal then cause further changes in the muscle. This crosstalk aligns muscle receptors precisely with incoming nerve signals. "We want to know how this incredible arrangement is achieved," Sanes said.

When he began to study the neuromuscular junction in 1976, synaptic development was largely unexplored. Using a variety of techniques, he has identified several molecular components of the synapse and explored their interactions.

His early work focused on a synaptic protein called laminin β-2, which he identified and isolated. In collaboration with the late John Merlie, Ph.D., he cloned the laminin β-2 gene and eventually generated mutant mice that lacked it. His use of these knockout mice proved an invaluable contribution to the field. As well as revealing the normal functions of specific synaptic proteins, it has generated animal models of several neurological disorders.

The laminin β-2-free mice formed disorganized, malfunctioning synapses, providing the first example of a protein that organizes synapses in living animals. The group since has isolated specific parts of laminin β-2 that influence the growth and differentiation of nerve axons and allow them to connect with muscle.

The many other molecules Sanes has studied include agrin, a muscle protein that helps cluster the receptors receiving nerve signals, and dystrophin, a muscle protein that is abnormal in Duchenne muscular dystrophy.

The group now is applying the approaches it used with the neuromuscular junction to synapses in the brain. "We want to identify the constituents and find out how they work," Sanes said. Last year, the researchers reported that a protein called gephyrin is required to form synapses in the spinal cord.

$1.1 million grant helps Castro establish unique Asthma Clinical Research Center

Mario Castro, M.D., assistant professor of medicine, has received a five-year $1.1 million grant from the American Lung Association to fund an Asthma Clinical Research Center (ACRC). Washington University, Saint Louis University, the American Lung Association of Eastern Missouri (ALAEM) and private physicians have teamed up to establish this center.

"For the first time, Washington University will participate in a large multicenter study spanning almost 20 asthma centers addressing a common clinical problem," Castro said. All of the data will be shared. Johns Hopkins Medical Center will serve as the data-coordinating center by collecting the results from the participating centers.

The collaboration brings St. Louis into a network of 19 asthma research centers across the United States and establishes a unique partnership among St. Louis' two medical schools, the ALAEM and physicians in private practice. Washington University School of Medicine will lead the St. Louis team's clinical studies. Other sites in this "center without walls" include Barnes-Jewish Hospital, St. Louis Children's Hospital, Saint Louis University Hospital, Cardinal Glennon Children's Hospital, the Clinical Research Center located at Barnes-Jewish West County Hospital and other medical sites convenient to patients.

Robert C. Strunk, M.D., and Edwin B. Fisher Jr., Ph.D., are co-investigators at Washington University. Raymond Slavin, M.D., and Brad Becker, M.D., will participate from Saint Louis University. Two physicians in private practice, Phillip Korenblat, M.D., and Jeff Tillinghast, M.D., also are taking part. The center just hired a nurse coordinator, Mary Ellen Scheipeter.

Participation in this multicenter network will give the St. Louis researchers access to a greater number of asthma patients. "This will give physicians helpful information on how to better manage asthma patients in their practice," Castro said.

Asthma is a chronic, long-term lung disease with no cure. It only can be controlled. Asthma sufferers experience difficulty breathing because their airways swell and constrict. Many factors can trigger an attack — cigarette smoke, pollen, cold air and household dust. In St. Louis, the strongest triggers are cockroaches and the mites in household dust.

Those at highest risk for asthma include children living in poverty or in the inner city and African-Americans and Hispanics. While 6.3 percent of American children suffer from asthma, the rate is 11 percent to 12 percent in the St. Louis metropolitan area. And 15 percent of children who attend St. Louis City public schools have asthma.

Also, both the number of cases and the number of deaths from asthma are increasing in the St. Louis metropolitan region.

"We have great medications and understand more about the disease, but we are still seeing an increase in morbidity and mortality due to asthma," Castro said.

The researchers will try to develop new ways to help adults and children care for their disease in early life. "Children with chronic asthma that persists into adulthood may have impaired lung function, much like smokers," Castro said. "We want to find effective treatments to intervene as early as possible."

University Events

Shiver me timbers! 'Pirates of Penzance' board Edison Theatre stage

By Liam Otten

"The Pirates of Penzance," the very model of a Gilbert and Sullivan operetta, will board the Edison Theatre stage Oct. 22-24 and 29-31 when the Performing Arts Department (PAD) in Arts & Sciences presents the 119-year-young musical for its fall mainstage production.

Performances begin at 8 p.m. Oct. 22 and 23, and at 3 p.m Oct. 24. Performances continue the following week at 8 p.m. Oct. 29 and 30 and at 3 p.m. Oct. 31.

"Pirates" tells the story of Frederic, a young nobleman who, through a comical linguistic mix-up, is mistakenly apprenticed to a group of pirates. Now on the eve of his 21st birthday, Frederic has no sooner announced his intention to quit the pirate life than the band stumbles upon a group of respectable young women, daughters of Major-General Stanley. The girls are smitten by the scruffy outlaws but Stanley, horrified to find them keeping such ragged company, tricks the Pirate King into allowing the group — and Frederic — to depart.

Though Frederic still loves his former companions, he loathes their lifestyle and, particularly after becoming betrothed to Stanley's daughter Mabel, feels duty bound to aid the police in their capture. Events come to a head, however, when the Pirate King learns of Stanley's trickery and vows to take revenge.

"It's a very silly, funny show, with a lot of energy in it," said Jeffery Matthews, senior artist in residence in the PAD, who directs the 33-member cast. "Gilbert and Sullivan were a wonderful team: the words are very witty and the music is very tuneful and lush. Their work is really the basis of 20th-century musical comedy. And of all their work, 'Pirates' is the one they thought would endure — as, of course, it has.

"There's an increasing interest among students in musical theater," Matthews added. "It seems that every year we have more and more students who are strong singers. 'Pirates' is a big-cast musical that can really utilize their talents. Susannah Tillson, who plays Mabel, is particularly amazing. When Linda Ronstadt did this part in 1980 she had to train for it for a year. Susannah is somehow able to just come in and sing it all."

'Pirates of Penzance'

Where Edison Theatre

When 8 p.m. Oct. 22, 23, 29, 30; 3 p.m. Oct. 24, 31

Tickets $10, $8 for senior citizens, WU faculty, staff and students, from Edison Theatre Box Office, 935-6543, and MetroTix, 534-1111

DAVID KILPER

Junior Mike Markham, the Pirate King, and senior Susannah Tillson as Mabel star in the Performing Arts Department's production of Gilbert and Sullivan's "Pirates of Penzance" at Edison Theatre Oct. 22-24 and 29-31.

Of his colleagues in the production, particularly choreographer Christine O'Neil, senior artist in residence in the Dance Program, and musical arranger Bill Whitney, a master's candidate in the PAD, Matthews said: "It's really been a lot of work for both of them — more than I usually ask. It's a huge job because the whole cast is singing and dancing for almost the entire show. But Christine and Bill have both come through amazingly."

The set design, by Chris Pickart, artist in residence, is based on the cartoonish, cut-out look of Victorian pop-up books, with two-dimensional scenery made from flat plywood. That sort of frumpy outlandishness is furthered by the costumes and lighting, by Bonnie Kruger and Rick Kuykendall respectively, both also artists in residence.

"It's a joyous, happy piece," Matthews concluded. "It should really be a fun evening."

Tickets are $10 for the general public and $8 for senior citizens and Washington University faculty, staff and students. They are available at the Edison Theatre Box Office, 935-6543, and at all MetroTix outlets, 534-1111. For more information, call 935-5858.

'Elizabeth' • Tropical Crops • The Mandela Legacy • St. Louis 2004 • Afterlife

"University Events" lists a portion of the activities taking place at Washington University Oct. 14–Oct. 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

"Affinity of Form: African and Modern European Art." Through Oct. 24. Gallery of Art. 935-4523.

"Modern Art on Paper." Through Oct. 24. Gallery of Art. 935-4523.

"Coins from St. Louis Collections." Through Dec. 12. Gallery of Art. 935-4523.

"Egyptian Mummies: Pet Menekh and Henut-Wedjebu." Through Dec. 12. Gallery of Art. 935-4523.

Film

Thursday, Oct. 14

7 p.m. Filmboard Feature Series. "Chasing Amy." Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Wednesday, Oct. 20

7 and 9 p.m. Filmboard Foreign and Classic Series. "M." (Also Oct. 21, same times.) Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Friday, Oct. 22

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

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

Lectures

Thursday, Oct. 14

Noon – 1 p.m. LL.M. and Joint Degree Brown Bag Lunch Series. "Negotiation Strategies." David Detjen, attorney. Room 203 Anheuser-Busch Hall. 935-7244.

3:30 p.m. Humanities lecture. "Apparitions." Hélène Cixous, writer and theorist. May Aud., Simon Hall. 935-5130.

4 p.m. Earth and planetary sciences seminar. "Using Orbital Neutron and Gamma-ray Spectroscopy to Measure the Composition of the Lunar Surface." David J. Lawrence, space physics team member, Space and Atmospheric Sciences, Los Alamos National Lab. Room 361 McDonnell Hall. 935-6510.

