Women in Medicine
Taking a Breather  Blake Coblentz and Laura Kulans, doctoral students in molecular cell biology in the division of biology and biomedical sciences, enjoy riding bikes in Forest Park. Many students at the School of Medicine consider the 1,300-acre city park their backyard away from home.
Guaranteed INCOME for Life
The Washington University Charitable Gift Annuity
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.

2001!
Your Legacy Can Endure
See page 36

Washington University in St. Louis
School of Medicine

Class Notes
Update Yourself!
See the postage-paid reply card on page 36.

Washington University in St. Louis
School of Medicine
COVER  Helen M. Piwnica-Worms, PhD, professor of cell biology and physiology and leader of the cellular proliferation program at the Siteman Cancer Center, with fifth-year MD/PhD student Christine M. Lovly. Piwnica-Worms is just one School of Medicine woman faculty member featured in this issue as part of a larger story on the Academic Women's Network (AWN). The AWN, a grass-roots organization that supports the recruitment and academic advancement of women faculty at the School of Medicine, is celebrating its 10th anniversary this fall with a series of events. For more on this story, please turn to page 14.

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Jost named director of Mallinckrodt; Perez to head Radiation Oncology

Two changes have been announced in radiology at the School of Medicine. R. Gilbert Jost, MD, professor of radiology, was named head of the Department of Radiology and director of the Mallinckrodt Institute of Radiology, and Carlos A. Perez, MD, professor of radiation oncology, was named head of the newly formed Department of Radiation Oncology.

Jost, who has served as interim director of Mallinckrodt since 1999, also becomes the Elizabeth Mallinckrodt Professor of Radiology, as well as radiologist-in-chief at Barnes-Jewish Hospital.

Jost has been chief of diagnostic radiology at the School of Medicine since 1985. In that position, he has overseen diagnostic radiology services at Barnes-Jewish, St. Louis Children’s, Barnes-Jewish West County, Barnes-Jewish St. Peters and Doctors hospitals, as well as the BJC Health Centers located throughout metropolitan St. Louis. He also is an affiliate professor of computer science.

He is the author of more than 115 scientific articles, many dealing with the use of information technology in the practice of diagnostic radiology. Jost also is a member of many medical societies, and currently serves on the board of directors of the Radiological Society of North America.

The new Department of Radiation Oncology, formerly a division within the school’s Mallinckrodt Institute of Radiology, will provide cancer-related patient care, teaching and research. The department will work closely with Mallinckrodt and with the Alvin J. Siteman Cancer Center at Washington University School of Medicine and Barnes-Jewish Hospital.

The move is a reflection of the ascending role of radiation oncology, a field that is primarily concerned with the treatment of cancer patients.

“Radiation oncology is more important than ever in cancer care,” says Perez, who had been set to retire until he was asked to assume leadership of the new department.

“The growth has come because computers have become faster, cheaper and more efficient; because advances in physics and electronics enable us to plan and deliver treatment much more precisely and efficiently, and because radiation therapy significantly improves outcomes in patients with cancer.”

The Department of Radiation Oncology, with more than 200 faculty and staff, is one of the largest and most highly developed in the country, says Perez.

The new department has four divisions offering a complete spectrum of patient care.

The clinical division provides treatment for patients and conducts clinical trials; the cancer biology division conducts research relating to the effects and interactions of radiation, heat (hyperthermia) and cytotoxic agents on cells, and the physics division is responsible for treatment planning, equipment development and research on the physics of radiation oncology.

The administration and information systems division maintains computer services and information systems, including a large database of treatment information.

Mouse core facilities merge

A new core facility for developing genetically altered mice as models of human disease has been established at the School of Medicine.

The Mouse Genetics Core merged two existing facilities, the Genetically Altered Mouse Core based in the Department of Pediatrics and the Neuroscience Transgenic Facility supported by the McDonnell Centers for Brain Sciences, into one operation designed to serve all medical school investigators.

