Outlook Magazine, Winter 2003
Crossing a Threshold

BioMed21
A new focus  Nathan Ravi, MD, PhD, and his colleagues have been working with various synthetic polymers, looking for those that compare favorably with the natural lens of the eye. The gel-like material, which has undergone vigorous mechanical and physical testing, may one day be used to replace diseased and aging lenses. For more on this story, please turn to page 7.
Create your own
LEGACY
See page 36

Class Notes
Update Yourself!
Your classmates would like to hear what you've been doing. Please take a moment to complete the postage-paid reply card on page 36.

2003!
Your name and legacy can endure

Class Notes
Update Yourself!
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18 BioMed 21  BY STEVE KOHLER

A new initiative debuts at Washington University; BioMed 21 will reorganize the life sciences into networks designed to address diseases' biggest questions.
Quintuple champion Armstrong insists he's no hero

"A hero is a person who's perfect — and I'm far from perfect," says Lance Armstrong. "Cancer is a bastard. If it wants to take the biggest and strongest guy, it will. Athletes aren't in the spotlight forever; I have a small window. Now is my time to tell my story and make a difference in the world."

As they embarked on an unprecedented 3,200-mile journey across America, Armstrong and the Tour of Hope team stressed one simple message: "Cancer research is our only hope for a cure."

Armstrong urged the crowd of more than 1,300 people who packed into the World's Fair Pavilion in Forest Park on October 15, 2003, to sign the Tour of Hope's Cancer Promise, a personal commitment to learn about cancer and the vital importance of cancer research.

When Armstrong was 25, cancer nearly killed him. Testicular cancer spread to his abdomen, lungs and brain, requiring two surgeries and four cycles of chemotherapy to rid the disease from his body.

His stunning recovery culminated in his winning the 1999 Tour de France. Since then, he's won the grueling three-week race four more times, tying the all-time record.

But in the wake of all the fame and fanfare of being one of the world's most admired athletes, Lance insists he's still "a regular hardworking, T-shirt-and-jeans-wearing guy from Texas."

He tells cancer patients to "be brave and fight like hell. You can be the strongest fighter in the world, but if you don't go out and fight, it doesn't matter."

Timothy J. Eberlein, MD, director of the Alvin J. Siteman Cancer Center at Washington University School of Medicine and Barnes-Jewish Hospital, also stressed to the crowd the importance of clinical trials, especially at this time in cancer care.

"We're seeing an explosion of basic science discoveries that are opening up opportunities to have earlier diagnosis, less toxic and more effective treatments and improved prevention strategies," he says. "It's admirable that Lance is embarking on this critical campaign. Hopefully, this event will encourage more people to participate in cancer research."

Although Armstrong did not participate in a cancer trial, he says the Tour of Hope ride, sponsored by Bristol-Myers Squibb, is a tribute to the heroes before him who participated in cancer research.

"Winning the Tour de France makes Lance a champion," Eberlein says. "But what he does for cancer survivors makes him a hero."
$18.5 million grant largest ever awarded to a WUSTL pediatrician

Children around the world with sickle cell disease will benefit from an $18.5 million grant awarded to School of Medicine researchers to determine the effectiveness of blood transfusion therapy as a treatment for preventing silent strokes.

"Our results will change the standard of care for children with sickle cell disease," says principal investigator Michael R. DeBaun, MD, MPH, associate professor of pediatrics and of biostatistics and a pediatric hematologist at St. Louis Children's Hospital.

The National Institutes of Health (NIH) grant—the largest ever awarded to a pediatrician at the School of Medicine—will fund a six and one-half year international clinical trial at 22 sites, including locations in France, Canada and England. DeBaun and his staff will serve as the coordinating center for the trial.

The trial will enroll 1,880 children. All will have an MRI performed on their brains to detect silent strokes.

For three years, DeBaun's group will randomly allocate blood transfusion therapy to 50 percent of study participants, while the other half will be observed.

Patients receiving the blood transfusion therapy will be transfused at three-to-four week intervals to maintain near normal hemoglobin levels. MRIs also will be performed periodically to detect new strokes and the progression of brain lesions.

Gelberman, Ley elected to National Academy of Sciences' Institute of Medicine

Two of 65 new members recently elected to the prestigious Institute of Medicine are School of Medicine faculty: Richard H. Gelberman, MD, the Fred C. Reynolds Professor and chair of the Department of Orthopaedic Surgery, and Timothy J. Ley, MD, the Alan and Edith Wolff Professor of Medicine.

As a component of the National Academy of Sciences, the Institute of Medicine advances and disseminates scientific knowledge to improve human health. Election to the institute is considered one of the highest honors in the fields of medicine and health care.

Gelberman joined the School of Medicine in 1995 as the first head of the Department of Orthopaedic Surgery. He also is chief of hand and wrist surgery and director of the medical school's hand and upper extremity fellowship training program. Additionally, Gelberman is the orthopaedic surgeon-in-chief at Barnes-Jewish Hospital and St. Louis Children's Hospital.

A leader in hand and wrist microsurgery, Gelberman studies dense regular connective tissue—the ligaments, tendons and muscles that allow us to move. He also investigates radius fractures, carpal instability and nerve injuries.

Gelberman is a former president of the American Academy of Orthopaedic Surgeons and has served on many executive committees for several national and international academic orthopaedic associations.

Ley joined the School of Medicine faculty in 1986. He directs the division of oncology's stem cell biology section and serves as associate director of basic research for the Alvin J. Siteman Cancer Center at the medical school and Barnes-Jewish Hospital.

Ley, who also is a professor of genetics, is renowned for advances in understanding the biology and genetics of acute myeloid leukemia. He has identified the mechanisms that cytotoxic lymphocytes use to kill tumor and virus-infected cells and has shown that the same mechanisms cause severe tissue damage after allogeneic bone marrow transplantation. Additionally, Ley is known for his work to preserve the physician-scientist career track, encouraging physicians to pursue careers that involve both research and patient care.
Ludmerer receives AAMC award

The Association of American Medical Colleges (AAMC) has named Kenneth M. Ludmerer, MD, professor of medicine and professor of history in Arts and Sciences, the recipient of the 2003 Abraham Flexner Award for Distinguished Service to Medical Education. The award recognizes extraordinary individual contributions to medical schools and the medical education community.

One of the foremost authorities on medical education in America, Ludmerer has authored Learning to Heal: The Development of American Medical Education and Time to Heal: Medical Education From the Turn of the Century to the Era of Managed Care, both of which highlight the necessary conditions needed for medical education to progress.

Genome Sequencing Center to receive more than $130 million in funding

A three-year grant has been awarded to the School of Medicine's Genome Sequencing Center (GSC) to continue sequencing the genetic codes of the chicken, the chimpanzee and the mouse, and to start sequencing several other organisms. First-year funding for the GSC through the new grant program will be $49 million; estimated three-year funding is at least $130 million.

The grant is one of five awarded by the National Human Genome Research Institute (NHGRI) to U.S. sequencing centers. The program, called the Large-Scale Sequencing Research Network, will carry out a new generation of large-scale projects designed to maximize the promise of the Human Genome Project and dramatically expand the understanding of human health and diseases.

"This grant lets us continue to do very exciting and relevant biology," says Richard K. Wilson, PhD, director of the center. "The data we'll be producing as a part of this new effort will allow us to ask very fundamental questions about human health and disease."

Washington University's GSC has produced several unique accomplishments, including the complete sequence of the first human chromosome (chromosome 22) and several other chromosomes (2, 4, 7 and Y), the first complete genome of a multicellular organism (the microscopic worm C. elegans), and the first plant (the flowering mustard Arabidopsis thaliana).

Over the next three years, the NHGRI program's five centers will mount a major new effort to gather genetic data on several species in a fraction of the time and at a fraction of the cost of producing the human genome.

"In large part, our new funding can be seen as a reward for the advances in efficiency we've made in previous years," Wilson says. "It took several hundred million dollars to map and sequence the human genome. Because of efficiency improvements in many areas since the Human Genome Project began, it will take less than $50 million to sequence each genome that we'll work on as a part of NHGRI's new network."

Comparing different organisms' genomes helps researchers zero in on areas in the genetic code where the most functionally important genes are located. In addition, the insights gained from comparing an organism's genome to the human genome often can be crucial using that organism to model a human disease.

See page 18 for more on the Genome Sequencing Center and BioMed 21.
Whelan receives Founders Day honor for dedication to students

OUTSTANDING COMMITMENT to the intellectual and personal development of students resulted in Alison J. Whelan, MD, associate professor of medicine, being honored with a Distinguished Faculty Award at the university's annual Founders Day dinner in September.

Whelan joined the School of Medicine in 1994 as an assistant professor and also as coursemaster for the third-year medicine clerkship at Barnes-Jewish Hospital. Three years later, she was appointed associate dean for medical student education.

Whelan, who also is an associate professor of pediatrics, focuses her research on clinical genetics with an emphasis on hereditary cancer. Since 1999, she has co-directed the Hereditary Cancer Registry Core at the Alvin J. Siteman Cancer Center.

Whelan earned her undergraduate degree from Carleton College in 1981 and her medical degree from Washington University in 1986, completing her postgraduate work and residency at Barnes Hospital. She is a member of Alpha Omega Alpha, the American College of Physicians, the Association of American Medical Colleges, and the American Medical Women's Association.

BIOMEDICAL ENGINEERING

New method of casting prosthetic limb sockets saves time, money

A n easier and less expensive way to make sockets for prosthetic limbs is the subject of a recent School of Medicine study. The new process, which uses a gel instead of traditional plaster to make molds of amputated limbs, may expedite and simplify the procedure for the estimated 400,000 Americans who have prostheses.

"What we're doing is an entirely different process from the traditional way of making prosthetic sockets," says study principal investigator Jack R. Engsberg, PhD, research associate professor of neurological surgery, biomedical engineering and occupational therapy.