Friday, Oct. 15

9:15 a.m. Pediatric Grand Rounds. "Insights into Virus-induced Vasculitis: Why Some Get Sick But Others Don't." Herbert W. Virgin IV, assoc. prof. of pathology and molecular microbiology. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and physiology seminar. "Imaging the Membrane/Cytoskeletal Interface by 3-D Microscopy: Introduction of a New Computer-based 'Anaglyph' Technique." John E. Heuser, prof. of cell biology and physiology. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

Noon. Friday Forum Luncheon Lecture Series. "Modern Art on Paper From the WU Collection." Amanda Beresford, curator of programming. Cost: $15, includes lunch. Steinberg Hall. To register, call 935-5490.

Saturday, Oct. 16

10 a.m. Science Saturdays Lecture Series. Topic is gravity through astronomical observations and detector systems. Clifford M. Will, prof. and chair of physics. Room 201 Crow Hall. 935-6788.

7:30 p.m. The Homer G. Phillips Lecture to honor Frank Richards, former assoc. director of surgery, Homer G. Phillips Hospital. Clive Callender, prof. and chair of surgery dept. and transplant director, Howard U., will speak. (Cocktails 5:30 p.m., dinner 6:30 p.m.) Eric P. Newman Education Center. For reservations, call 362-6854.

Monday, Oct. 18

Noon-1 p.m. Molecular biology and pharmacology seminar. "The EGF-CFC Gene Family and Axis Determination in the Mouse Embryo." Michael M. Shen, asst. prof., Robert Wood Johnson Medical School. Room 3907 South Bldg. 362-2725.

4 p.m. Anthropology Colloquium Series. "Does Memory Account for Religious Concepts?" Pascal Boyer, prof., Centre Nationale de Recherche Scientifique, Lyon, France. Room 115 McMillan Hall. 935-5252.

4 p.m. Biology seminar. "ILTAB: An International Team at Danforth Plant Science Center Tracking and Controlling Emerging Plant Viral Diseases in Tropical Crops." Claude M. Fauquet, Danforth Plant Science Center. Room 322 Rebstock Hall. 935-6850.

4 p.m. Immunology Research Seminar Series. "Platelets and Their Cellular and Molecular Interactions: From Thrombosis to Inflammation." Thomas G. Diacovo, asst. prof. of pediatrics and pathology. Eric P. Newman Education Center. 362-2763.

7 p.m. African and Afro-American Studies Lecture Series. "The Mandela Legacy: South Africa Past, Present and Future." Ahmed Kathrada, veteran of South African liberation movement. Lambert Lounge, Mallinckrodt Center. 935-5690.

Tuesday, Oct. 19

6:30 a.m. Orthopaedic surgery lecture. "Assessment of the Polytrauma Patient." Robert E. Schmieg Jr., asst. prof. of surgery. West Pavilion Aud., Barnes-Jewish Hospital. 747-2803.

Noon. Molecular microbiology and microbial pathogenesis seminar. "Receptor Modification Enzymes Involved in Bacterial Chemotaxis." Ann M. Stock, assoc. prof. of biochemistry, U. of Medicine and Dentistry of New Jersey, assoc. investigator, Howard Hughes Medical Institute. Cori Aud., 4565 McKinley Ave. 362-3692.

12:10 – 12:55 p.m. Physical therapy research seminar. "Comparisons Among Noninvasive Measures of Lumbar Curvature." Barbara J. Norton, asst. prof. of physical therapy. Classroom C, 4444 Forest Park Bldg. 286-1400.

4 p.m. Anthropology Colloquium Series. "How Language Ideologies Construct Differences: The Semiotics of Social Boundaries." Susan Gal, chair, anthropology dept., U. of Chicago. Room 149 McMillan Hall. 935-5252.

4 p.m. Comparative literature lecture. "Cartographies of History and Space: Reading Greek and Turkish Urban Novels." Eleni Bastea, visiting assoc. prof. of comparative literature. Hurst Lounge, Room 201 Duncker Hall. 935-5170.

6 p.m. Arts & Sciences Century Club lecture. "Shadows and Footprints: Religious Women in Late Imperial China." Beata Grant, assoc. prof. and chair of Asian and Near Eastern languages and literatures. (Reception 5:30 p.m.) Room 162 McDonnell Hall. For reservations, call 935-4986.

Wednesday, Oct. 20

8 a.m. Obstetrics and Gynecology Grand Rounds. "Just Take It Out! – The Ethics and Economics of Cesarean Section and Hysterectomy." David C. Walters, Good Samaritan Hospital, Mt. Vernon, Ill. Clopton Aud., 4950 Children's Place. 362-1016.

11 a.m. Assembly Series lecture. "Images of the Future." Tony Brown, author and host, Tony Brown's Journal, PBS Television. Co-sponsored by the Black Arts & Sciences Festival. Graham Chapel. 935-5285. *See story, page 2.*

11 a.m. Public Interest Law Speakers Series. "St. Louis 2004: A Plan for Community Action." John C. Danforth, chair. Student Commons, Anheuser-Busch Hall. 935-7244.

4 p.m. Economics lecture. "Job Access, Residential Location and Home

Ducornet opens center's reading series

Fiction writer Rikki Ducornet will read from her works at 8 p.m. Oct. 26 to open the 1999-2000 Reading Series, sponsored by the International Writers Center in Arts & Sciences. The reading will take place at the West Campus Conference Center.

International Writers Center Reading Series

Who Author Rikki Ducornet

Where West Campus Conference Center

When 8 p.m. Oct. 26

Admission $5, free for students and senior citizens; A&E cardholders receive two-for-one discount

Ducornet's latest book, which has just been published, is "The Fan Maker's Inquisition: A Novel of the Marquis de Sade." The book recounts Sade's life (and imprisonment) through a series of conversations between Gabrielle, whom the notorious author commissions to create fanciful, hand-painted fans, and the infamous Spanish inquisitor Bishop Landa. Publisher's Weekly called the novel "lushly imagined … an ecstatic performance, with transformational potency that begs to be read aloud."

Ducornet's other books include her "tetralogy on elements" — the novels "The Stain" (1984), "Entering Fire" (1986), "The Fountains of Neptune" (1989) and "The Jade Cabinet" (1993), which was a finalist for the National Book Critics Circle Award. She is also the author of "Phosphor in Dreamland" (1995) and two collections of short stories, "The Complete Butcher's Tales" (1994) and "The Word Desire" (1998).

In addition to her writing, Ducornet is an accomplished artist whose drawings have been widely exhibited in the United States and Europe. She has illustrated books by Jorge Luis Borges and Robert Coover and her own short story, "The Volatilized Ceiling of Baron Munodi," published in 1991.

Ducornet was born in New York in 1943 and received a bachelor's degree from Bard College, Annandale-on-Hudson, N.Y. (where she inspired future Steely Dan band member Donald Fagen to pen the song "Rikki Don't Lose That Number"). She has lived in France, Algeria, Egypt and Chile and is currently a writer in residence at the University of Denver.

Ducornet will be introduced by William H. Gass, Ph.D., director of the International Writers Center and David May Distinguished University Professor Emeritus. A book signing will follow the reading, and copies of her works will be available for sale.

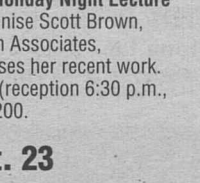
A season subscription for the Reading Series is $15. Individual readings are $5 and free for students and seniors. A&E cardholders receive a two-for-one discount. For more information, call 935-5576.

Ownership." Steve Ross, asst. prof. of economics, U. of Conn. Room 300 Eliot Hall. 935-5670.

7 p.m. Religion lecture. "Theories on the Afterlife." Michael Williams, Covenant Theological Seminary. Friedman Lounge, Wohl Center. 645-0340.

Thursday, Oct. 21

Noon. Cell biology and physiology seminar. "Alphavirus-mediated Gene Transfer Into Neurons of Hippocampal Slice Cultures." Markus U. Ehrengruber, Brain Research Institute, U. of Zurich. Room 426 McDonnell Medical Sciences Bldg. 362-2746.



1:10 p.m. Social Work Lecture Series. "Lessons From the Desegregation Experience: Issues in Community Development." William H. Danforth, chancellor emeritus. Brown Hall Lounge. 935-4909.

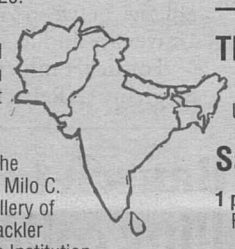
2:30 p.m. Mechanical engineering seminar. "Mathematical Models of Fastened Structural Connections." Ricardo L. Actis, sr. research engineer, Engineering Software Research and Development Inc. Room 100 Cupples II Hall. 935-7096.

3 p.m. History conference. "Imperialism in Global Perspective." Alfred W. Crosby, author and prof. emeritus of history, U. of Texas - Austin; Philip D. Curtin, prof. emeritus of history; Johns Hopkins U., author and past president, American Historical Association. Umrath Hall Lounge. 935-5450.