The ability to genetically engineer mice has revolutionized biomedical science over the past decade. Researchers now can add or delete genes from the mouse genome, generating strains that can reveal functions of genes and often serve as useful animal models of human diseases. These models are important for studying the causes of disease and for testing therapies.
Ludmerer garners national honor for contribution to medical education

KENNETH M. LUDMERER, MD, professor of medicine and of history, has received the first Daniel C. Tosteson Award for Leadership in Medical Education. The award is named in honor of Tosteson, former dean of Harvard Medical School.

The award recognizes major contributions to medical education at a national level. It is given by the Association of American Medical Colleges and the Carl J. Shapiro Institute for Education and Research at Harvard Medical School and Beth Israel Deaconess Medical Center.

Ludmerer was honored for his Pulitzer-nominated book, Time to Heal: American Medical Education in the 20th Century, a history of American medical education from the beginning of the 20th century through the present era of managed care. Published in 1999, it describes recent trends in the medical marketplace on teaching, research and patient care, and suggests alternatives that would better serve the public interest.

In June, Ludmerer received the Distinguished Alumnus Award of Johns Hopkins University.

PEdiATRIC PSYCHIATRY

Bipolar disorder in children appears more severe than in adults

Children as young as 7 years old can have bipolar disorder—formerly called manic-depressive illness—say psychiatry researchers at the School of Medicine. What's more, the illness in young bipolar children resembles the most severe form of bipolar disorder in adults.

The findings were presented at the Fourth International Conference on Bipolar Disorder held in Pittsburgh in June 2001. The conference is the only venue in the world devoted exclusively to new research into bipolar disorder.

"Typically, adults with bipolar disorder have episodes of either mania or depression that last a few months, and they have relatively normal functioning between episodes," says Barbara Geller, MD, professor of child psychiatry and the study's principal investigator. "But in manic children, we have found a more severe, chronic course of illness. Many children will be both manic and depressed at the same time, will often stay ill for years without intervening well periods, and will frequently have multiple daily cycles of highs and lows."

These findings, says Geller, are counterintuitive to the common notion that children would be less ill than their adult counterparts.

Geller and colleagues are studying 93 children with bipolar disorder and comparing them to 81 children who have attention deficit hyperactivity disorder (ADHD) and 94 healthy children from the community.

In particular, the researchers want to distinguish between children with bipolar disorder and ADHD because many parents, teachers and health care providers might confuse the overlapping symptoms of the two problems and think that these are just hyperactive kids, says Geller.

The average age of the bipolar children involved in this study was just over 10. More than half had not yet reached puberty, and 43 percent were between the ages of 7 and 10 years old. Almost a quarter of the bipolar study participants were seriously suicidal.

Geller's group has now validated the mania diagnosis in these young children by showing that the symptoms are stable at follow-up over a one-year period. This helps dispel the notion that manic children were just children with ADHD who were having a bad day.

Geller plans to follow these children over time to see if their chronic, rapid cycling illness continues or if they will develop the episodic pattern with relatively well periods that is seen most commonly in adults. Her group also is conducting molecular genetic and neuroimaging studies to learn whether the genetic factors involved in the disorder are similar for children and adults and whether the brains of children with bipolar disorder differ from the brains of normal children.
Schreiber receives Coley Award

Robert D. Schreiber, PhD, the Alumni Professor of Pathology and Immunology and professor of molecular microbiology, received the 2001 William B. Coley Award for Distinguished Research in Basic and Tumor Immunology from the Cancer Research Institute.

Schreiber was recognized for his work on the role of the immune system in tumor formation. He is known in part for his research on gamma interferon (IFNγ), a protein produced in the immune system. In recent publications, his team reported the first conclusive evidence that IFNγ and immune cells called lymphocytes help prevent the spread of dangerous tumor cells. These results shed light on a longstanding controversy and could lead to new treatment options for cancer.

The Cancer Research Institute was founded in 1953 by Helen Coley Nauts to foster the field of cancer immunology. The Coley Award was established in 1975 in honor of Nauts' father, William B. Coley, MD, a prominent surgeon who helped begin the search for immunotherapy cancer treatment options more than a century ago.