The most important and difficult part of making a prosthetic limb is forming the socket, the part of the prosthetic that fits against the stump of the remaining part of the limb. Traditionally, a plaster cast of the stump has been made by a specially trained prosthetist, then filled with plaster to make a model. The model is then used to make a socket, which is adjusted to optimize its ability to contour to an individual's stump and to comfortably bear that person's weight. Sockets typically require several fittings and adjustments before a final product is achieved.

Engsberg and his team of researchers have developed a simpler, less expensive alternative using a gel instead of plaster to make the stump mold. In the new process, the stump is placed in a water and alginate powder mixture, which turns into a gelatin-like substance in about five minutes. The gel contours to the shape of the stump and produces an exact mold. Plaster is still used to fill the mold and create a model of the stump.

To test the effectiveness of the new method, the researchers made two sockets for each of 10 leg amputees. One socket was made using the traditional plaster mold method; the other was made with the alginate gel. The traditional method required production of up to three test sockets per person, whereas the gel sockets did not need any adjustments or additional fittings.

Using several measurements of walking performance and quality of life, the team found no differences in the success of the two types of sockets. When asked to choose which socket they wanted to keep, five people chose the one made with the gel process, four chose the traditional socket, and one person chose to keep both sockets.

"Our data suggest that the gel process produces sockets that fit at least as well as those made in the traditional way," Engsberg says. "In this preliminary study, we've shown that it's possible to make a socket without any modifications, using a process that's easy enough to be performed by a technician instead of a specialized prosthetist."
WU PHYSICIANS AMONG NATION'S BEST

Eighty-eight of America’s Top Doctors are School of Medicine faculty, according to a recently released directory of leading physicians in the United States and Canada. America’s Top Doctors, published by Castle Connolly Medical Ltd., selected physicians for inclusion in the directory through a nomination process in which doctors were asked to whom they would recommend friends and family members seeking medical care. More than 4,200 physicians were selected from 20,000 candidates.

Fourth-year medical student honored

JUSTIS EHLERS, a fourth-year medical student who plans to pursue a career in ophthalmology, has been selected to receive the Senior Merit Scholarship. The award recognizes the student with the strongest record of academic and personal achievements during the first three years of medical school and provides a full-tuition scholarship for the recipient's fourth year.

Ehlers graduated summa cum laude from the University of Notre Dame with a bachelor's degree in science pre-professional studies. As an undergraduate, he was a member of Phi Beta Kappa.

At the School of Medicine, Ehlers has been involved in the student chapters of the American Medical Association and the Missouri State Medical Association. He also is a member of Alpha Omega Alpha.

Additionally, he has been working with David C. Linehan, MD, assistant professor of surgery, conducting clinical research, assisting in the operating room and designing computer databases for research projects. Ehlers began studying with Linehan during the summer between his first and second year after receiving the Alvin J. Siteman Cancer Center research fellowship.

A native of Maryville MO, Ehlers realized he wanted to be a physician while in elementary school. His interest in medicine began with his love of science and inspiration from his family physician.

Ehlers plans to specialize in ophthalmology because he enjoys its combination of patient interaction and surgery. He hopes to complete a fellowship and have a career in academic medicine.

School of Medicine hosts international systems biology conference

IN EARLY NOVEMBER, 400 scientists from 26 nations and 26 states came to St. Louis for the Fourth International Conference on Systems Biology (ICSB). The conference, titled “Life in Our Biosphere: From Nano to Macro,” was chaired by Jeffrey L. Gordon, MD, the Dr. Robert J. Glaser Distinguished University Professor and head of the Department of Molecular Biology and Pharmacology.

“Systems biology focuses on how biological networks are formed and function,” Gordon says. “Instead of studying one gene or protein, the focus is on how many different genes, proteins and other factors interact.

“Characterizing the structures and properties of biological networks, identifying the factors that maintain their robustness, stability and sensitivity to environmental perturbations, and engineering networks to achieve desirable properties requires a new type of scientific community, one where biologists are able to form teams with chemists, engineers, physicists, computer scientists and mathematicians.”

Gordon says one reason he wanted to bring the ICSB to St. Louis was that he felt the approaches used in systems biology are instrumental for BioMed 21, a major new biomedical research and education initiative at Washington University. Gordon was one of a group of faculty who shaped the methods and goals of BioMed 21. He also felt that the meeting was highly relevant to the recently announced NIH Roadmap initiative that seeks to catalyze and transform interdisciplinary work in both the basic and clinical sciences.

The keynote speaker at the ICSB meeting was Stephen Wolfram, PhD, author of a controversial book called A New Kind of Science. Wolfram, a former MacArthur Foundation “genius grant” recipient, believes that mathematical equations represent an inadequate way of describing complexity in the natural world, and argues that this is better done with simple computer algorithms.

Other speakers at the meeting examined topics such as the application of nanotechnology to the life sciences, the minimal amount of genetic material needed to create life, computer modeling and experimental analysis of gene and protein regulatory networks, methods for examining and understanding biodiversity in oceanic and terrestrial ecosystems, and how to conduct the search for life on Mars.
It's never too late to begin an exercise program

**E**dwin D. Wolgram, MD, clinical assistant professor of psychiatry, won the 70-74 age group in the Hawaiian Ironman World Championship Triathlon on October 18, 2003. Wolgram, 70, completed the 2.4-mile ocean swim, 112-mile bicycle ride and 26.2-mile run in 13 hours, 25 minutes, which was 45 minutes ahead of his nearest competitor.

“Nothing—not money or success—is more important to you and your family than health.” **EDWIN D. WOLGRAM, MD**

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**OPHTHALMOLOGY AND VISUAL SCIENCES**

**Lens replacement material may improve cataract treatment, eliminate bifocals**

Scientists at the Veterans Affairs (VA) Hospital and the School of Medicine are developing a gel-like material that eventually could be used to replace diseased and aging lenses in the eyes of patients with cataracts. The material also might eventually mean the end of bifocals and contact lenses for millions of people who suffer from presbyopia—literally "old vision"—a condition that makes it difficult for people over 40 to read without magnification.

“This could represent a totally different approach to the treatment of cataracts and presbyopia,” says Nathan Ravi, MD, PhD, principal investigator, associate professor of ophthalmology and visual sciences and professor of chemical engineering. “We have demonstrated that this gel has similar mechanical properties to the lens of the eye, and we hope it also will be able to perform the visual functions of the natural lens.”

Ravi, who also is director of ophthalmology for VA Heartland hospitals in the Midwest, has been working with various synthetic polymers, looking for those that compare favorably with the natural lens. His research centers on the biomechanics of the lens and the causes of presbyopia.

As we age, the tissues in our eyes tend to lose their flexibility. The lens also becomes cloudy if cataracts form. The current treatment for cataracts is to remove the old lens material and replace it with a flexible plastic lens. The new strategy would be to carefully remove the aging and clouded lens material from the lens' capsular bag (the part of the eye that holds the lens), while leaving that structure intact. The surgeon then would replace the extracted lens material with the clear, flexible polymer that Ravi's lab has developed by carefully injecting it into the empty capsular bag.

“The gel material is soft to the touch, and it has elastic properties similar to those found in the natural human lens,” says study first author Madalene Fetsch, a graduate assistant in biomedical engineering who works with Ravi.

Using molecular techniques, it's possible to change the artificial lens material from a gel to a liquid. The liquid then can become a gel again in the presence of oxygen in the body after injection. The hope is that only a very small injection hole would be required during cataract or other lens replacement surgery so that patients undergoing the operation would not require stitches.

Now that the mechanical and physical testing of the hydrogel is done, researchers expect to begin animal testing early next year. The researchers admit there is still much work ahead before an injectable lens could be used in human patients, but Fetsch and Ravi expect it would be introduced into cataract patients first.
A different kind of CHEMO

Is a cup of chemoprevention worth a round of chemotherapy?

A NEW APPROACH TO THE WAR ON CANCER

has caught the interest of a growing group of scientists: Increase consumption of compounds that reduce genetic damage and other cancer-promoting processes, and patients can decrease the chance that tumors will ever develop.

The strategy, known as chemoprevention, is only about 20 years old. New leads for chemoprevention treatments sometimes come from traditional medicine, so it's easy to confuse chemoprevention with the vague promises of better health attached for centuries to maternal calls of "Eat your vegetables!"

Ming You, MD, PhD, professor of surgery, is determined to convince both the general public and other faculty members at the School of Medicine that not only is chemoprevention a hard science, it's a field in which the potential benefits are well worth pursuing.

"This is a far cry from people saying, 'If you just eat healthy, you maybe will have less disease for the next 20 years,'" You says. "It's a new idea that these kinds of dietary alterations can have quantifiable medical effects, but they lead to predictable outcomes. You can actually calculate how many cancer cases you can cut per hospital."

BY MICHAEL PURDY
have included tamoxifen, a substance derived from yew trees that can reduce the risk of breast cancer, and broccoli sprouts, which contain a compound that promotes production of enzymes that prevent harm to DNA.

You thinks that Washington University has the resources to make it an international leader in the development of chemopreventive agents.

"The university has a tradition of excellence in many areas, but chemoprevention certainly isn’t one of them yet," says You. "We have everything we need, in terms of the extensive cancer expertise here at the Siteman Cancer Center, the basic and clinical research expertise throughout the university, and our connections to institutions like the Missouri Botanical Garden and the Donald Danforth Plant Science Center. But the interest in chemoprevention just isn’t here yet."

You, who has an obvious gift for confronting discouraging odds with near-manic energy and contagious cheerfulness, came to the school last year with Yian Wang, MD, PhD, associate professor of surgery. You and Wang (who are married) are both actively involved in chemoprevention research, and You has made it a priority to generate interest in chemoprevention among other Washington University faculty. He uses several scenarios to make the pitch for chemoprevention; the first comes from his research specialty, lung cancer.