3 p.m. Physics seminar. "Lattice Domain Wall Fermions." Pavlos Vranas, prof. of physics, U. of Ill. at Urbana-Champaign. Room 241 Compton Hall (coffee 2:45 p.m.). 935-6276.

4 p.m. Assembly Series lecture. "Olin Conference: Definitions of Success." Mary Maples Dunn, acting dean, Radcliffe Inst. for Advanced Study, Harvard Univ. Graham Chapel. 935-5285. *See story, page 2.*

4:30 p.m. Mathematics colloquium. "Transverse Interception of Foliations in 3-Manifolds." Takashi Tsuboi, prof., U. of Tokyo. Room 199 Cupples I Hall (tea 4 p.m. Room 200). 935-6726.



5 p.m. Asian art lecture. The Second Annual Nelson I. Wu Lecture on Asian Art and Culture. "The Emperor's Choices: Painting in India in the Early 17th Century." Milo C. Beach, dir., Freer Gallery of Art and Arthur M. Sackler Gallery, Smithsonian Institution. Co-sponsored by East Asian Studies and the Saint Louis Art Museum. The Saint Louis Art Museum Aud. 935-4448.

7 p.m. Architecture Monday Night Lecture Series. Architect Denise Scott Brown, Venturi, Scott Brown Associates, Philadelphia, discusses her recent work. Steinberg Hall Aud. (reception 6:30 p.m., Givens Hall). 935-6200.

Saturday, Oct. 23

9:15 a.m. Pediatric Grand Rounds. "Short Children With Neutropenia: What Can We Learn?" Robert J. Rothbaum, prof. of pediatrics; Michael R. DeBaun, asst. prof. of pediatrics and of biostatistics. Clopton Aud., 4950 Children's Place. 454-6006.

Music

Thursday, Oct. 14

8 p.m. Piano recital. Russian program. Music of Tchaikovsky, Stravinsky and Mussorgsky. Tatiana Vetrinskaya, piano. Steinberg Hall Aud. 935-5581.

8:30 p.m. Holmes Jazz Series. Willie Akins Quartet. Holmes Lounge, Ridgley Hall. 935-4841.

Tuesday, Oct. 19

8:30 p.m. Student recital. Music of Albeniz, Berg, Chopin, and Schwantner. Graham Chapel. 935-4841.

Thursday, Oct. 21

8:30 p.m. Holmes Jazz Series. Paul Westcott, piano. Holmes Lounge, Ridgley Hall. 935-4841.

Performance

Thursday, Oct. 21

8 p.m. OVATIONS! Series performance. "The Wooden Sun II." Sha Sha Higby, dance/performance/sculptural artist. (Also Oct. 22, same time.) Co-sponsored by the School of Art and the Saint Louis Art Museum. Cost: $25, $23 WU faculty and staff, $12 students. WU School of Art Gallery, 1627 Washington Ave. 935-6543.

Friday, Oct. 22

8 p.m. Performing Arts dept. musical. "The Pirates of Penzance." (Also Oct. 23, 29 and 30 same time; Oct. 24 and 31, 3 p.m.) Cost: $10, $8 WU students, faculty, staff, sr. citizens and children. Edison Theatre. 935-5858. *See story, page 4.*

Sports

Thursday, Oct. 14

7:30 p.m. Women's soccer vs. Maryville U. Francis Field. 935-5220.

Saturday, Oct. 16

1 p.m. Football vs. U. of Rochester. Francis Field. 935-5220.

Wednesday, Oct. 20

7 p.m. Volleyball vs. Southern Ill. U.–Edwardsville. Field House. 935-5220.

Friday, Oct. 22

5 p.m. Men's soccer vs. New York U. Francis Field. 935-5220.

5:15 p.m. WU Midwest Invitational Volleyball vs. Nebraska Wesleyan U. Field House. 935-5220.

7:30 p.m. WU Midwest Invitational. Volleyball vs. Hope College (Mich.). Field House. 935-5220.

7:30 p.m. Women's soccer vs. New York U. Francis Field. 935-5220.

Saturday, Oct. 23

10 a.m. Cross Country. WU Mini Meet. 935-5220.

10 a.m. WU Midwest Invitational. Volleyball vs. Thomas More College (Ky.). Field House. 935-5220.

3 p.m. WU Midwest Invitational. Volleyball vs. Illinois College. Field House. 935-5220.

Sunday, Oct. 24

11 a.m. Men's soccer vs. Emory U. Francis Field. 935-5220.

1:30 p.m. Women's soccer vs. Emory U. Francis Field. 935-5220.

And More . . .

Thursday, Oct. 14

Noon. Videoconference/National satellite broadcast. "STD Diagnostic and Therapeutic Dilemmas: Gonococcal and Chlamydial Infections." First floor conference room, Spoehrer Tower, St. Louis Children's Hospital, 400 S. Kingshighway Blvd; Room 114 Lucas Hall, U. of Mo. – St. Louis. To register, call 747-0294.

Saturday, Oct. 16

7:30 a.m. Continuing Medical Education seminar. "Best Practice in Primary Care: A Guide for the Management of Common Chronic Diseases." Cost: $55. Eric P. Newman Education Center. To register, call 362-6891.

Tuesday, Oct. 19

Noon – 1 p.m. WU Toastmaster for Oratorical Readiness brown bag lunch. Lambert Lounge, Room 303 Mallinckrodt Center. 362-4930.

7:30 p.m. Feminist reading group. Discussing Judith Butler's "Excitable Speech." Britt-Marie Schiller, facilitator. Cohen Lounge, Room 113 Busch Hall. 935-5102.

8 p.m. The Writing Program Fall Reading Series. Richard Bausch, author, will read from his works. Hurst Lounge, Room 201 Duncker Hall. 935-7130. *See story, page 6.*

Wednesday, Oct. 20

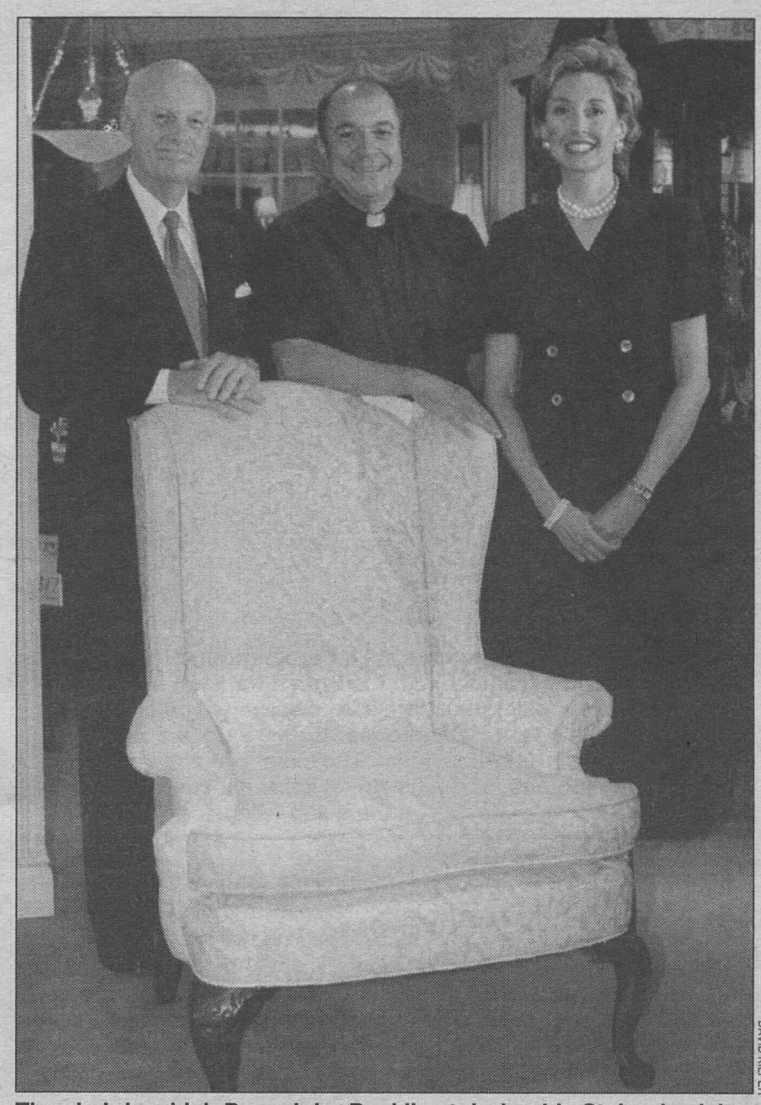
4:30 p.m. Resumé workshop. "Crafting the Academic CV." Elizabeth George, director of career center, and faculty members from humanities depts. Room 113 Busch Hall. Sponsored by the Asian and Near Eastern languages and literature dept. To register, call 935-4327.

Thursday, Oct. 21

7:30 a.m. 25th Annual Symposium on Obstetrics and Gynecology. (Continues Oct. 22.) Eric P. Newman Education Center. For cost and to register, call 362-6891.

Saturday, Oct. 23

9 a.m. Anthropology workshop. Mayan Glyph Workshop. Barbara MacLeod, Maya language expert. (Continues Oct. 24.) Cost: $5. Room 149 McMillan Hall. To register, call 935-5252.