HEPATIC RESEARCH

Promethean prescription: Liver regrowth depends on prostaglandins

When Prometheus stole fire from Zeus and gave it to humans, he was punished by being chained to a rock.

Every day, an eagle tore out his liver, which grew back completely every night.

Such regeneration is not just the stuff of ancient Greek mythology. Unlike most organs, the liver can grow back after infection, trauma, chemical damage or other assaults.

Now, in a new study, School of Medicine researchers have found that small fatty molecules called prostaglandins promote liver regrowth after injury.

"That story has many things in common with our mouse model," says David A. Rudnick, MD, PhD, the study's first author and an instructor in pediatrics. "The liver grows back until it is 100 percent of its former size, and then the regenerative response stops. If it is injured again, it can grow back again, and it can do this over and over."

Prostaglandins help regulate blood pressure, muscle contraction and blood clotting, but their role in liver regeneration was not well characterized. When the researchers blocked prostaglandin synthesis, they found that the liver's regenerative response was significantly impaired.

The research is reported in the July 10, 2001 issue of the Proceedings of the National Academy of Sciences.

The work was performed in the laboratory of Louis J. Muglia, MD, PhD, assistant professor of pediatrics, of obstetrics and gynecology, and of molecular biology and pharmacology, and in collaboration with David H. Perlmutter, MD, who is now at the University of Pittsburgh School of Medicine.

In the mouse study, Rudnick and colleagues removed part of the liver and watched it grow back over hours and days.

Before surgery, they treated some of the mice with drugs called COX inhibitors to impede one or both of the enzymes that make prostaglandins. Control mice had the surgery but did not receive the drugs.

Forty-two hours after surgery, the remaining liver tissue of the control mice exhibited a regenerative response; the livers of the COX-treated animals did not.

"These results show that prostaglandins are required for efficient liver regeneration in this model system and imply a role for them in the regenerative response seen in liver disease," Rudnick says.

The researchers now are determining how prostaglandins affect gene expression during liver regeneration.
Mutch named Gall Professor

Cancer specialist David G. Mutch, MD, has been named the first Ira C. and Judith Gall Professor of Obstetrics and Gynecology.

The professorship was established by Ira C. Gall, MD, clinical professor of obstetrics and gynecology, and his wife, Judith Gall.

Mutch currently is professor of obstetrics and gynecology and director of the division of gynecologic oncology, one of the largest divisions of its kind in the country. A 1980 School of Medicine graduate, he remained at the university for his internship and residency. Mutch is known for his research on gynecologic cancers, focusing in particular on cervical and endometrial cancers.

Cervical cancer occurs most often in women under age 50. Once the most common cause of cancer deaths in the United States, the incidence has significantly decreased due to improvements such as routine Pap testing. However, the division of gynecologic oncology still treats more than 150 patients each year.

“We have made great progress in treating gynecologic tumors such as cervical cancer, but it’s still a significant threat,” says Mutch. Several years ago, his team and others showed that a combination of chemotherapy and radiation therapy is a more effective treatment for cervical cancer than either treatment alone.

His research also focuses on endometrial cancer, a dangerous disease that arises in the lining of the uterus. He now is collaborating with Paul J. Goodfellow, PhD, professor of genetics, surgery and obstetrics and gynecology, to examine the molecular events that lead to endometrial cancer. The research team is characterizing and cloning the gene already found to be important in the development of this form of cancer.

Mutch is a member of several academic societies, including the Society of Gynecologic Oncology and the American Society of Clinical Oncology. He chairs the Barnes-Jewish Hospital Cancer Committee.
Ancient anatomy books featuring a nearly complete history of anatomical art from the 13th century to the early 1900s was recently on view at the Bernard Becker Medical Library. The display was mounted and interpreted by rare book librarian Lilla Vekerdy for first-year medical students. From left: Medical student Wei Ling Lau; Jane E. Phillips-Conroy, PhD, professor of anatomy and neurobiology in the School of Medicine and of anthropology in Arts & Sciences; Bernard Becker, MD, professor emeritus of ophthalmology and visual sciences, and medical student Megan McCarville.