"In the last few years, we have had millions of people who listened to all the information about stopping smoking and managed to stop," explains You. "But they may then hear that they still have a significant risk of lung cancer."

Cancer risk decreases after quitting, but only very slowly and incrementally. Thanks to the success of anti-smoking initiatives, doctors actually now see more former smokers who are first-time lung cancer patients than they do current smokers. Add this to the fact that lung cancer brings a nearly 90 percent chance of dying within three years, and many are eager to find new ways of reducing risk.

"Lung cancer is the number one cancer killer of both men and women," he says. "If we could find a chemopreventive agent that cuts the risk of lung cancer by 50 percent, that would save nearly 100,000 lives a year."

Another scenario You describes centers on the identification of several genes that can increase the risk of developing various types of cancer. You and Wang, frequent research collaborators, both do research into genes that increase risk of cancer.

"We’ve been seeing some promising preventive effects in trials of retinoids, synthetic compounds that mimic some of the properties of vitamin A," she says.

The final scenario is a patient with a precancerous lesion. According to You, it may be possible to develop chemopreventive agents that not only help push a precancerous growth back into normalcy but also help decrease the chances that such growths will develop again.

You emphasizes that chemoprevention doesn’t guarantee a way to completely beat the odds but instead provides a method for tilting them in a patient’s favor.

"We have a goal of maximum efficacy with minimal harm, so I don’t think this approach is likely to ever prevent 100 percent of cancers," You explains. "Chemoprevention is not like chemotherapy, where the number one concern is prolonging life at any cost. Many of the patients we hope to treat don’t have cancer yet, they just have a high risk. So they don’t want to lose hair or their appetite—they want to live normally and still prevent cancer from occurring."
Finding new leads for potential chemopreventive agents often involves an odd mixture of investigating folk remedies and applying the latest basic research into the origins of cancers.

You describes the work of John Pezzuto, dean of the School of Pharmacy at Purdue University, as an example. The famous contrast between traditional high-fat diets in Mediterranean countries and the low rates of cancer and heart disease found in those areas led him to study the grapes that went into the region’s red wines. He found a potent anti-cancer compound called resveratrol in the skins of the grapes.

You places his laboratory halfway along the chain of development from lead to treatment. He doesn’t screen dozens of potential chemopreventives—“they’re about 90 percent wrong and 10 percent gold,” he says—but instead tests the best leads in animals and isolates the compounds providing the chemopreventive effect. His team lays the groundwork on preclinical studies that make human clinical trials possible for other, more clinically oriented research groups.

You’s lab has helped to advance two promising members of a new generation of potential lung tumor preventives. He and Stephen Lam, a pulmonologist at the University of British Columbia in Vancouver, have been working with an herbal tea mixture that a Chinese doctor, Lin Pei-Zhong, showed could reduce the rates of esophageal cancers.

“I’m normally very suspicious of herbal mixtures, but he presented solid scientific data at a conference in China in 1996 and was willing to let us work with him,” says You, who now has a paper in the works confirming the mixture’s anti-tumor effects in mice.

Lam and You also are co-principal investigators on a clinical trial to see if green tea can reduce the occurrence of lung cancer. The trial is currently underway at the University of British Columbia’s Cancer Centre.

An herbal tea mixture has been shown to reduce the rates of esophageal cancers. Will green tea be the next chemopreventive agent? in his efforts to interest Washington University faculty in chemoprevention. He and Lynn A. Cornelius, MD, associate professor of medicine and head of the division of dermatology, are seeking funds to test chemopreventive agents in solid organ transplant recipients.

Transplant patients have to take immunosuppressive drugs to prevent rejection of their new organs, but because the immune system also plays a role in fighting cancer, those drugs can combine with other factors to greatly increase the patient’s risk of skin cancers. Dermatologists estimate that transplant patients may have 64 times the normal risk for squamous cell cancer, 10 times the risk for basal cell cancer, and three times the risk for malignant melanoma.

“This has been a significant problem in the management of these patients, particularly those who are fair-skinned and have had considerable sun exposure,” says Cornelius. “This is a perfect patient population at risk for skin cancer in which to develop chemopreventive therapies.” Physicians currently use compounds related to vitamin A to lower cancer risk, but they have serious disadvantages. Working with Daniel C. Brennan, MD, associate professor of medicine and director of the renal transplant service, Cornelius had been considering the possibilities of trying a green tea extract or omega-3 fatty acids as chemoprevention therapies. That’s when Brian Springer, research administrator at the Siteman Cancer Center, put Cornelius in touch with You.

“I am totally impressed with Dr. You’s enthusiasm and knowledge regarding chemoprevention, along with his willingness to help formulate an approach for a clinical intervention,” says Cornelius.

You hopes that Cornelius will be the first of many faculty he can assist with chemoprevention research.

“Chemopreventive agents are starting to happen for breast cancer, they’re rapidly becoming available for colon cancer, and there are even some new leads for prostate cancer,” he says. “Things are starting to happen very quickly.”
License to drive: Every teenager's ticket to adulthood and personal freedom, every senior's medical—and personal—quandary.

Losing your keys

BY GILA Z. RECKESS

"She was crying, I was crying; it was terrible. That was the saddest day."

Janice Gober will never forget the day her 73-year-old mother, Rosemary Ralls, relinquished her driver's license. Despite the difficulty, Gober admits she also felt relieved.

"It was hard to take away my mother's independence, but I couldn't have lived with myself if she'd had a serious accident," says Gober.

With the graying of America, millions of people across the nation are facing the same tough issue. Before the Missouri Department of Motor Vehicles revoked Ralls' license, she had demonstrated erratic driving behavior and failed a driving assessment developed by Washington University researchers.

Janice Gober's mother, Rosemary Ralls, now rides in the passenger's seat.

Winter 2003 Outlook
Not all older drivers are unsafe. It wasn’t Ralls’ age that flagged her as a potential driving threat, but her health: In December 2001, she became one of 4.5 million Americans diagnosed with Alzheimer’s disease (AD), a neurodegenerative disease characterized by a progressive worsening of attention, memory and other cognitive functions, all of which are necessary for driving.

“I don’t view advanced age as a criteria for decreased driving ability, but base it on the presence of medical diseases and functional decline,” explains David B. Carr, MD, clinical director of the division of geriatrics and nutritional science. “Driving impairment can affect individuals across all ages due to any of a number of diseases, ranging from glaucoma to arthritis. But many chronic diseases are significantly more common in older adults.”

Even some people with AD can drive safely, and driving performance declines at a different rate for every individual, says John C. Morris, MD, director of the Washington University Center for Aging and co-director of the university’s Alzheimer’s Disease Research Center (ADRC). It’s therefore impossible to predict driving performance based solely on whether a person has been diagnosed with dementia.

“We want to enable older adults to continue driving for as long as they are safe,” says Morris, the Harvey A. and Dorismae Hacker Friedman Distinguished Professor of Neurology. “Identifying and testing those at risk can be reassuring and help safe drivers remain independent. It also can help us deter the development of unsafe driving behaviors and intervene, before there is an actual crash or other problem.”

Researchers at the nationally renowned ADRC and its Memory and Aging Project have been studying the effects of dementia on driving for more than a decade.

Because AD is progressive and driving performance inevitably does worsen, the challenge is to figure out how to predict and evaluate dangerous declines in driving performance.

University researchers are investigating two key issues: how to confirm that an individual with dementia is in fact unsafe, and how to educate and empower physicians and families to recognize a potentially unsafe driver.

In a landmark 1997 study published in the journal Archives of Neurology, the ADRC team reported the first findings from the Washington University Road Test, one of the most comprehensive and extensively researched driving assessment tools for older adults. The 45-minute, in-traffic test is designed to measure driving behaviors commonly associated with dementia (see sidebar, page 14).

This was the test Ralls failed. Like her, more than 40 percent of individuals in the study with mild AD and 19 percent with very mild dementia also failed.

Later, the investigators periodically retested those individuals who originally passed and compared the time it took each person to go from “pass” to “fail.” In the October 2003 issue of the Journal of the American Geriatrics Society, they reported that, as expected, the mild Alzheimer’s group declined the fastest, followed by the very mild dementia group.

“This is a preliminary study, but it suggests that testing currently safe drivers who have mild dementia every six months can be useful to identify those who become unsafe,” says study senior author Janet M. Duchek, PhD, associate professor of psychology and of occupational therapy.

To the researchers’ surprise, 3 percent of people without dementia failed the test the first time, and even those who passed declined over time, though at a slower rate than the mild and very mild dementia groups.

According to Morris, “The fact that driving ability declined in nondemented participants implies that age-related changes other than dementia likely contribute to driving performance and should be further investigated in larger groups of older adults.”
Despite its apparent effectiveness, the Washington University Road Test is expensive and time-consuming. So, while continuing to investigate the effectiveness of the road test, researchers also are exploring other options.

A team led by Morris and Duchek is collaborating with the Missouri Division of Motor Vehicles (DMV) to determine whether a five-minute cognitive screening test can predict a suspected impaired driver's performance on the DMV's driving test. Based on a previous study the researchers published in the *Journal of Gerontology* in 1998, the DMV already has incorporated the use of five road signs in their written test that were found to help identify individuals with dementia.

Another project, led by Martha Storandt, PhD, professor of psychology and neurology, will examine data collected by the university's Memory and Aging Project over the past 20 years. Volunteers in the program return yearly for an extensive battery of psychometric tests that measure a wide range of cognitive abilities. By evaluating this longitudinal data, the team hopes to identify a "psychometric profile" associated with when a person decides to stop driving.

One of the biggest challenges in detecting unsafe drivers with AD is that, as part of the disease, patients often lose insight into their own health and mental acuity. It also can be difficult for families and physicians to identify those who are no longer safe to drive.