DAVID KILPER

The chair in which Pope John Paul II sat during his St. Louis visit in January will be auctioned at the fund-raising brunch for the University's Catholic Student Center Oct. 24 at the Frontenac Hilton Hotel. Ron Aylward (LA, LW '54, left) is honorary chair of the center's 50th anniversary celebration; with him are the Rev. Gary Braun, center director; and Lynn E. Bird (SW '96), chair of the center's 50th anniversary committee and Newman Brunch. Aylward was one of the founding members of the Newman campus ministry.

Newman Brunch

Pope's chair goes on auction block

The 46th annual Newman Brunch to benefit the Catholic Student Center at Washington University will be held at noon Oct. 24 in the ballroom of the Frontenac Hilton Hotel, 1335 S. Lindbergh Blvd.

The Catholic Student Center is celebrating its 50th anniversary this year with a series of events. During the brunch, founding members of the Newman campus ministry will be honored with the Cardinal Newman Award. John Henry Newman was a 19th-century cardinal of the Catholic Church and a founder of the Oxford Movement, which advocated the connection of faith to intellectual life. Catholic ministries at secular universities worldwide are named in his honor.

In addition to a silent auction of such items as a rock-climbing adventure, weekend getaways and a wine and cheese tasting with restaurateur Tony Bommarito, an oral auction will feature a chair in which Pope John Paul II sat while on his pastoral visit to St. Louis in January. Tom Phillips of Phillips Furniture Co. donated the chair, which the pope used during a ceremony at Lambert International Airport.

For 50 years, mostly under the leadership of Monsignor Gerard N. Glynn and now, since 1991, the Rev. Gary Braun, the Catholic Student Center has provided religious programs, counseling services and social activities for students of all denominations. The center includes a chapel, library, classroom, recreation rooms, study space and offices.

Students associated with the center participate in many social service activities, including STONE (Students Together Offering Nourishment and Enthusiasm) Soup, which provides food for as many as 80 homeless people each Sunday. Other activities include Effort for AIDS, pro-life work and prison ministry. During the University's winter break, a group of these students also takes service trips abroad, helping the poor in impoverished countries.

Charles Brennan of KMOX-AM will be the master of ceremonies during the brunch. Lynn E. Bird (SW '96) is chair of the brunch and the 50th anniversary committee. Individual tickets to the brunch are $50. A sponsor donation of $250 includes two tickets; a Newman Knight/Newman Lady donation of $500 includes four tickets; a Newman Crusader donation of $1,000 includes eight tickets.

For more information or reservations, call the Newman Center at 935-9191, extension 201.

Sports Section

Football team suffers 25-15 loss

Washington University's nationally ranked defense gave Trinity University all it could handle Saturday night, but the Bears could not muster enough offense and lost 25-15 to the No. 2-ranked Tigers. Junior placekicker Kevin Cantzler, playing in only his second varsity game after not playing with the team in 1998, kicked a 37-yard field goal with 3:24 left in the third quarter to give the Bears a 15-14 lead, but the Tigers rallied behind reigning Division III Player of the Year Mike Burton. Burton connected on a 44-yard pass to Adam Coffman on the ensuing possession, and the Tigers scored two plays later to take the lead for good at 22-15.

Men's soccer wins two on UAA road trip

Senior All-American striker Greg Rheinheimer scored two goals vs. Brandeis University Sunday as the men's soccer team completed a weekend sweep with a 2-0 victory over the Judges. Rheinheimer leads the team with nine goals, 21 points and four game-winners. WU opened the weekend with a 2-1 victory Friday at the University of Rochester. Senior goalkeeper Lee Devore earned the victory in both games. Devore, who has seven victories as the keeper of record in all of the Bears' games, made seven saves vs. the Yellowjackets and six vs. the Judges.

Women's soccer splits pair of games

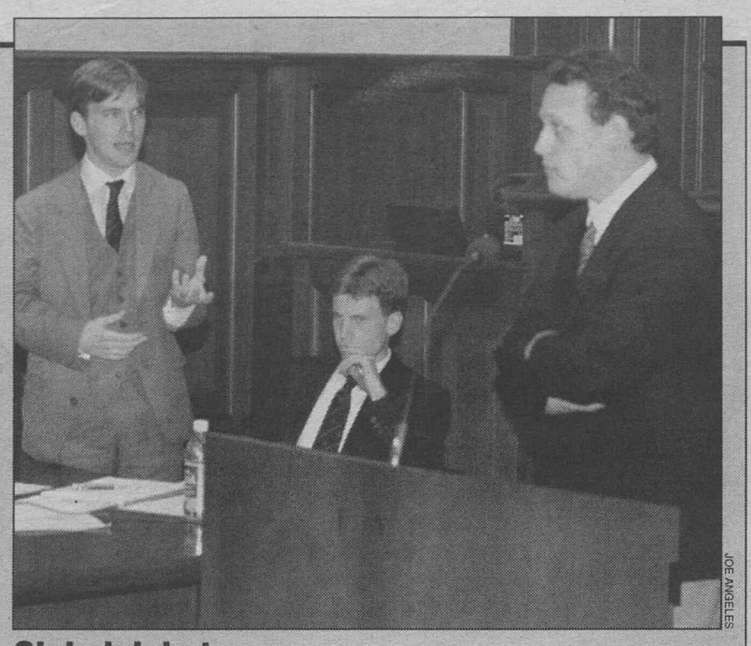
The women's soccer team split a pair of UAA games this weekend, falling 2-1 to the University of Rochester before rebounding with a 2-0 win over Brandeis University. The Bears (9-2-0, 3-1 UAA) rallied from a 1-0 deficit against Rochester to knot the score, 1-1, on a goal by sophomore Jessica Glick, but the Yellowjackets tallied the game-winner with just under 10 minutes left to play. The Bears made amends with a 2-0 shutout over Brandeis Sunday. After playing through the first 74 minutes scoreless, senior forward Rachel Sweeney finally broke the deadlock with a goal in the 75th minute on an assist from Glick.

Volleyball second at WU Classic

The volleyball team posted a 3-1 match record to take second place at the Washington University Classic last weekend at the Field House. The Bears knocked off the Savannah College of Art and Design, 15-9, 15-10, 15-12 Friday before falling to Elmhurst College, 13-15, 15-7, 11-15, 10-15. WU rebounded with wins Saturday over DePauw University, 15-10, 15-7, 15-6, and Simpson College, 15-12, 15-3, 15-3. Senior Holly Ratkewicz and junior Katie Gielow both were named to the all-tournament team for their efforts. Ratkewicz led the club with a .432 hitting percentage and finished with 40 kills, 21 digs and a team-high 16 blocks. She tallied 11 kills, 10 digs and five blocks in the loss to Elmhurst. Gielow hit .365 with a team-high 46 kills and a team-high 14 service aces. She also added 15 digs and 13 blocks.

Runners place fourth, 13th at match

Make it six-for-six for the men's cross country team as the Bears recorded their sixth top-five finish in as many meets this season after taking fourth place at the All-Missouri/Border States Championships Saturday in Forest Park. Senior Tim Julien once again led the way as he recorded his sixth top-five finish in six meets with a fourth-place individual showing. He clocked at 25 minutes, 3.3 seconds on the 8K course to lead the Bears. The women recorded a 13th-place finish in the 24-team field. Junior Susan Chou led the women's harriers with a 12th-place showing, clocking an 18:12.4 as the fastest NCAA Division III runner in the race.



JOE ANGELES

Global debate Sophomore Mike Cerulo (right) of the University's debate team took on the British National Debate Team Oct. 4 to consider questions about firearms and NATO's role in policing the world. Christopher Ruane (left) and Simon Miles represented the British team. The event was the latest in a series of competitions for the newly revitalized team, coached by Jennifer Rigdon, director of debate and forensics.

Genome

Mouse next in line for DNA sequencing

— from page 1

genome will be completed.

One quarter of the human genome already has been sequenced by an international consortium of research centers, including three laboratories supported by NHGRI. All of the sequence data is made freely available to the public within 24 hours via Genbank (www.ncbi.nlm.nih.gov/Genbank), the public database operated by NIH. Genbank collaborates with public genome databases in other countries to ensure that new data deposited into one is included in the other public databases.

"The success of the Human Genome Project, the recent advances in technology and the broad support from the scientific community have allowed the NIH to take on sequencing the mouse genome," Collins said. "Prior to last year, this task was not officially one of our goals because several years ago it seemed too daunting to try to sequence both genomes."

This international sequencing effort has already deciphered the genomes of the bacterium *E. coli*, which has five million base pairs in its genetic blueprint; Baker's yeast, with 12 million base pairs; and the roundworm *C. elegans*, with 97 million base pairs. The genome of the fruitfly, with 140 million base pairs, will be completed soon.

"By identifying and studying the genes in progressively more complex organisms, from bacteria and yeast to mouse and human, scientists will have the opportunity for the first time in history to identify and ultimately to understand the genes that are crucial to life," Collins said.