Child Health Research Center one of four institutions nationwide to receive grant

The Department of Pediatrics at the School of Medicine once again has been named a Child Health Research Center in Developmental Biology, an honor bestowed on only four institutions nationwide in the last two years.

The center, funded by a $2.1 million grant from the National Institute of Child Health and Human Development, will support basic human development research by young investigators for the next five years. Washington University's Department of Pediatrics was first designated a National Institutes of Health center of excellence in 1996.

Jonathan D. Gitlin, MD, the Helene B. Roberson Professor of Pediatrics, is the center's program director. Alan L. Schwartz, PhD, MD, the Harriet B. Spoehr Professor and head of pediatrics, is the center's principal investigator. Schwartz also serves as pediatrician-in-chief of St. Louis Children's Hospital.

The center addresses a critical juncture for investigators embarking on careers in medical research. After young researchers have completed their education and advanced fellowship training, they must achieve success in research before they can apply for major federal funding. Finding resources to perform preliminary research can be difficult.

The center will support four to six researchers, each for two to three years. Currently, one scholar is investigating methods for comparing scans of children's brains to those of adults, using functional magnetic resonance imaging. Such a comparison will provide important information about how brain activity develops as a child matures.

Investigators also will study the mechanisms by which drugs used to treat HIV cause insulin resistance and other serious adverse metabolic effects in people with diabetes. Still other work seeks to uncover how molecules regulate the enteric nervous system, which has implications for children with Hirschsprung's disease, constipation and irritable bowel syndrome.

"Ultimately, this center is designed to create a new generation of pediatric physician-scientists," says Gitlin, who also is a professor of pathology and a staff physician at St. Louis Children's Hospital. "This support will nurture their careers until they become independently funded scientists."

"This center is designed to create a new generation of pediatric physician-scientists."

Jonathan D. Gitlin, MD
PET: most accurate method for revealing spread of cervical cancer

**Positron emission tomography (PET)** is more accurate than the current standard, computed tomography (CT), in determining whether cervical cancer has spread to other areas of the body, according to physicians at the School of Medicine and the Siteman Cancer Center. Their results are published in the Sept. 1, 2001 issue of the *Journal of Clinical Oncology*.

“Our study shows that PET is the most accurate imaging method presently available for identifying secondary tumors in patients with cervical cancer,” says Perry W. Grigsby, MD, professor of radiation oncology at the School of Medicine’s Mallinckrodt Institute of Radiology and first author of the study.

Knowing whether a tumor has spread to the lymph nodes is essential for determining the most appropriate treatment for a patient. Tumors confined to the wall of the uterus are treated by surgically removing the uterus, giving the patient a 90 percent chance of being cancer-free five years later. Once the tumor has spread, however, radiation therapy without surgery is administered, and the odds of survival drop to 45 percent.

At present, physicians use CT to assess the extent of cervical cancer. But CT scans are only “moderately accurate,” according to the study.

Grigsby, along with colleagues Barry A. Siegel, MD, professor of radiology and medicine, and Farrokh Dehdashti, MD, associate professor of radiology, compared CT scans with PET scans in 101 women with cervical tumors detected during a physical examination. They took images of the cervical tumor and of lymph nodes in three areas of the body that follow the path taken by cervical cancer as it advances.

PET scans confirmed the presence of a cervical tumor in 100 of the 101 women, while CT scans identified only 77. In the lymph nodes, PET routinely revealed approximately three times as many abnormal nodes as did CT.

The researchers were surprised by the results. “These findings are so significant that we have stopped using CT scans for tumor evaluation in patients with cervical cancer,” says Grigsby.