According to Morris, "We have an important task ahead of us: We must increase public awareness about driving issues in demented persons and empower families and health care professionals to intervene before a tragedy occurs."

Morris' concern is echoed by the American Medical Association (AMA). With the National Highway Traffic Safety Administration (NHTSA), the AMA instituted the Older Drivers Project in 2002, an effort aimed at helping physicians to assess the "driving fitness" of the millions of Americans over age 65.

"Online resources like the AMA's guidelines will provide a fluid instrument for us to adjust as new research becomes available," says Carr, who served as one of three appointed master trainers selected to teach others how to train physicians to use the AMA guidelines.

He and Thomas M. Meuser, PhD, research assistant professor of neurology and director of the ADRC's education core, recently received a grant from the NHTSA to train Missouri physicians to specifically identify dementia and its potential effects on driving.

"We still don't have enough information to recommend widespread screening for driving impairment in older adults," Carr admits. "But, it is an exciting time for the field. We now have several useful screening methods that need to be studied further. Combined with increased education and awareness, these tools create an ideal situation for studying this problem and advancing the science in the area of driving control and cessation."

**Danger ahead? Caution signs for aging drivers**

Like most people with Alzheimer's disease, Rosemary Ralls did not think she was a dangerous driver. But her family and physician were concerned. For several months before taking the Washington University Road Test, Ralls frequently got lost and once was gone for three hours cashing a check. She returned home disoriented—without having completed her errand.

According to the ADRC team, testing is particularly important in cases like Ralls' to either allay concerns or to confirm that a driver is unsafe.

Signs of potential driving impairment include:

- Getting lost
- Failure to recognize familiar areas
- Failure to maintain proper speed or to stay in one lane
- Difficulty navigating turns
- Increase in minor traffic accidents or violations

If you are concerned about a loved one's driving abilities, consult your physician or call the Memory and Aging Project at (314) 286-2683.
Construction cranes are a ubiquitous fixture of the Washington University Medical Center skyline, towering over its many buildings. Anyone traveling Highway 40-US 64 through the heart of St. Louis sees these steel skeletons — symbols of the university’s ongoing commitment to leadership in medical education, research and patient care. The recent announcement of the BioMed 21 initiative heralds blueprints and buildings still to come.

Construction of the McDonnell Medical Sciences Building (above and right) in the late 1960s, the product of a $4 million gift from the James S. McDonnell family in 1966, was called “the most significant advance made by the Washington University School of Medicine since it was moved to its present location in 1915.”
Construction at the new Kingshighway campus, circa 1913, required a lot of muscle power—human and mule. The large building in the background is St. John’s Hospital.

An aerial photo of the medical center in 1952 shows construction of Wohl Hospital and Kingshighway Boulevard as it looked before the Highway 40-US 64 interchange was built.

The site of the North and South buildings (left to right) near completion in 1914. The South Building would house the labs of Joseph Erlanger’s Nobel prize-winning experiments and later the lab of the Coris, where their Nobel work was done. The private home seen nearby is a fine example of turn-of-the-century St. Louis architecture, later demolished for construction of St. Louis Shriners Hospital.

In 1950, the Cancer Research Building was the first facility of its kind—devoted solely to cancer research—built using NIH funding.

A four-story addition was constructed atop the existing Mallinckrodt Institute of Radiology in 1969, rising above the original Barnes Hospital buildings.
The Bernard Becker Medical Library, under construction in 1988, transformed the front entrance of the Cancer Research Building into an interior wall of the new facility's seven-story atrium.


What a difference 50 years makes: Covering 230 acres, Washington University Medical Center today is vast and dense. Its institutions include the Alvin J. Siteman Cancer Center, Barnes-Jewish Hospital, Central Institute for the Deaf, St. Louis Children's Hospital and Washington University School of Medicine.

Now

The Eric P. Newman Education Center opened in 1995. The three-story facility serves as a hub for continuing medical education, seminars, workshops, association meetings and other events.

The Center for Advanced Medicine, completed in 2001, provides patients with the convenience of multispecialty consultation, diagnostics, medical treatment and same-day surgery and support services, all in one location.
To any list of momentous dates in the history of life sciences at Washington University, 2003 must now be added as the year in which BioMed 21 debuted. From the 1909 Abraham Flexner visit that fueled a redefinition of American medical education through the completion of the Human Genome Project in 2002, few events have had the impact predicted for BioMed 21.

It is an initiative that will reshape university culture over the next 10 years to catalyze and support emerging forms of bioresearch and rapidly convert the knowledge of the genetic blueprint into effective, individualized treatments. Here's what some of this new direction's architects say about it:
Washington University in St. Louis reorganizes the life sciences into networks designed to address diseases' biggest questions.

BY STEVE KOHLER
To successfully cross that threshold, make those discoveries and develop those therapies, BioMed 21 advances on many fronts:

- It collects and dedicates more than $300 million in resources. Included is NIH support, such as the newly announced $130 million, three-year award to Richard K. Wilson and the Genome Sequencing Center (GSC) that funds efforts to decipher the genome of nonhuman species, including the chimpanzee. Gifts from friends and supporters already include an endowment from the Danforth Foundation for start-up funds to stimulate research and a gift from John F. McDonnell and the JSM Charitable Trust to endow four new professorships. A gift from Dr. and Mrs. Philip Needleman will establish the new Philip and Sima K. Needleman Professorship (see sidebar, page 21).

- It is a building program that defines new spaces to house emerging interdisciplinary basic and clinical research programs, beginning with the $13.5 million reconstruction of existing space adjacent to the GSC to facilitate interactions between basic scientists, clinicians and the GSC. Later will come the construction of a $150 million, 250,000-square-foot building dedicated to translational research, to be built in stages. Bridging the basic and clinical sciences, the new building will be located in the center of the medical campus, near the new $37 million Farrell Learning and Teaching Center that is an important teaching component of BioMed 21. Also included is an $18 million, 40,000-gross-square-foot facility at the corner of Clayton and Taylor avenues designed to spur development of mouse models for human diseases.

- It's also a faculty development program that will add more than 50 faculty members in areas including, but not limited to, patient-oriented research and imaging sciences.

- Concomitantly, a similar number of new students will join the student body. "The PhD, MD and combined MD/PhD students who train under the banner of BioMed 21 will be critical to its success. They will export technology and ideas as they develop their careers under this new, interdisciplinary paradigm," says Philip D. Stahl. "Training young biomedical-scientists and physician-scientists will provide a substantial and long-term return on our investment."

- BioMed 21 is a redirection of thinking about how knowledge moves from the laboratory to the bedside and how observations can be conveyed more effectively from clinicians to researchers.

- Perhaps most tellingly, it's the creation of a new "intellectual space," in Gordon's words. At a university known for its collegiality and cross-disciplinary collaboration, BioMed 21 calls for unprecedented levels of cooperation between the broadest range of academic endeavors—from physics to pharmacology, from engineering to evolutionary biology.
Early plans for the structure of BioMed 21 aim to establish three new research units accessible to interested faculty members on both campuses: The Center for Genomics and Human Genetics, the Division of Clinical Sciences, and the Center for Biological Imaging. The conceptual nucleus around which these three new units orbit is to build upon the work of the Human Genome Project to rapidly advance the diagnosis and treatment of human illnesses.

The first physical step toward BioMed 21 is the creation of a pilot program in the Center for Genomics and Human Genetics. Five researchers will relocate their laboratories into close proximity to the Genome Sequencing Center in the 4444 Forest Park Avenue Building, Gordon and Johnston, whose laboratories will be among the first to move, call this new arrangement an “intentional community.”

“We always have thought it important to be surrounded by more people who are actually doing genomics and who are using the information and technology in an applied way,” says Wilson. The five investigators, brought into contact with the GSC, will devise new ways to mine the data generated there. They also hope to encourage other investigators to bring their innovative ideas to the GSC under the umbrella of a feasibility program that would support generation of preliminary data by the sequencing center — data that could be used as the foundation for new grant applications.

More broadly, members of the center will use comparative genomics to study the evolution of life on our planet and pursue research in systems biology, an emerging field that combines computational methods with quantitative experimental methods to examine the origins, structures and functioning of the complex generic

**Crucial gifts provide funding for WUSTL BioMed 21 initiative**

Generous gifts from three of the most stalwart supporters of the university will provide funds for initiating BioMed 21 and establishing professorships to help guide the program. “These transforming gifts from the Danforth Foundation, John F. McDonnell and the Needlemans, for which we are so deeply grateful, will make it possible to recruit key faculty and stimulate creation of the interdisciplinary units that are the core of BioMed 21,” says chancellor Mark S. Wrighton.

A previous Danforth Foundation gift will provide a $30 million endowment for start-up funds to stimulate research. Of the $30 million total, $6 million has been set aside to endow eight Danforth Foundation Career Development Professorships. These professorships will be awarded to young faculty members, speeding their ability to launch collaborations, pursue projects, seek grants and establish laboratories at an early phase in their careers.

John F. McDonnell and the JSM Charitable Trust have provided $6 million to endow four professorships within the structure of BioMed 21. “Members of the McDonnell family, personally and through the JSM Charitable Trust, have been extremely supportive of Washington University for many years,” Wrighton says. “Their incredible generosity continues to play a critical role in the advancement of education and research at the university.”

John, the youngest son of honored aerospace pioneer James S. McDonnell, is the chairman of the Washington University Board of Trustees and has served on the board since 1976. The McDonnell family and the JSM Charitable Trust have a deep interest in scientific research.

A third seminal gift comes from Philip Needleman, PhD, and his wife, Sima, who have established the Philip and Sima K. Needleman Professorship to be held by a senior leader recruited or appointed to play a leadership role in the new Division of Clinical Sciences.