Recipients of the NIH grants and the principal investigators are:

For mapping the mouse genome:

- The Institute for Genomic Research, Rockville, Md.: William Nierman;
- University of Utah, Salt Lake City: Robert Weiss.

For mapping and sequencing the mouse genome:

- Washington University School of Medicine, St. Louis, Mo.: John McPherson.

For sequencing the mouse genome:

- Baylor College of Medicine, Houston: Richard Gibbs;
- NIH Intramural Sequencing Center, Gaithersburg, Md.: Eric Green;
- Albert Einstein College of Medicine, Bronx, N.Y.: Raju Kucherlapati;
- Whitehead Institute for Biomedical Research, Cambridge, Mass.: Eric Lander;
- Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.: Richard McCombie;
- Genome Therapeutics Corp., Waltham, Mass.: Douglas Smith;
- University of Oklahoma, Norman: Bruce Roe.

Supercomputer

New center, lab offer 'bridge to the future'

— from page 1

time at the national centers for various aspects like analyzing data, testing algorithms and visualization. For those projects, the computing center here will enable faster turnaround.

"The local computer will serve as a bridge both to the national facilities and to the technology of the future," Suen added. "The center will greatly aid students at Washington University in learning the parallel computing technology, which is developing into a major tool for scientific research. The initial benefit is to the Washington University community, but it will serve as a resource to the entire St. Louis research and education community."

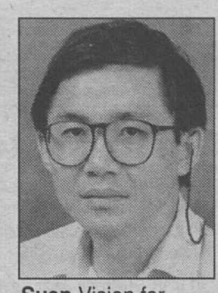
Clifford M. Will, Ph.D., chair of the Division of Natural Sciences and Mathematics and professor and chair of the Department of Physics in Arts & Sciences, expressed excitement about the opportunities to enhance research across a breadth of disciplines. "The establishment of this supercomputer center will dramatically enhance scientific research involving high-performance computation at Washington University, not just in physics, but in biology, earth and planetary sciences, mathematics and chemistry," he said. "It also will impact students by giving access to cutting-edge, massively parallel computing capabilities right on campus rather than at remote supercomputer centers."

The second grant is a three-year $2.2 million research grant from the NSF Knowledge and Distributed Intelligence (KDI) program to set up an astrophysics simulation "collaboratory." This grant also involves researchers at the University of Chicago, the Albert Einstein Institute in Germany, Rutgers University and the National Center for Supercomputing Applications at Urbana-Champaign, Ill.

The project aims to create a "cyberspace laboratory" where researchers can make use of the largest massively parallel computers in the world available to science to study phenomena involving neutron stars and black holes. These exotic objects are believed to be central to observations in high-energy astronomy and gravitational wave astronomy, two major frontiers of astronomy for the next century.

For the numerical study of the astrophysics of neutron stars and black holes, expertise is needed from many disciplines.

"There is no way a single group or person can harness all of this," said Suen. "With this 'laboratory in cyberspace,' scientists in different groups distributed all over the world can work together to develop the codes and carry out the simulations. Thus, the term 'collaboratory.'"



Suen Vision for 'community of users'

The collaboratory will contain not only the computer codes for the numerical simulations, but also will provide meta-computing and advanced 3-D visualization capabilities.

"Meta-computing is an exciting new direction in carrying out large-scale simulations," Suen said. "In the collaboratory, sitting in front of a workstation in St. Louis, one can initiate a simulation on the 256 processor Origin 2000 computer in Champaign, or the 512 processor Cray computer in Germany. Better yet, you can put the two supercomputers to work in parallel if the computing power needed for the simulation is more than what one single machine can handle. Indeed, all computers connected by the high-speed network of cyberspace can function as one giant parallel computer, providing the computing power that has never been achievable before.

"This is an open laboratory to the world, where anyone from a Ph.D. astrophysicist to a high school student can work on a project," Suen observed. "This will be a treasure trove of data for the astrophysicist, and the laboratory could serve as a hub of global computational astrophysics research."

Bush

Former president is Founders Day speaker

— from page 1

Geon Co.; and David L. Shores (Business, 1967), first vice president, finance-investments, Merrill Lynch & Co. Inc.

Five faculty members will be recognized for "outstanding commitment to teaching and dedication to the intellectual and personal development of their students." Those selected to receive this year's distinction are Dana R. Abendschein, Ph.D., associate professor of internal medicine, School of Medicine; Kerry E. Back, Ph.D., the Vernon W. and Marion K. Piper Professor of Financial Economics, John M. Olin School of Business; Lynne Tatlock, Ph.D., professor of Germanic languages and literatures in Arts & Sciences; Ronald S. Indeck, Ph.D., professor of electrical engineering, School of Engineering and Applied Science; and Robert S. Wilkinson, Ph.D., associate professor of cell biology and physiology, School of Medicine.

In addition, the Board of Trustees will present the Robert S. Brookings awards to Charles F. Knight and Earl E. and Myrtle E. Walker. This award is given to individuals "who by commitment and generosity exemplify the alliance between Washington University and its community."

For ticket information, contact Stephané C. Rebeck at 935-7378.

Writer Richard Bausch to read, present story-telling colloquium

Fiction writer Richard Bausch will read from his work for the Creative Writing Program Reading Series at 8 p.m. Tuesday, Oct. 19. Bausch also will give a colloquium on telling stories at 4 p.m. Oct. 26. Both the reading and the colloquium will take place in Hurst Lounge, Room 201 Duncker Hall. Both events are free and open to the public.

Creative Writing Program Reading Series

Who Author Richard Bausch

Where Hurst Lounge, Room 201 Duncker Hall

When 8 p.m. Tuesday, Oct. 19; colloquium 4 p.m. Tuesday, Oct. 26

Admission Free and open to the public

Bausch is the author of 11 books, including "The Fireman's Wife and Other Stories," "In the Night Season," "Someone to Watch Over Me" and "Good Evening Mr. & Mrs. America and All the Ships at Sea." His short stories have appeared in Esquire and The New Yorker. His fiction has garnered widespread acclaim, winning the O. Henry Prize, the Lila Wallace-Reader's Digest Award and an award in literature from the American Academy of Arts and Letters.

Bausch was born in Georgia in 1945. He served in the Air Force from 1965 to 1969, afterwards studying at Northern Virginia Community College and George Mason University. In 1974 he attended the Iowa Writers' Workshop, where his classmates included John Irving and Jane Smiley. His first novel, "Real Presence," was published in 1980.

A book signing will follow the reading, and copies of Bausch's works will be available for purchase. For more information, call 935-7130.

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.

Certified Coder 991200

Coding Coordinator 991492

Nurse Practitioner 991525

Medical Transcriptionist 000167

Pre-certification Coordinator 000192

Professional Rater 1 (part time) 000299

Temporary Insurance Billing Clerk II 000501

Medical Secretary III 000546

Medical Secretary I 000563

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.

Reading Specialist (part time) 980130

Medical Science Writer 980189

Director of Corporate Relations 990013

Senior Project Leader 990029

Assistant Dean and Academic Coordinator 990210

Manager 990233

Gift Accountant 990244

Technical Secretary 990245

Carpenter/Door Hardware Technician 000583

Director/Executive Faculty Liaison 990280

Computer Support Specialist 990283

Writing Lab Director 990298

Administrative Secretary 990315

Administrative Coordinator 990316

Curator, Modern Literature Collection/Manuscripts 990318

Administrative Secretary 990320

Senior Project Leader 990340

Assistant 990346

Lab Mechanic 990355

Administrative Assistant 990356

Administrative Assistant 990357

Office Manager/Grant Specialist 990359

Administrative Assistant 990362

Engineering Librarian 990364

Counselor 990368

Investment Analyst 990369

Admissions Counselor 000027

Administrative Assistant 000028

Mailroom Supervisor 000032

Systems Programmer I 000034

Director of Admissions 000039

Support Services Assistant 000040

Department Secretary 000044

Senior Researcher 000046

Receptionist 000050

Administrative Coordinator 000053

Assistant Manager 000055

Regional Director of Development 000057

Purchasing Coordinator for Furniture and Design 000060

Director of Campus Police 000061

Coordinator, Corporate/Foundation Program 000063

Administrative Coordinator (part time) 000066

Technical Staff 000067

Human Resources Assistant 000068

Assistant Director of BSBA Records and Advising Service 000069

Library Manager 000070

Technical Coordinator 000071

Administrative Secretary 000073

Administrative Secretary 000074

Academic and Financial Analyst 000075

Public Service Coordinator 000077

Counselor 000080

Adviser to Internal Students (part time) 000086

Department Secretary 000088

Administrative Assistant 000089

Non-degree Program Administrator 000090

Technical Director 000092

Assistant Dean and Academic Coordinator 000093

LAN Engineer 000094

Production Editor 000095

Custodian and Maintenance Assistant 000097

Research Assistant (part time) 000098

Library Assistant 000099

Library Assistant 000100

Insurance Assistant (part time) 000101

Assistant Director of EMBA Admissions 000103

Sr. Information Systems Auditor 000106

Assistant Accountant II 000112

Campus Watch

The following incidents were reported to University Police from **Oct. 4–Oct. 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 Web site at **rescomp.wustl.edu/~wupd.**

Oct. 7

2:15 p.m. — A student reported the theft of a laptop computer and a cellular phone, together valued at $3,300, from an unlocked room in Millbrook Apartments 2.