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**Washington University responds**

The School of Medicine community, along with the entire Washington University campus, was deeply saddened by the tragic events of Sept. 11. Medical students held a candlelight vigil procession from Olin Residence Hall to nearby Forest Park on Sept. 14. Earlier that day, William A. Peck, MD, executive vice chancellor for medical affairs and dean, along with Chancellor Mark S. Wrighton, PhD, delivered remarks to a capacity crowd at the university’s National Day of Mourning memorial service held on the medical campus at the Eric P. Newman Education Center (above).

**American Medical Student Association’s annual regional meeting held in St. Louis**

**Future physicians** from the School of Medicine and other medical schools in the Midwest reflected on the Sept. 11 terrorist tragedies at the American Medical Student Association’s annual regional meeting held in St. Louis. Through lectures and workshops, they discussed a variety of topics, including human rights abuses in Afghanistan and their role as aspiring physicians in a country facing the prospect of war, as well as more typical issues such as diversity in medicine and the history of medical education.

Attendees honored Paul Ambrose, MD, a former AMSA legislative director who died Sept. 11 on American Airlines Flight 77.
The unhealthiest hearts usually give out before transplants become available. Now, a new assist device could make the wait worthwhile.

BY CANDACE O'CONNOR

A Bridge to Tomorrow

AGENTLE, PERSISTENT BEAT — ca-THUMP, ca-THUMP — follows Keith Norris everywhere now. At his north St. Louis County home, he wakes up to it each morning and falls asleep to it each night. The steady rhythm is reassuring; in fact, it is music to his ears, because it comes from a fist-sized electromechanical pump, implanted in his abdomen, which is keeping him alive.

The Novacor® Left-Ventricular Assist System (LVAS), produced by World Heart Corporation, is designed to support the circulation of end-stage heart failure patients, a group with severely limited options. While most of the 5 million Americans who suffer from heart failure respond to medication, these patients — some 200,000 of the total — do not. At this final stage of the disease, they are critically ill and desperate.

“ These patients are short of breath at rest, and that gets worse as they do very modest things, like taking a shower or making their bed. They have swelling in their legs, fluid in their bellies. It’s a very uncomfortable way to live,” says Joseph G. Rogers, MD, associate professor of medicine and medical director of the cardiac transplant program.

Below: Keith Norris enjoys a second chance at life, courtesy of a left-ventricular assist device. Opposite: Michael K. Pasque, MD, and Joseph G. Rogers, MD, see great potential for LVAS technology.

Rogers and his colleagues in the Barnes-Jewish Hospital (BJH) Heart Failure Program — Edward Geltman, MD, and Gregory Ewald, MD — are currently following some 2,000 patients with advanced heart failure. Many would be saved by a heart transplant, but donor hearts are scarce. According to the United Network for Organ Sharing (UNOS), 9,102 patients died while waiting for a heart transplant from 1988 to 2000.

But the LVAS, one of several ventricular assist devices (VADs) being evaluated nationwide, offers patients new hope. In 1997, Washington University joined a clinical trial testing the use of the LVAS to support end-stage patients until a donor heart came available. Of the nine people implanted here, seven — all of whom would otherwise have
died—made it to transplantation. Results elsewhere were also impressive, and in September 1998 the FDA approved the LVAS as a bridge to transplantation.

Michael K. Pasque, MD, professor of surgery and of radiology and surgical director of the heart failure and ventricular assist programs, is excited by the LVAS' potential. His "bridge" trial experience had convinced him that it is a well-engineered device—it has the lowest mechanical failure rate of any VAD—and might work as a longer-term alternative for advanced heart failure patients who were not transplant candidates.

In March 2000, with Pasque as principal investigator, Washington University became the first of five medical centers to sign on to a new LVAS trial: "Investigation of Non-Transplant-Eligible Patients who are Inotropic Dependent" (INTrEPID). He came to the trial with an outstanding team of cardiologists, anesthesiologists, perfusionists, LVAS coordinators and nurses, along with strong backing from the Department of Medicine and the cardiovascular division, school and hospital administrations and the BJH Foundation.