Joining Wrighton in announcing the gift, dean Larry Shapiro says, “We thank the Needlemans for this wonderful gift and are honored that their names will be associated with the School of Medicine in perpetuity.”

Philip Needleman chaired the school’s Department of Pharmacology from 1976 to 1989. As an adjunct professor of molecular biology and pharmacology, he maintains close ties with the university, where he was elected Basic Science Teacher of the Year five times.

Sima Needleman was a medical social worker at the former Jewish Hospital from 1976 to 1992. A member of the George Warren Brown School of Social Work, she served for 10 years on the alumni board.
and molecular networks that regulate normal cellular functions.

Faculty and students in the center and others in the broader university hope to use this information to gain new understanding about how network disruption leads to disorders such as diabetes, obesity, cancer, cardiovascular disease, Alzheimer's and Parkinson's diseases, plus various immune or infectious maladies. Gordon and Johnston believe this will require the assembly of multidisciplinary teams composed of geneticists, genome scientists, evolutionary and population biologists, developmental and cell biologists, microbiologists, immunologists, engineers, computer scientists, (bio)chemists, physicists and mathematicians.

The center will function as a proving ground for developing strategies to effectively assemble, mentor and reward members of teams that work at the interface of multiple disciplines. Center members also hope to catalyze development of high-end computing resources and new software tools, as well as a core curriculum in systems biology, that would be distributed to medical school and Hilltop graduate programs.

The second unit of BioMed 21, to be established as a cross-department and cross-campus division modeled after the Division of Biology and Biomedical Sciences, is the Division of Clinical Sciences (DCS). Put simply, Kenneth S. Polonsky says the division's purpose is "to improve the performance of patient-oriented investigation."

By which Polonsky means two types of research studies. The first are those that move basic science insights into the clinical realm, striving to understand in the most practical terms why people develop diseases and how to treat those diseases. These include trials of pharmaceuticals and the effectiveness of biomarkers. The second type looks into treatment outcomes and epidemiology. By employing new genetic and imaging techniques, clinician scientists will learn to "stratify" patients, classifying them by phenotype and genotype to determine which drugs are most likely to be effective and cause the fewest side effects in a given individual.

"To be successful, we must do three things," Polonsky says. "We must recruit eminent faculty who are experienced at doing patient-oriented research, both in- and outpatient. Then we must provide them with the core resources to perform their research, developing facilities for small-scale genetic studies as well as scanning and imaging capabilities. Finally, we need to train a new generation of physician-scientists who answer important biological questions in human subjects."

Polonsky points out that the university has in place the NIH-funded General Clinical Research Center that supports clinical research performed there, and the Center for Clinical Studies that offers infrastructure for negotiating contracts, locating patients, providing nursing and coordination — two advantages that enhance the new division's position.

An essential part of many of the trials to be conducted in the DCS is determination of the genetic makeup of the individuals participating, and Polonsky says close ties to the new Center for Genomics and Human Genetics are therefore vital, along with the involvement of the university's clinical departments and the Department of Genetics. "Genes are critical to our predisposition to..."
disease and to the safety and efficacy of drugs. Genetic studies increasingly will become a key component of clinical investigation," he says. A key person in the DCS will be the individual recruited to fill the newly endowed Philip and Sima K. Needleman Professorship.

Central to advances in genomic science, in diagnosis and treatment and in patient-oriented research are emerging imaging abilities from BioMed 21's third unit, the Center for Biological Imaging. "Today, we're diagnosing and treating diseases when they present clinically. Tomorrow, we'll be deciding who is genetically predisposed to specific conditions, and we will be visualizing the underlying mechanisms that bring about those diseases, which will allow us to develop better treatments," says R. Gilbert Jost. "We'll see more medical developments in the next 10 years than we've seen in the past 50."

He and others have identified two principal missions for the imaging center. Researchers will work to develop technologies that reveal much smaller details, moving from being able to resolve marble-sized anatomy to being able to make information-filled images of cells and even individual molecules. The creation of sophisticated radiopharmaceuticals that target and illuminate specific cell populations or behaviors requires the work of talented chemists, and high-field-strength imaging devices need input from physicists, Jost says. Already in the works: desktop sized MRI, CT and PET scanners dedicated to imaging changes in living animal models as small as mice. Light microscopes also are evolving to provide investigators with the ability to observe physical processes in living animals.

The center also will establish a clinical arm, a new leading edge imaging facility dedicated to clinical research and located at Barnes-Jewish Hospital to support clinical trials for both in- and outpatients. "That will be a facility unlike any other," Jost says. In such an application, imaging can shortcut decisions about a drug's effectiveness. Using sensitive scanners, tiny changes—in the size of a tumor, for example—that are otherwise undetectable can be closely measured and compared, quickly providing insights into a drug's efficacy.

The school's commitment to three new research units has resulted in the remodeling of an existing building, 4444 Forest Park, and plans for two additional buildings on campus.

"Quick insights": two words that describe much about BioMed 21. Ultimately, all of the initiative's elements are designed to work together in support of one another, so that the whole is greater than the sum of its parts, so that what we learn readily becomes what we practice. It represents a way of organizing around the biggest questions in medical science, and it is an example of form following function, as a new web of intentional interactivity is devised to probe the network of thousands of genes and their proteins interacting with the environment to cause disease. And then to more quickly and effectively deliver all that we learn to patients for the benefit of their health.
SIXTH-GRADER MALIK WALKER explains to his classmates at Gateway Middle School why he’s excited about this week’s lesson on genetics and sickle cell disease. “I’m very interested in genetics; knowing your family history is really important,” he says. Malik, a participant in the Washington University-led Young Scientist Program, draws a picture for the class to help them understand how normal, round red blood cells turn into a crescent shape. “When I have a baby someday, it will be important to understand sickle cell disease and to know if I have the sickle cell trait.”

Malik hopes someday to become a doctor—and says the university’s Young Scientist Program (YSP) has helped him to set that goal. “Scientists and doctors make people’s lives better,” he says. “I want to do something to help make the world a better place.”

YSP takes science and medicine into middle and high school classrooms to inspire young people to pursue scientific careers. Every week, teaching teams of university graduate and medical students go into St. Louis City public schools to give hands-on, scientific demonstrations and encourage students to pose questions and find answers through investigation and inquiry.

Second-year MD/PhD student Elizabeth Morgan, who leads the genetics teaching team, credits a ninth-grade teacher with sparking her interest in science and hopes to do the same with YSP students. “My biology teacher introduced the concept of genetics to our class, and I found the subject fascinating,” she says. “Working with students through YSP allows me to pass on my enthusiasm for science and medicine to the next generation and has really confirmed my love for teaching.”

Gateway science teacher Dolly North says that the program is wonderful because it offers “our students role models. It’s a great benefit to the community—it links city schools to an outstanding university.”
inspired by student-run program

“Children from disadvantaged backgrounds don’t often have the chance to work with scientists,” says Gateway science teacher Steve Smith. “The program brings scientific issues from the real world into the classroom in a creative way that’s relevant to the kids.”

The program was founded in 1991 by MD and PhD students to help remedy the shortage of qualified young people entering scientific fields. Now, more than 120 university graduate and medical students volunteer their time to YSP each year.

YSP is divided into four components—Teaching Teams, Summer Focus, the St. Louis Science Education Network and the Summer Research Curriculum Enrichment Program—which work in concert with one another. Last year, the program reached more than 800 middle and high school students and teachers in inner city schools.

Teaching teams like Morgan’s strive to spark interest in young students and then encourage them to apply to Summer Focus, a competitive internship, which offers high-school juniors a stipend of $2,000 to work in labs at the medical school over summer break.

Young Scientist Program faculty advisor Thomas A. Woolsey, MD, explains that the physicians and investigators who offer their time and lab space are why Summer Focus is so successful.

“The faculty who host Summer Focus are committed to providing young people exposure to the excitement of science because they understand the importance of attracting the best minds to science for the future,” he says. “Most physicians and scientists get personal satisfaction when they make a difference in someone’s life—often it was a similar first successful experience in science that got them to commit to their careers.”

But young students and university researchers aren’t the only ones who benefit from the YSP program. The Summer Research Curriculum Enrichment Program provides St. Louis City public high school teachers with resources to facilitate inquiry-based learning in the classroom. Teachers attend an eight-week research internship in a medical school lab where they develop a classroom curriculum. They are awarded a $5,000 stipend—and $1,000 to purchase laboratory equipment and supplies.

The broadest-based YSP program is the Mad Scientist Network, a web-based program that improves science literacy in elementary and high school students. The network is run by more than 700 volunteers who answer questions from students around the world about everything from anatomy to zoology. To view the Mad Scientist Network, please visit: http://www.madsci.org.

“The Young Scientist Programs offer an unparalleled chance for university students to reach out to the community and make an impact on the lives of young people,” says YSP administrative coordinator Jennifer Mosher. “The rewards for everyone involved are incredible.”
The physician as artist

For Jean Chapman, MD 53, medicine is an art and art is medicine. Since retiring from 38 years of practicing allergy and immunology in Cape Girardeau MO, he devotes much of his time to painting and sculpture, although he still publishes scientific articles and works to improve patient care on a national level. He is the representative of the American College of Allergy, Asthma and Immunology to the Physician Consortium for Performance Improvement. Commenting on the art of medicine, he says, “The relationship you have with your patient is the healing power, the medicine is the tool.”

A master in the American College of Physicians, Chapman is past president of the American College of Allergy, Asthma and Immunology (ACAAI), the American Association of Certified Allergists, and the Missouri State Allergy Association. He is a distinguished fellow of the ACAAI and fellow of five other professional organizations.

In 1999, the Missouri State Medical Association gave Chapman its Citizenship and Community Service Award. For 11 years he organized and hosted “Ask Your Doctor,” a live TV call-in show interviewing physicians to educate the public about diseases and socio-economic issues related to health care.