3:31 p.m. — An employee reported the theft of three mortars and a control box used in pyrotechnic displays from Mallinckrodt Center.

6:30 p.m. — A student reported the theft of her saxophone from Mallinckrodt Center's Hilltop Bakery, where she had left it on the floor.

Oct. 10

11:37 a.m. — A faculty member reported the theft of a radio/tape player and 49 compact discs from his office in Jolley Hall.

University Police also responded to nine additional reports of theft, three reports of vandalism, two reports of suspicious persons and one report of telephone harassment.

Notables

Nation's leading Japanese legal scholar to join faculty

Internationally renowned Japanese law scholar John Owen Haley, LL.B., LL.M., chair of the Japanese Studies Program and director of the Asian Law Program at the University of Washington in Seattle, will join the law faculty, according to Joel Seligman, J.D., dean of the School of Law.

"Recruiting Professor Haley to Washington University will enhance our faculty and strengthen our Asian initiatives," Chancellor Mark S. Wrighton said. "We are fortunate to be able to attract an individual who will add so much to our educational and scholarly programs."

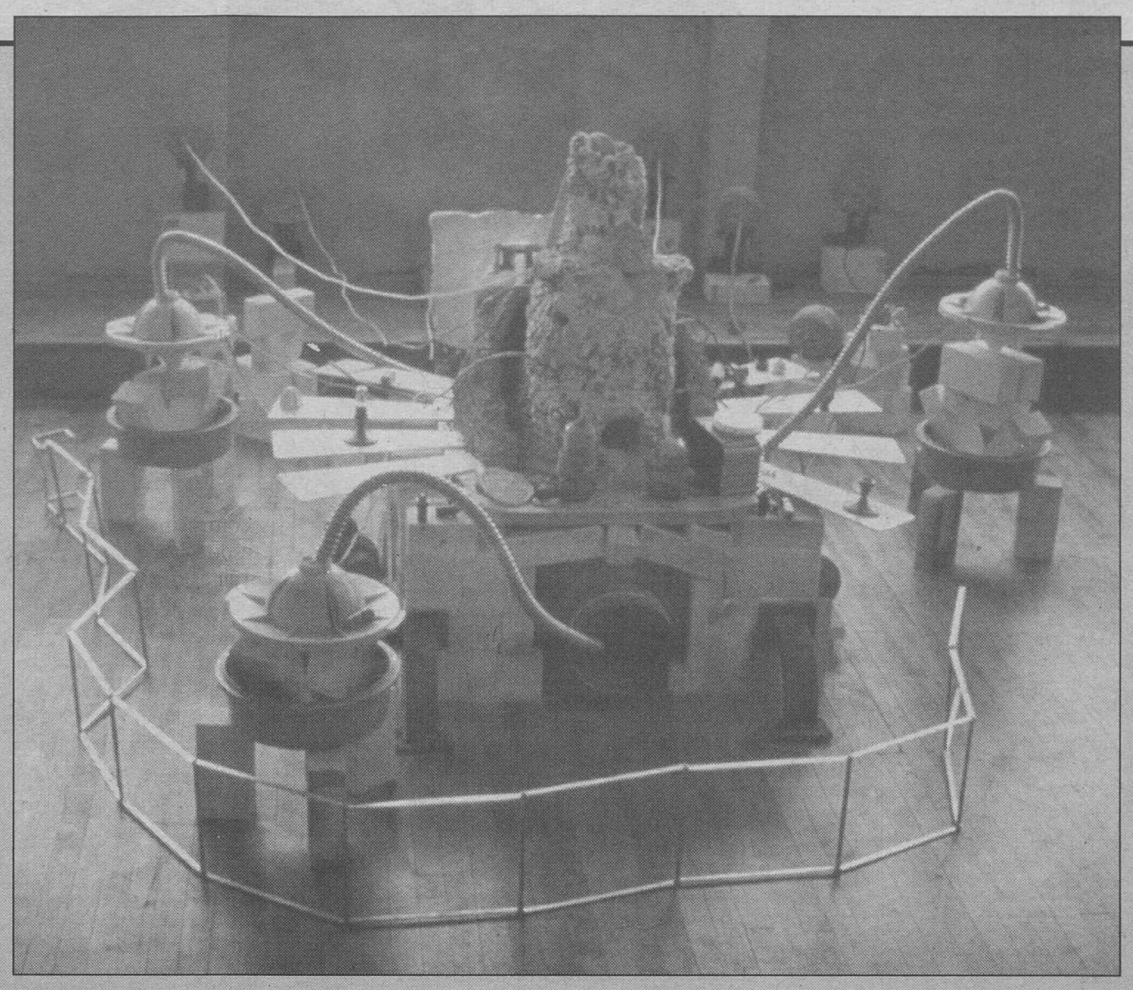
The appointment of Haley as professor of law, effective July 1, 2000, furthers the school's already strong commitment to international legal scholarship and teaching, including its newly established Institute for Global Legal Studies, Joint J.D. and Master's Degree in East Asian Studies Program and its master's degree in law for international students, Seligman said.

"John Haley is this nation's leading Japanese legal studies scholar and a major figure in international and comparative law both here and abroad," Seligman said. "He will significantly strengthen our Joint Degree East Asian Studies Program and our LL.M. Program for International Students, as well as offer outstanding teaching to our J.D. students. He is a phenomenal catch."

Said Haley: "I am deeply honored by the invitation to join so distinguished a faculty and to participate in so exciting a program. I am eager to begin."

A pre-eminent scholar in international studies and Japanese law, Haley currently is the Garvey, Schubert and Barer Professor of Law and of International Studies. The author of the renowned book, "Authority Without Power: Law and the Japanese Paradox," he has written numerous scholarly works spanning issues ranging from international trade policy and comparative law to Japanese land-use law, Japanese and East Asian business transactions and Japanese law and contemporary society.

Haley, who joined the University of Washington in Seattle law faculty in 1974, received a bachelor's degree in 1964 from Princeton University, an LL.B. in 1969 from Yale University School of Law and an LL.M. in 1971 from the University of Washington in Seattle.



Sculpture on exhibit "Eternal Misfire," a sculpture by graduate art student Chad Forbis, was featured in the exhibition "One Night Stand," held Saturday, Oct. 9, at the A.D. Brown Building, 1136 Washington Ave., as part of the citywide art event "Critical Mass — Passport to Contemporary Art." The exhibition was curated jointly by Rochelle Steiner of the Saint Louis Art Museum, Porter Anreil of the Regional Arts Council and Terry Suhre of the University of Missouri-St. Louis. Also included in the exhibition were Lisa Bulawsky, lecturer in art, and graduate student Ling Win.

School of Medicine faculty members receive promotions

The following School of Medicine faculty received promotions on record as of Aug. 31, 1999.

Elliot E. Abbey, M.D., to professor of clinical medicine

Muhammad T. Al-Lozi, M.D., to assistant professor of neurology

Denis I. Altman, M.B., to associate professor of clinical neurology (also assistant professor of clinical pediatrics)

Sharma Anshuman, M.D., to assistant professor of anesthesiology

Sylvia Awadalla, M.D., to assistant professor of clinical neurology

Thomas C. Bailey, M.D., to associate professor of medicine

Hind M. Bashiti, M.D., to assistant professor of anesthesiology

Anne M. Beck, M.D., to assistant professor of pediatrics

Maria Margarita Behrens, Ph.D., to research assistant professor of neurology

Maura C. Berkelhamer, M.D., to assistant professor of anesthesiology

Kevin J. Black, M.D., to assistant professor of psychiatry (also assistant professor of neurology and of radiology)

James C. Bobrow, M.D., to professor of clinical ophthalmology and visual sciences

Matthew S. Bodner, M.D., to asssistant professor of anesthesiology

Paula C. Bohr, Ph.D., to assistant professor of occupational therapy

Isaac Boniuk, M.D., to professor of clinical ophthalmology and visual sciences

Nalini S. Bora, Ph.D., to research associate professor of ophthalmology and visual sciences

Laila M. Bottros, M.D., to assistant professor of anesthesiology

Harold Brandon, D.S.C., to research assistant professor of surgery (plastic and reconstructive surgery)

Daniel C. Brennan, M.D., to associate professor of medicine

Randy A. Brown, M.D., to associate professor of medicine

Arnold D. Bullock, M.D., to assistant professor of surgery (urologic surgery)

David J. Callahan, M.D., to assistant professor of clinical neurology

David B. Carr, M.D., to associate professor of medicine

Shih-Chung Chang, M.D., to associate professor of clinical obstetrics and gynecology