In December 1999, Keith Norris, 33, had his usual beginning-of-the-winter cold, but it didn't go away. At a local hospital, doctors found he was seriously ill with double viral pneumonia. They also discovered an underlying problem: viral cardiomyopathy. As weeks went by, his heart weakened and medications did not help, and in February, he was transferred to Barnes-Jewish Hospital.

In 70 percent of patients, coronary artery disease is the cause of their heart failure. In others, a virus has damaged their heart. Overall, heart failure patients reflect a range of risk factors, such as hypertension, family history and smoking. But by the end-stage of the disease, the result is the same: The patient's heart is not pumping enough blood, and the organs, especially the kidneys, are in a dangerously weakened state.

"Some patients have such poor blood flow to their brains that while we are talking to them about putting the device in, they can't even carry on a conversation. We have to talk to their families, because they are so sick," says Pasque.

Keith Norris was one of them. Though a heavy equipment mechanic by trade, he resisted the idea of a mechanical device keeping him alive. On March 8, 2000, as he lay near death, drifting in and out of consciousness, his father begged him to take this chance for survival. Finally, he agreed, and the following morning he was in the operating room. The next thing he knew, he was in a recovery room—alive.

At the core of the LVAS is a two-pound pump which is implanted in a patient's abdomen between layers of muscle. Running off it is an inflow conduit which the surgeon connects to the apex of the left ventricle, the
heart’s main pumping chamber. Blood flows through this conduit, into the pump, and then through an outflow conduit connected to the aorta. From there, it is circulated throughout the body.

There is also an external part of this system. A drive line attached to the pump runs out through the patient’s skin to connect with other components: a portable electronic controller, which operates and monitors the device; and primary and reserve battery packs, worn on the patient’s belt or carried in a shoulder bag. To keep the system running, the patient changes batteries every three to four hours. The pump itself is designed to last a little over four years, but can be replaced.

The surgery to implant the LVAS is complex—at least six hours long, requiring sophisticated suturing technique. Early on, Pasque successfully refined the procedure to reduce the risk of bleeding. Now it is a “lean, mean operation,” he says. “We can place the device in higher risk patients than we ever thought possible.”

Afterwards, younger patients usually bounce back quickly; older, sicker patients may need intensive rehabilitation. All patients receive training on the device from LVAS coordinators Tina Hanselman and Kim Shelton, who maintain close contact once the patients go home. Some potential complications, primarily infections in the drive line, require careful watching. But patients are extraordinarily grateful for their second chance at life.

“It does make a big difference,” says Hanselman. “They can eat what they want, move around more easily, get out more. They no longer have to be on intravenous medicines, and it is much less stressful for them and their families.”

After 19 days, Norris went home, where he now leads an active life. A girlfriend—a nurse he met at the hospital—“I just have to keep going.”

Since the FDA approval, Pasque has implanted the LVAS in other “bridge” patients—21 all told, with an 81 percent survival-to-transplant rate. The INTrEPID trial also is progressing well and actively recruiting patients. Already, out of seven people implanted nationally, six have come from St. Louis. Altogether, BJH patients represent more than 5,000 days or 14 years of life on the LVAS system.

By contrast, INTrEPID has included a control group of patients who were not candidates for the LVAS or chose not to be implanted. Survival statistics highlight the benefit of the device: 70 percent of those control patients died within two months.

Ultimately, newer technologies will come along, possibly a fully internal pump. Pasque and Rogers are not strong proponents of the much-publicized artificial heart, which is only useful, they say, for the tiny fraction of patients who need both ventricles replaced. They look forward to advances—such as the re-growth of heart muscle cells—made possible by stem cell research and the Human Genome Project.

“In a way, we are bridging people to things that haven’t been discovered yet,” says Rogers. “We are trying to buy them time, and we hope that in the next five to 10 years we will have something even better than we have now.”
Powering the Body Electric

Half of all failed hearts stop suddenly due to electrical problems.
A new device sets the pace by mimicking nature's power grid.