Chapman attended college art classes while in elementary school. Before earning his medical degree from Washington University in 1953, he earned a master’s degree in anatomy from the University of Missouri. While serving in the U.S. Air Force he studied ceramics at Mill Valley Junior College in California. A busy practice and a faculty appointment at Southern Illinois University School of Medicine limited his leisure time, but he always managed some art-related activity. His wife, Nona Nan, shares his love of the fine arts and is an accomplished singer.

A multi-media artist, Chapman works in oils, pastels, India ink, ceramics, bronze, wood and marble, often expressing his love of nature and the human form. He has had several exhibits of his work and is known for his paintings of irises and his sculptures of hands. He was commissioned to do a marble sculpture of the hands of famed violinist Cho-Liang Lin. One of his latest works is a black walnut sculpture of a female form.

Chapman is a board member and past president of the Arts Council of Southeast Missouri, the oldest such body in Missouri. Recently, he organized a 41-member Visual Arts Cooperative that has established an art gallery where artists from all walks of life display and sell their art.

Combining medicine and writing

Sandeep Jauhar, MD 98, PhD, says emphatically, “I’m first and foremost a doctor.” Sometimes he has to clarify that for those who know him as an accomplished writer. Since he graduated from Washington University School of Medicine, he has published more than 50 articles about medicine in The New York Times and the Sunday Times Magazine.

By the time Jauhar earned a doctorate in physics from the University of California at Berkeley in 1995, he had begun to doubt that he wanted a research career—it likely meant “slow, sustained effort and slow progress.” He thrives on getting things done with dispatch. Born in India, he grew up in a science-oriented family (his grandfather was a doctor, his father is a research geneticist), and although he loved literature and writing, he did
Sandeep Jauhar, MD 88, PhD

not think of it as anything other than a possible avocation. An older brother is a cardiologist, and watching his pleasure in his work, Jauhar decided to attend medical school, applied to Washington University because of its “great tradition,” and was accepted. He also applied for and was granted an American Association for the Advancement of Science (AAAS) Mass Media Fellowship, and spent the summer before beginning medical school as a science writer at *Time* magazine. During his second year as a medical student he worked part-time at the *St. Louis Post-Dispatch*, covering all sorts of stories. After graduation, Jauhar went to New York for his residency in internal medicine, sent some clips to *The New York Times*, and promptly received an assignment.

Although he is sure that he will always be a doctor first, Jauhar’s doctoring and writing are inevitably intertwined. One of his most compelling pieces tells of his September 12, 2001 experience near the World Trade Center disaster, when he volunteered at a morgue set up inside Brooks Brothers and found himself processing body bags and cataloging body parts. It was, he says, “netherworld medicine, without rules.”

Jauhar will complete his fellowship in cardiology, with specialization in heart failure, at New York University Medical Center in June 2004. He likes cardiology because it allows him to care for people of all ages and offers “interventions unmatched in other specialties.” His wife, Sonia, also a physician, is an internist who will begin an endocrinology fellowship next year.

**Negotiating the learning curves**

John W. Barr, MD 69, enjoyed his diagnostic radiology practice, during which he “was always on an exciting learning curve.” After fellowships in neuroradiology and cardiovascular radiology and a stint in the U.S. Navy, he joined a two-man practice at a small Catholic hospital in Oakland, California. Twenty-three years later, he left “a 30-plus member group that then covered four hospitals in the San Francisco Bay Area, a hospital in southern California and several outpatient facilities.” During that time, his responsibilities changed from all the diagnostic modalities to specializing in “cross-sectional” imaging and musculoskeletal MRI. The challenge of new diagnostic and therapeutic modalities that came into use offset what Barr found the most disturbing change in his work: where he had once worked closely with referring physicians in arriving at their patients’ diagnoses, he now found that new contractual arrangements often resulted in his having little contact with a referrer and little clinical information about his patient.

Barr felt a growing desire to be a player in California’s health care policy formulation. He says, “Depending on one’s perspective, we either have the world’s best health care or ... one of the worst structured health care systems of the developed countries.” At age 57, he left the practice at Pacific Imaging Consultants, Inc., to embark on another “exciting learning curve.” This time, he is learning how a legislative body works and how to be an effective participant in its process.

He landed a prestigious Coro Public Affairs Fellowship (he was “several decades older than my 10 fellow Coro Fellows”) and spent nine months in 2000–2001 focusing on advocacy and lobbying. That led to the opportunity to become a health care policy consultant with California’s Senate Office of Research, which provides objective information and analysis for all members of the California Senate. Several days a week he works in Sacramento, other days he works at home. Currently, he is working on projects dealing with alternative therapies for cancer and insurance coverage predictive modeling.

Barr’s wife, Suzanne, is an elementary school teacher. After a Peace Corps stint in Nicaragua, daughter Heather is starting graduate school in public health at the University of Washington and son Cameron, a Stanford graduate, is applying to medical schools. Barr says, “I believe my opportunity to practice medicine was a gift ... no matter what configuration medical practice takes in the future, our son will have a rewarding experience in medicine.”
Second Century awardees honored

The 2003 Second Century Awards were presented at a dinner at St. Louis' Ritz-Carlton Hotel on October 4, 2003. The awards have been presented annually since 1991, and they mark Washington University School of Medicine's entry into its second hundred years of leadership in patient care, teaching and research.

David C. Farrell is the former chairman and chief executive officer of the May Department Stores Company. A leader in community and civic affairs, Farrell has served on the boards of the Saint Louis Art Museum, the St. Louis Area Council of Boy Scouts of America, and the Saint Louis Symphony Society, of which he is a lifetime trustee. He has been a member of Washington University's Board of Trustees for 22 years and is a member of the Community Advisory Board for the Alvin Siteman Cancer Center. His wife, Betty, also has been a dedicated community volunteer, particularly for the Saint Louis Art Museum and the Missouri Botanical Garden. The couple has three children: Lisa, Mark and David. The sons are alumni (1986 and 1990) of Washington University School of Law.

The Farrells are life patrons of the William Greenleaf Eliot Society. The David C. and Betty Farrell Distinguished Professorship in Medicine was established in 1999, followed by the Farrell Conference Center in the Center for Advanced Medicine. Their most recent gift launched the campaign for the new Farrell Learning and Teaching Center.

Philip W. Majerus, MD 61, is professor of medicine and of biochemistry and molecular biophysics, and co-directs the school's division of hematology. After earning a BS degree from Notre Dame University, he completed his MD degree at Washington University in 1961, graduating magna cum laude. He interned in medicine at Massachusetts General Hospital before spending three years as a research associate in the biochemistry laboratory of the National Heart Institute. He joined the Washington University faculty in 1966.

Majerus' initial research centered on the role of platelets in blood clotting and how aspirin inhibits platelet function. More recently, he has investigated cell responses to chemical signals such as growth hormones.

He is a member of the National Academy of Sciences and of its Institute of Medicine, and a fellow of the American Association for the Advancement of Science and the American College of Physicians.

William A. Peck, MD, is the founding director of the Center for Health Policy at Washington University and the Alan A. and Edith L. Wolff Distinguished Professor of Medicine. The new center focuses on federal, state and local policies concerning excessive health care costs and disparities in access.

Former chair of the Association of American Medical Colleges and its Council of Deans and current vice-chair of Research!America, Peck is often a national spokesperson on scientific and health policy issues.

An honors graduate of Harvard College and of the University of Rochester School of Medicine and Dentistry, Peck joined the Washington University faculty in 1976. He concluded 14 years as executive vice chancellor for medical affairs and dean in 2003.

Peck also is renowned for his pioneering research on bone metabolism and clinical studies of the causes of osteoporosis.
Eliot Society meets new dean, outlines goals

The School of Medicine's annual Eliot Society membership committee meeting was held in September. James E. Marks, MD 65, chairman of the committee, hosted the event. Twenty-seven committee members were in attendance.

At the meeting, members were introduced to Larry J. Shapiro, MD 71, executive vice chancellor for medical affairs and dean of the medical school. Shapiro provided an update on the School of Medicine and recognized the important contribution and impact the committee members have on the school.

Phillip E. Korenblat, MD, reported on the Scholars in Medicine program and encouraged participation from committee members.

Emily L. Smith, MD 68, shared the final annual fund results from academic year 2003 and outlined the goals for the current year. During dinner, fourth-year medical student Jessica Pittman addressed the importance of scholarship support and shared some experiences from her medical education.

The membership committee consists of former house officers, MD alumni and current faculty, as well as representatives from the Programs in Health Administration, Occupational Therapy and Physical Therapy.

Throughout the year, committee members will call upon their colleagues, friends and classmates to encourage Eliot Society membership (annual fund gifts of $1,000 or more to the School of Medicine).

MD Reunion 2004
The dates: May 6-8, 2004. The event: MD Reunion 2004. For up-to-the-moment information, please visit the web site: medicine.wustl.edu/alumni.

1944 Virgil Loeb Jr., MD, social chair
1949 Robert H. Lund, MO, social chair
    John R.B. Fischer, MD, gift chair
1954 Gerald L. Behrens, MD, social chair
    Andrew McCasne, MD, gift chair
1959 Charles C. Norland, MD, social chair
    Paul H. DeBruine, MD, and Ann R. Flipse, MD, gift chairs
1964 Ronald G. Evens, MD, social chair
    Carolyn B. Robinowitz, MD, Charlie W. Shaeffer Jr., MD, and Steven L. Teitelbaum, MD, gift chairs
1969 Barry A. Siegel, MD, and Richard G. Wyatt, MD, social chairs
    Alan W. Busby, MD, C. Garrison Fathman, MD, Robert C. Kolodny, MD, and Barry A. Siegel, MD, gift chairs
1974 Ronald K. DeGuerre, MD, social chair
    Patricia A. Penkoske, MD, Alan J. Tiefenbrun, MD, and Dolores R. Tucker, MD, gift chairs
1979 Jeffrey M. Wright, MD, social chair
    Brent T. Allen, MD, and Jeffrey P. Cichon, MD, gift chairs
1984 Eric J. Suba, MD, and David B. Wilson, MD, PhD, social chairs
    Joseph H. Kent, MD, and Gary F. Mitchell, MD, gift chairs
1989 Felice A. Heller, MD, and Michael P. Steinberg, MD, gift chairs
1994 Mary V. Mason, MD, social chair
    Timothy C. Philpott, MD, gift chair

See you there!