Shiming Chen, Ph.D., to assistant professor of ophthalmology and visual sciences

Ursula Class, M.D., to assistant professor of anesthesiology

Dorothy A. Cross, M.D., to associate professor of neurology

DeWitte T. Cross III, M.D., to associate professor of radiology

Hiroko Dalman, M.D., to assistant professor of anesthesiology

Mark Howard Davis, M.D., to assistant professor of anesthesiology

Victor G. Davila-Roman, M.D., to associate professor of medicine

Jeffrey G. Dawson, M.D., to associate professor of pediatrics

Douglas C. Dean, Ph.D., to professor of medicine (also professor of cell biology and physiology)

Enrico Di Cera, M.D., to professor of biochemistry and molecular biophysics

Michael N. Diringer, M.D., to associate professor of neurology (also associate professor of neurological surgery and of occupational therapy and assistant professor of anesthesiology)

Gerard M. Doherty, M.D., to associate professor of surgery (general surgery)

Heather A. Drury, to senior research scientist of neurobiology

William C. Dunagan, M.D., to associate professor of medicine

Michael L. Dustin, Ph.D., to associate professor of pathology (also assistant professor of biomedical engineering)

Alice A. Edler, M.D., to assistant professor of anesthesiology

Brian T. Faddis, Ph.D., to research assistant professor of otolaryngology

James J. Fehr III, M.D., to assistant professor of anesthesiology (also assistant professor of pediatrics)

Mark P. Goldberg, M.D., to associate professor of neurology (also assistant professor of neurobiology)

J. Eric Gordon, M.D., to assistant professor of orthopaedic surgery

Laura Dyer Grady, M.D., to assistant professor of medicine (dermatology)

Barry A. Graff, M.D., to assistant professor of anesthesiology

M. Gilbert Grand, M.D., to professor of clinical ophthalmology and visual sciences

Gilad A. Gross, M.D., to assistant professor of obstetrics and gynecology

Anandarup Gupta, Ph.D., to research assistant professor of medicine

David H. Gutmann, M.D., Ph.D., to associate professor of genetics (also associate professor of neurology and assistant professor of pediatrics)

J. Michael Hatlelid, M.D., to associate professor of clinical neurology

Jay W. Heinecke, M.D., to professor of medicine (also professor of molecular biology and pharmacology)

Robert O. Heuckeroth, M.D., Ph.D., to assistant professor of pediatrics

Charles W. Hogue, M.D., to associate professor of anesthesiology

Nancy Melberg Holekamp, M.D., to assistant professor of clinical ophthalmology and visual sciences

Michael J. Holtzman, M.D., to the Selma and Herman Seldin Professor of Medicine (also professor of cell biology and physiology)

James E. Huettner, Ph.D., to associate professor of cell biology and physiology (also assistant professor of biomedical engineering)

Scott J. Hultgren, Ph.D., to professor of molecular microbiology

Yukitoshi Izumi, M.D., Ph.D., to research associate professor of neurobiology in psychology

David M. Jaffe, M.D., to professor of pediatrics

M. Katherine Jahnige, M.D., to assistant professor of clinical obstetrics and gynecology

Daniel P. Kelly, M.D., to professor of medicine (and professor of molecular biology and pharmacology)

Shahrdad Khodamoradi, M.D., to assistant professor of anesthesiology

Micki Klearman, M.D., to associate professor of clinical medicine

Joel S. Koenig, M.D., to assistant professor of clinical pediatrics

Attila Kovacs, M.D., to assistant professor of medicine

Joseph F. Kras, M.D., D.D.S., to assistant professor of anesthesiology

Madeline D. Kraus, M.D., to assistant professor of pathology

Catherine P. Krucylak, M.D., to assistant professor of anesthesiology

Pui-Yan Kwok, M.D., Ph.D., to associate professor of medicine (dermatology) (also associate professor of genetics)

Anne C. Lind, M.D., to assistant professor of pathology

Glenn Lopate, M.D., to assistant professor of neurology

Jueren Lou, M.D., to research assistant professor of orthopaedic surgery

Jeffrey A. Lowell, M.D., to associate professor of surgery (also associate professor of pediatrics)

Peter D. Lukasiewicz, Ph.D., to associate professor of neurobiology (also associate professor of ophthalmology)

Zhongmin Ma, Ph.D., to research assistant professor of medicine

Margaret R. MacDonald, M.D., Ph.D., to assistant professor of pediatrics (also assistant professor of molecular microbiology

Pamela A. Madden, Ph.D., to research assistant professor of psychology in psychiatry

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

Theodore N. Marks, M.D., Ph.D., to assistant professor of anesthesiology

Jeffrey Marsh, M.D., to the Appoline Blair Professor of Surgery (plastic and reconstructive surgery) (also professor of radiology and of pediatrics)

John Wood McDonald III, M.D., Ph.D., to assistant professor of neurology

Brent William Miller, M.D., to assistant professor of medicine

Marian A. Minor, Ph.D., to research associate professor of occupational therapy

Michael J. Mueller, Ph.D., to associate professor of physical therapy

Kenneth M. Murphy, M.D., Ph.D., to professor of pathology

Joan M. Niehoff, M.D., to assistant professor of anesthesiology

Karen L. O'Malley, Ph.D., to professor of neurobiology

Judith M. Ogilvie, Ph.D., to research assistant professor of ophthalmology and visual sciences (also associate professor of neurobiology in speech and hearing)

Deborah Ott, M.D., to assistant professor of anesthesiology

J. Julio Pérez Fontán, M.D., to professor of pediatrics (also professor of anesthesiology)

Margaret A. Perkinson, Ph.D., to assistant professor of occupational therapy

Linda R. Peterson, M.D., to assistant professor of medicine

Jane Phillips-Conroy, Ph.D., to professor of anatomy (also professor of anthropology in Arts & Sciences)

Joel Picus, M.D., to associate professor of medicine

Brian K. Pilcher, Ph.D., to instructor in medicine (dermatology)

Jay W. Ponder, Ph.D., to associate professor of biochemistry and molecular biophysics

William J. Powers, M.D., to professor of neurology (also professor of radiology)

Kimberly S. Quayle, M.D., to assistant professor of pediatrics

Valerie S. Ratts, M.D., to assistant professor of obstetrics and gynecology

Frank E. Robbins, M.D., to assistant professor of anesthesiology

Robert J. Rothbaum, M.D., to professor of pediatrics

Charles R. Schrock, M.D., to assistant professor of anesthesiology

Dan Schuller, M.D., to associate professor of medicine

William S. Schwab, M.D., Ph.D., to assistant professor of clinical medicine

Surendra Shenoy, M.D., Ph.D., to assistant professor of surgery (general surgery)

J. Michael Shipley, Ph.D., to assistant professor of medicine

Nikolaos J. Skubas, M.D., to assistant professor of anesthesiology

Rand W. Sommer, M.D., to associate professor of clinical medicine

Samuel H. Speck, Ph.D., to professor of pathology (also professor of molecular microbiology)

Gregory A. Storch, M.D., to professor of molecular microbiology (also professor of medicine and of pediatrics)

Robert A. Swarm, M.D., to associate professor of anesthesiology

Raghu P. TerKonda, M.D., to assistant professor of anesthesiology

Matthew A. Thomas, M.D., to associate professor of clinical ophthalmology and visual sciences

Alexandre Todorov, Ph.D., to research assistant professor of biostatics in psychiatry

Linda Van Dillen, Ph.D., to assistant professor of physical therapy

Lawrence S. Waldbaum, M.D., to assistant professor of anesthesiology

Michael S. Watson, Ph.D., to professor of pediatrics (also assistant professor of genetics)

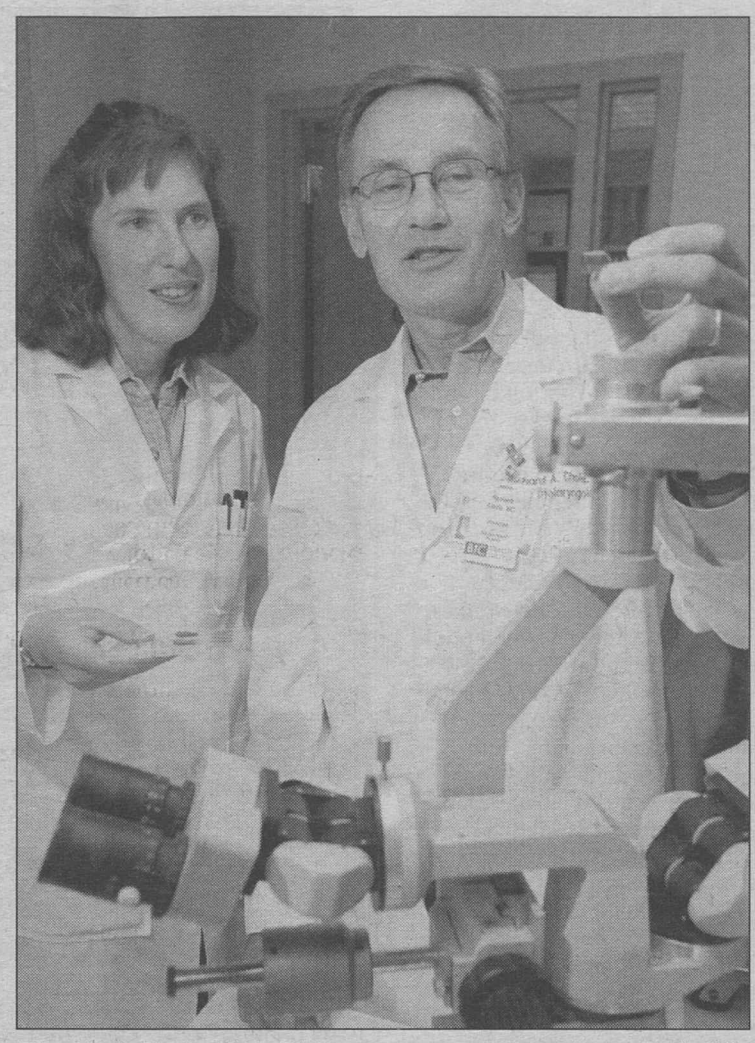
Karen L. Weiss, M.D., to assistant professor of anesthesiology

Calvin B. Williams, M.D., Ph.D., to assistant professor of pediatrics

R. Jerome Williams Jr., M.D., to assistant professor of clinical medicine

Kevin E. Yarasheski, Ph.D., to associate professor of medicine

Washington People



BOB BOSTON

Richard A. Chole, M.D., Ph.D., shows research assistant Ruth Gill a piece of embedded ear tissue.