Outlook  Winter 2003  Alumni & Development 29
The dream of attending medical school catches the fancy of many young people. This dream, however, often is interrupted by today's reality: "How will I pay for it?"

The numbers can be daunting. Annual tuition for this year’s first-year class at the School of Medicine is $37,032. After four years of education, each student’s debt load at WUSM is less than the $129,000 average of other private medical schools—even lower than the $97,000 owed by graduates of public medical schools. The School of Medicine's 2003 graduating class, for those who borrowed, owed an average of $90,218, including debt from undergraduate education.

Still, a $90,000 debt is enough to make anyone considering medical school think twice.

Conventional wisdom is that medical graduates can expect to earn a generous salary upon completion of their training. But for today's graduates who are considering certain specialty choices or thinking of practicing in rural areas or doing research, mounting debt seems even more difficult to overcome and may have an impact on their decision making.

The School of Medicine has always worked to keep tuition affordable in the face of the escalating costs to educate tomorrow's physicians. Since 1992, incoming students are guaranteed their first-year tuition rate throughout their medical education.

"The caliber of applicants to the School of Medicine puts us in the desirable position of selecting the best of the best," says Larry J. Shapiro, MD, executive vice chancellor for medical affairs and dean of the School of Medicine. "Helping top-notch students to afford the outstanding medical education we have to offer is one of my highest priorities."

Scholarships and other financial aid often make all the difference.
The School of Medicine offers a variety of scholarships to students—some based on academic achievement and others filling the gap of financial need.

Merit scholarships typically are awarded to incoming first-year students. While the School of Medicine's No. 1 ranking in student selectivity by U.S. News & World Report indicates that all students enter with outstanding credentials, merit scholarships also are awarded.

More than 70 students, including 19 in this year's first-year class, hold merit scholarships totaling $2.2 million. Most are full-tuition scholarships that students who continue to meet eligibility requirements will hold until they graduate. Funding sources vary with each kind of scholarship (see box, page 30).

Several students each year receive four-year Distinguished Student Scholarships funded by School of Medicine operating funds and endowed funds. Funding for Distinguished Minority Student Scholarships comes from a variety of sources including institutional support and Monsanto Corporation. Women medical students who qualify may receive the Mr. and Mrs. Spencer T. Olin Fellowships for Women. One student each year earns the Barnes-Jewish Hospital Medical Staff Association Scholarship, and others are supported through endowed scholarships established by individual donors, such as the Albert F. Koetter MD Scholarship Fund established by Stella Koetter Darrow in memory of her father.

The Distinguished Alumni Scholarship Program (DASP), grants scholarships to four entering students each year, so a total of 16 DASP students are at the school at one time. The Washington University Medical Center Alumni Association's Executive Council selects four outstanding alumni to honor as namesakes of these scholarships each year. Institutional funds are blended with annual support to the Medical Teaching Fund to make these possible.

One exceptional student receives a full tuition award upon entering his or her fourth year of medical school, based on a gift from an anonymous donor.

Financial need-based scholarships totaling $2.3 million were awarded to medical students this year. Awards are paired with federal and other loans to provide an individually tailored aid package designed to address the need demonstrated by each student and his or her family. Renewal of these scholarships depends on continued eligibility for need.

"When the Committee on Admissions invites the best of our applicants to attend our medical school, committee members are blinded to applicants' financial status," says W. Edwin Dodson, MD, associate vice chancellor and associate dean for admissions and continuing medical education.

"Hence, having ample scholarships for needy students can make a

Jackson Johnson Scholarships

Foresight—and time—can have tremendous power.

Take the case of Jackson Johnson, president of International Shoe Company and a member of the Washington University Board of Trustees in the 1920s. He was a prominent St. Louisan who made an impact on events of his day.

But his decision to endow $250,000 in medical scholarships makes a lasting impression even now to the 17 students named Jackson Johnson Scholars this year. In the 70 or so years since he died, more than 700 students have received support from the earnings of his investment.

Flexibility has allowed the Jackson Johnson Scholarship program to change with the decades, so it now helps students fund tuition bills that Johnson, likely, could not have imagined.

Stella Koetter Darrow, with husband Edward M. Darrow, established the Albert F. Koetter MD Scholarship Fund in memory of her father.
A critical difference that enables the best of them to matriculate here.

"The result is an enrichment of talent and diversity among our students that strengthens the learning environment of the school," he adds.

Alumni who graduated at the same time often band together to create a scholarship fund bearing the name of the class. For the past 10 years, at the initial encouragement of C. Garrison Fathman, MD 69, each class celebrating a 25th reunion has launched a campaign to raise funds to establish an endowed scholarship.

Now, whenever the Class of 1969, for example, gets back together, its members can meet the student or students currently benefiting from the Class of 1969 Scholarship.

A recent endowment effort to honor William A. Peck, MD, upon the completion of his deanship means that deserving students soon will be named as Peck Scholars in Medicine. The endowed Jackson Johnson scholarships (see sidebar, page 31) and the annually supported Scholars in Medicine (see sidebar, above) are awarded to an increasing number of students each year.

Scholarship support also is available to students who are not pursuing the traditional MD degree.

For example, students pursuing the MD and PhD degrees enter the Medical Scientist Training Program (MSTP), which provides full tuition, a stipend and research support to everyone in the program. The 26 MSTP students in the first-year class join others already pursuing their six-year-plus education in biomedical research and preclinical and clinical training. Funding for the program comes from a National Institutes of Health MSTP grant—the largest in the nation—as well as institutional funds and an endowment established by the Spencer T. and Ann W. Olin Foundation.

For information about making a scholarship gift, please contact the Medical Alumni & Development Office at (314) 286-0012 or amycarpenter@wustl.edu.
Charlotte Koeehler Flynn, NU 41, of Austin TX, was featured in the September 2003 issue of the RSVP News (Retired and Senior Volunteer Program of Travis County, Texas). Recently, at age 84, she testified before a legislative panel on legislative redistricting. Flynn is one of the co-convenors of the Gray Panthers and a 24-year member of RSVP with a long history of volunteering. She has worked with the Girl Scouts, lobbied for better access to health care and human services, worked in coalitions to establish a hospital district, and staged a forum about the inefficiencies of the American health care system.

Martha Mollet Jenner, NU 48, writes from Greenville IL, "This has been a year of the plague. Our daughter, Jane, 43, became ill and was finally diagnosed January 15 with AM leukemia. Right now, she is home and feeling poorly. We take one day at a time. Our son was a donor for a stem cell transplant. Pray for her and us. I could fill another page—but won't. Thank God I feel good!"

Sidney F. Kahn, MD 51, of La Mirada CA, has retired from office practice. He works part-time as surgery director and utilization manager at Tri-City Regional Medical Center in Hawaiian Gardens CA.

Bill Wadlington, MD, HS 54, clinical professor of pediatrics at Vanderbilt Children's Hospital, sends a note to let you know how the great year I spent at St. Louis Children's Hospital affected my life! He is the recipient of the 2003 Tennessee Physician of the Year Award from the Tennessee Medical Association. He received the Volunteer Physician of the Year Award in 1991 and the Pediatrician of the Year Award in 1988. He has also been recognized by the American Academy of Pediatrics, which gave him the 1988 Office Research Award for authoring 36 articles about children's diseases, and the 1991 Lay Education Award for founding Health Hall in the Adventure Science Center in Nashville TN. Wadlington comments about his residency, "Dr. Hartman was the chief at that time. My best friend on the surgical services was Dr. Ed Lansche (MD 52)."

Martin E. Liebling, MD 55, has retired in Miami after 39 years of practice of hematology/oncology. He is now "traveling, fishing, doing photography and trying to keep track of our nine grandchildren," and is still an active member of Washington University's South Florida alumni council, as well as a member of the Eliot Society.

Marilyn Foster Davis, OT 62, has retired and is presently doing acrylic painting, mixed media and fiber art. "I demonstrate every third weekend of the month and have an ongoing exhibit atGeorgia Heritage Gallery in Tallulah Falls GA. In addition, I exhibit with the Currahee Artists Guild in Toccoa GA."

Andrew C. Chan, MD 86, has been promoted to vice president of Research-Immunology at Genentech, Inc. in San Francisco. Chan joined Genentech in 2001 as senior director of immunology in the research department and has been responsible for overseeing research programs focused on the role of the immune system in cancer and various immunological disorders. In his new position, he will continue to supervise the research program for the treatment of immunemediated and inflammatory disorders. Before going to Genentech, Chan was
an associate professor in the division of rheumatology and the Departments of Medicine and of Pathology and Immunology at Washington University School of Medicine, where he was also a Howard Hughes Medical Institute associate investigator.

Mark Leitner, HA 86, assumed his duties as the new chief executive officer at Colorado Plains Medical Center in Fort Morgan CO, in August. He will be responsible for expanding the services at the 50-bed community hospital, part of Province Healthcare, as well as the construction of a new medical office building. Leitner had been vice president and chief operating officer at Baxter Medical Center in Mountain Home AR and, earlier, held administrative positions at several hospitals in Oklahoma. He is a native of Arizona, the son of a hospital administrator, and is married to Margaret Leitner, HA 86. They have two daughters, Sarah, 12, and Hannah, 9.

Rebecca Byerley, PT 89, has recently been elected to serve a second term as chapter president for the Alaska Physical Therapy Association. She continues to work full-time as director of Physical Medicine at Central Peninsula General Hospital in Soldotna. “The department keeps growing and growing, and now includes three clinics,” says Byerley. Before moving to Alaska in 1996, the Byerleys had lived in Oman, where her husband was on the faculty of Sultan Qaboos University and she had a busy private practice, Physical Therapy of Oman. Byerley now has his own remodeling and construction business, “Handy Doc,” and is the soccer coach at Soldotna Middle School. The Byerleys have two children, Garrett, 12, and Erica, 10, both active with indoor and outdoor soccer and other sports. Both parents volunteer with many sports programs; since 1997 Rebecca has worked with high school cross country, track, and swim and dive teams.

Rene Roth Zar, OT 92, and David Zar, EE 93, became parents to Sarah Eloise Zar on July 23, 2003. They live in Maryland Heights MO. Christine Wright, OT 93, has completed her PhD in Occupational Therapy from Texas Women’s University, where she was inducted into the Phi Kappa Phi academic honors society. In January 2004, she will be an assistant professor at Eastern Kentucky University. She says, “I would love to hear from fellow classmates. My e-mail is drwright@att.net.”

Bradley L. Schlaggar, MD, PhD 94, assistant professor of neurology, pediatrics and radiology at Washington University School of Medicine, received the 2003 Child Neurology Society Young Investigator Award. As part of the award, Schlaggar received a $20,000 grant to further his brain imaging research examining the development of language processing skills in children. In 2002, Schlaggar received a Burroughs Wellcome Fund Career Award in Biomedical Sciences, a John Merck Scholars Fund Award in the Neurobiology of Developmental Disabilities, a Dana Foundation Clinical Hypotheses in Neuroimaging Award, and a grant from the McDonnell Center for Higher Brain Function.

Karen Dahl, MD 97, has started a new job as a pediatric infectious disease consultant and medical director of infection control at the Children’s Hospital of Central California. Dahl lives in Clovis CA.

Louis Kuchnir, MD 97, recently welcomed two new partners, one of them another School of Medicine graduate, to Kuchnir Dermatology and Dermatologic Surgery. Alice Lee, MD 99, joined the practice after completing her residency at the University of Chicago and joining the dermatology faculty at the University of Massachusetts Medical School, where Kuchnir is also a faculty member.

The two met in medical school when Kuchnir was on a panel of fourth-year students who provided information for second-year students beginning to consider their specialty options, and Lee talked with Kuchnir about dermatology. Kuchnir earned his medical degree after completing a PhD from Harvard University and then did a four-year residency with the Lahey Clinic and the University of Massachusetts before founding his practice, which has offices in Marlboro, Shrewsbury and Milford MA. He currently serves on the editorial board of the Journal of the American Academy of Dermatology. In 2001, Governor Jane Swift appointed him to serve on the Massachusetts Board of Registration for Physician Assistants. He writes that he is “grateful for the wonderful education I received in St. Louis.”

Pablo Adler, MD 98, MA 99, writes that he is working in a private anesthesiology practice providing services for the Christiana Health system in Delaware, “a small state, but an 800-bed Level One trauma center. My wife, Christina Adler, OT 96, and I have a one-year old girl named Isabella. Feel free to call if you are in the area.”

Ryan Fischer, MHA 00, corporate managed care manager of Truman Medical Centers, Inc., in Kansas City MO, had an article published in the August 2003 issue of the Journal of the Health Care Financial Management Association. The article, titled “Recapturing the Earned Dollar,” describes Fischer’s success in working with health care insurance companies to recover underpayments, which are then applied to the organization’s overall bottom line.

Sheila Deane, HA 03, has accepted a fellowship with the Hillcrest Medical System in Tulsa OK.
IN MEMORY

Hazel Duncan, NU 26, died in St. Louis August 12, 2003.

Marion Dale Bishop, MD 40, died September 5, 2003, of heart and kidney failure at his home in Ferguson MO, at age 87. He was a general practitioner for 36 years, and was known as “the motorcycle doctor” because he made house calls on his motorcycle. An avid outdoorsman, he learned to fly after his retirement. During World War II, he served as a surgeon in the Army Medical Corps. Survivors include his wife, Norma June Bishop, who worked in his office for many years, two sons and two daughters, a stepson and stepdaughter, 10 grandchildren and 11 great-grandchildren.

Barney W. Finkel, MD 41, died September 4, 2003, of heart failure at Johnson City Medical Center in Tennessee. He was 88. A native St. Louisan, he earned his undergraduate degree from the University of Missouri at Columbia, where he played on the football team. After graduation from medical school, he served as a captain in the Army Medical Corps during World War II and was awarded two Purple Hearts for wounds he received during military action. He also received the Bronze Star, Silver Star, Asiatic-Pacific Medal, World War II Victory Medal and two Presidential Citations. Following the war, he returned to St. Louis and was a general practitioner in north St. Louis County for more than 40 years, retiring to Florida in 1987. After his wife’s death in 1995 and suffering injuries in a fall, Finkel moved to Tennessee to live with his daughter and son-in-law. In addition to the daughter, he is survived by four sons and 11 grandchildren.

Anne Tompkins Goetsch, MD 41, died of heart failure at age 85 on September 14, 2003, at her home in Santa Rosa CA. She and her husband, the late Dr. Carl Goetsch, HS 43, moved to Berkeley in 1947. An internist, she spent nearly all of her professional career in Berkeley, where she tended the sick in various jobs with the city, the public school system, and the University of California-Berkeley campus. In 1988, she was the primary founder of what became Alzheimer’s Services of the East Bay, subsequently recognized as a model for day-care programs for those suffering from the disease. She and her husband co-founded the Alzheimer service program at the First Congregational Church of Berkeley, and when their home was destroyed in 1991 by a fire, they moved to Santa Rosa and donated the proceeds of the sale of their Berkeley land to benefit the Alzheimer’s center, establishing the Goetsch Fund to help support the center’s activities. Her work for Alzheimer’s patients was honored in a resolution from the California Assembly and Senate Joint Committee on Rules in 1992, and she and her husband were honored the following year with a California Assembly resolution for the Goetsch Fund. At Washington University School of Medicine, she established the Anne T. and Carl Goetsch Scholarship Fund. Survivors include two sisters, two daughters, and two sons. Her husband died in 1996.

Philip Sturgeon Crossen, MD 54, of Michabou Shores MI, and Lexington KY, died July 16, 2003, of cancer at age 74. He was the third generation of his family to practice obstetrics and gynecology; he was the son of the late Robert James Crossen, MD 25, and the grandson of the late Harry Sturgeon Crossen, MD 1892, who was a graduate of St. Louis Medical College and a member of the second class to receive the official Washington University diploma following the affiliation of the two institutions. Both of the elder Crossens were on the clinical faculty at Washington University. Philip Crossen had practiced in Lexington for 31 years and was on the faculty at the University of Kentucky School of Medicine. During the 1960s, he chaired the Lexington-Fayette Human Rights Commission which led a campaign to enact the country’s first Fair Housing/Fair Employment legislation. Survivors include his wife, Leila, five daughters, a stepson and stepdaughter.

Ferris N. Pitts Jr., MD 55, died July 24, 2003, in Pasadena CA, at the age of 72. He was a psychiatrist, pediatrician and neuroscientist who practiced psychiatry in southern California until his retirement in 1994 and was professor emeritus at the University of Southern California. A native St. Louisan, Pitts received both undergraduate and medical degrees from Washington University, then trained in pediatrics at St. Louis Children’s Hospital. After a stint in the U.S. Navy, he completed a psychiatric residency at Barnes Hospital and served for a time on the School of Medicine faculty. He moved to California in 1977. He was known for his research into the biologic causes of anxiety and panic disorders, as well as the causes of febrile seizures in children and the chemistry of neurotransmitter pathways. A charter member of the Society for Neuroscience, Pitts was a former editor of the Journal of Clinical Psychiatry. Among his survivors are his wife of 48 years, Jocelyn Millner Pitts, two sons, Andrew Pitts, MD, PhD, and Jonathan Pitts, and a daughter, Amy Pitts Buckner. Memorials may be sent to St. Louis Children’s Hospital Foundation, One Children’s Place, Suite 3536, St. Louis MO 63110.

Kevin B. Schaberg, MD 66, died unexpectedly in his sleep on August 24, 2003, at the age of 63. He had practiced at Obstetrical Associates in St. Louis. Among his survivors are his wife, Tosca Schaberg, three children and two sisters. Memorial contributions may be made to the Washington University School of Medicine or to St. Peter’s Episcopal Church.
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Up close and personal  First-year medical student Nick Rhodes examines Techno-Primitive by Ralph Paquin (2002), a sculpture made of extruded steel, enamel and ceramics. The sculpture, on display in front of Olin Residence Hall on Scott Avenue, is one of 11 outdoor pieces currently dotting the medical school campus as part of Southern Bent: Sculpture with a Homegrown Twist. The exhibit, sponsored by the School of Medicine in conjunction with International Arts & Artists, will run through March 2004.
Unearthing progress  The groundbreaking ceremony for the School of Medicine's new Farrell Learning and Teaching Center took place on October 30, 2003. Pictured, left to right: John H. Russell, PhD; Alison J. Whelan, MD; Chancellor Mark S. Wrighton, PhD; William A. Peck, MD; benefactors David C. and Betty Farrell; Dean Larry J. Shapiro, MD; Andrew B. Craig III; Floyd E. Bloom, MD; and Philip D. Stahl, PhD. The new centralized, dedicated teaching facility, slated for completion by the summer of 2005, is the latest in a long line of state-of-the-art facilities constructed at Washington University Medical Center. To view nearly a century of progress, please turn to page 15.