A keen ear for patients' suffering

Ear surgeon Richard A. Chole, M.D., Ph.D., combines creative research with heartfelt empathy for those who seek his help

BY BARBRA RODRIGUEZ

As a boy, the last thing Rick Chole expected was to become a surgeon, despite the fact that his father was the first cardiologist in California's San Fernando Valley. "I really was very close to my father and admired him a lot," said Chole, M.D., Ph.D., the Lindburg Professor and head of the Department of Otolaryngology at the School of Medicine for the past two years. "But I thought that his career was at too high a level to attempt."

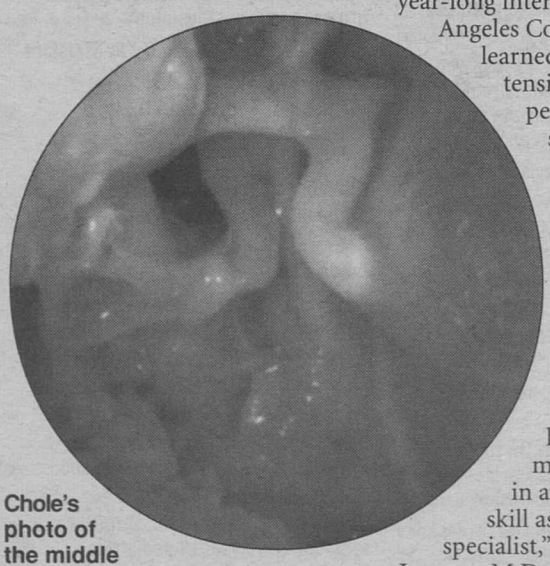
Chole received Cs and Ds in grade school and found even those grades difficult to achieve, the result of what he now suspects was a mild form of dyslexia. But in junior high, he became interested in math and did well in this conceptual subject and in science. Then a high school teacher got him hooked on biology. "We had a biology club and I was its president," Chole said. "I wasn't very socially adept and I wasn't very athletic, so that's where I found my niche."

Chole applied to medical school on a whim while working on a biology degree at the University of California, Berkeley. He was accepted at the University of Southern California in 1965 and left Berkeley after his junior year, without finishing a bachelor's degree.

He entered medical school unsure if he should have gone into research instead, but in the end he found fulfillment becoming an ear surgeon and a hearing disease researcher, both fields that took advantage of his knack for handling hands-on, conceptual tasks.

"Ear surgery is kind of a creative surgery that is mechanical and reconstructive. And sometimes," he added, "you get to help people regain their hearing."

Before Chole specialized in otolaryngology, he undertook a year-long internship at the Los Angeles County Hospital and learned that the high tension and strong personalities of trauma surgery weren't for him. He also spent two years in private family practice, where he developed his skills as a physician.



Chole's photo of the middle ear shows the ear drum (right) and attached ear bones that carry sound waves to the inner ear, including the triangular-shaped stapes bone.

"Richard brought a holistic approach to patient care and had a marvelous manner with patients, in addition to his great skill as a world-class specialist," said Gerald S. Lazarus, M.D. Chole was Lazarus' personal physician while Lazarus was dean of the medical school at the University of California (UC)-Davis.

In 1972, Chole and his family moved to Minneapolis so he could undertake an otolaryngology fellowship at the University of Minnesota. He also renewed his science interest, obtaining a Ph.D. by performing research between medical rotations. Five years later, the Choles headed back to California, where he would spend the next 21 years in the Department of Otolaryngology at the UC-Davis medical school.

His research focuses on cells called osteoclasts that dismantle bone during normal repair processes. The overactivity of osteoclasts in the ear, however, can destroy critical bones that transmit sound information, resulting in hearing loss and various ear diseases.

Gerbil model

To study cyst-like growths in the ear called cholesteatomas, Chole developed a gerbil model in the 1980s that is still widely used. Cholesteatomas can develop after chronic ear infections, as is true of several other ear diseases. Chole now is developing mouse models to look more closely at genes and how their protein products influence osteoclast activity in ear infections that set the stage for disease. "If we can understand what controls bone remodeling by these cells, we hope to develop techniques to block the development of ear diseases," Chole said.

The potential impact of his work is always at the back of his mind, a trait he said he shares with many physician/scientists. "As physicians, we've cried with a lot of patients, and we live with their suffering all the time," he said. "It just adds a little bit to our interest in getting answers to medical questions."

Chole has done his part to add to medical advances. He has developed a method of reshaping human cartilage to replace damaged inner ear bones and is co-developer of a tympanostomy tube used to ventilate the ear in patients suffering from repeated ear infections. The widely used tube halves the rate of these infections after the surgery.

In addition to pursuing these advances at UC-Davis, he added administrative and leadership responsibilities to his activities there, serving as chair of the otolaryngology department for 13 years. Lazarus, Davis' medical school dean, noted that Chole's multiple skills made him an extremely talented, versatile department head.

> **"As physicians, we've cried with a lot of patients, and we live with their suffering all the time. It just adds a little bit to our interest in getting answers to medical questions."**

His keen interest in research and other areas has been noticed as well by those who now work with him at Washington University. J. Gail Neely, M.D., professor of otolaryngology, said the faculty here have been very impressed with Chole since his arrival early in 1998. "On top of being a physician/surgeon and understanding the practice of medicine, he understands its business side and understands science. He is extremely supportive of developing new knowledge and of medical education."

A devout Christian and family man, Chole also has remained active in his faith throughout his career. And when their children were younger, he managed to arrive home by 6 p.m. many nights to help his wife, full-time homemaker Cindy Chole, care for them. His colleagues attribute these and other accomplishments to his keen mind, drive and organizational skills.

"He's a phenomenal individual, and one of the few true triple threats that persist in academic medicine," said Hilary Brodie, M.D., Ph.D., who trained under Chole and became chair of the UC-Davis otolaryngology department when Chole came to Washington University. "He's an extremely talented surgeon, a creative, excellent scientist and a wonderful teacher," said Brodie, who still seeks Chole's scientific and career advice.

Despite his accomplishments, Chole admits that his career hasn't always been easy. "A physician/scientist is kind of pulled at both ends, and you don't do a really Nobel Prize-winning job at either side," he noted. "But you end up being a link between science and medicine, and it's critical to have some people who do that."

Primary goal

Chole's primary goal at the medical school is creating an environment where young otolaryngologists can pursue this rewarding career choice. Brodie and Chole's other colleagues are certain he will accomplish his purpose. Brodie observed that not a single resident or faculty member has left the otolaryngology department at Davis this decade, and attributed this dedication to the leadership Chole provided there.

Ever modest, Chole credits his faith in God and his outgoing wife with helping him become the person he is today. "I think that she really helps me to come out of my shell and be able to interact with other people better. I would never have been able to end up in a job like this if not for her," he said.

The couple will celebrate their 30th wedding anniversary in December. By then, Chole said he hopes they have a new home under construction so he can renew some favorite hobbies. Besides enjoying photography, he also has rebuilt a 1965 E-type Jaguar from scratch and grows a dozen or so Bonsai trees.

He started tending the miniaturized trees three decades ago in admiration of the patience, spiritual fulfillment and long-term perspective the Japanese gain from nurturing them. Keeping them healthy requires special soils, attention to their environment and regular pruning and shaping. "These miniature trees are never looked at as they actually appear, but as what you imagine that they will become, sort of like a child," Chole said.

"Looking at your life in the context of a bigger plan — it's a wonderful thing to do."

Richard A. Chole

From Davis, Calif.

Education University of California, Berkeley, undergraduate studies; University of Southern California, M.D.; University of Minnesota, Ph.D.

Family Wife, Cindy; children Joe, 27; Tim, 25; Katy, 22; and Melinda, 19

Key achievements Current president, Association for Research in Otolaryngology; author of "A Color Atlas of Ear Disease"