ROUGHLY 5 MILLION AMERICANS suffer from congestive heart failure—their hearts cannot sufficiently supply the body with blood. This mechanical malfunction can result for a number of reasons, but for patients as sick as Keith Norris, the cause is largely irrelevant—he needed a new heart or a device that would act like a new heart to take over for his old one.

On the other end of the spectrum, patients with less severe heart failure often can control their conditions using medications.

But there are thousands of patients who are not quite as sick as Norris who still have trouble breathing in spite of the best possible drug regimen. According to Mitchell N. Faddis, MD, PhD, assistant professor of medicine, the key to treating this mechanical malfunction may be to target a different element of the heart—the electrical system. He and colleagues at the School of Medicine are part of two nationwide trials to test a new type of implantable device, the biventricular pacemaker.

The two systems of the heart, mechanical and electrical, work together to effectively supply the body with blood.

In the electrical system, an internal “pacemaker” called the sinus node sends an electric signal to the lower chambers of the heart through a single electrical connection called the atrioventricular node. This connection immediately divides into three sub-branches—one relays the signal to the right lower chamber of the heart; the other two diverge to opposite sides of the left lower chamber. The branches’ purpose is to simultaneously deliver the electric message to both sides of the heart, allowing coordinated contractions (the mechanical function). This coordinated effort forms the healthy “lubb Dupp” heartbeat.

In some patients, the electrical system is completely askew, but the mechanical system is relatively healthy. These individuals benefit from a traditional pacemaker, which serves as a surrogate for the malfunctioning component of the electrical system, either the sinus node or the atrioventricular node.

In roughly one-third of patients with congestive heart failure, the sinus and atrioventricular nodes are functioning well, but two of the three sub-branches are effectively broken. As a result, the electric signal fails to reach the right and left lower chambers at the same time. When the left side contracts, the right side is relaxed and vice versa. Blood then
Mitchell N. Faddis, MD, PhD, and Gregory A. Ewald, MD, display biventricular pacemakers.

sloshes back and forth, rather than being forced outward by a two-sided, synchronized effort.

A weakened heart only has a small amount of mechanical energy left to contract the heart muscles. If the same patient also experiences a time delay between contraction of the right and left sides of the heart, the limited mechanical energy left over is used up before enough blood can be pumped out.

Unlike a left-ventricular assist system, which uses the heart's natural electric signal to supplement its mechanical pumping action, the biventricular pacemaker adjusts the electric signal itself. Traditional pacemakers supply two wires to the heart: one to the upper right chamber; one to the lower right chamber. The biventricular pacemaker adds a third wire, which connects to the lower left chamber. With this third wire, the pumping action of the heart's right and left lower chambers are re-coordinated.

"The device doesn't change the underlying nature of the problem, but it can be quite successful in treating the disruptive symptoms of heart failure and is much less risky and invasive than something like an LVAS or a cardiac transplant," says Gregory A. Ewald, MD, assistant professor of medicine.

He, Faddis and Joseph G. Rogers, MD, associate professor of medicine, are participating in two national trials to test this type of device. Participants are eligible only if a strict, advanced drug regimen does not alleviate their symptoms. Patients continue their medical routine after implantation with a device.

The Miracle InSync ICD trial, sponsored by Medtronic, is a secondary prevention trial that uses a combination biventricular pacemaker/defibrillator in heart failure patients who need a defibrillator due to life-threatening heart rhythm problems. This study will examine whether patients' symptoms and quality of life improve. Medtronic's InSync biventricular pacemaker (without the defibrillator) received FDA approval in August 2001.

In contrast, Guidant's Companion trial is a primary prevention trial with respect to life-threatening heart rhythm abnormalities. Nearly half of all heart failure-related deaths are sudden, implicating an anomaly in cardiac rhythm.

"Even if a heart failure patient hasn't had any heartbeat irregularities, he is at a high risk from dying of an arrhythmia," says Faddis.

That's why the Companion trial is examining whether biventricular pacing can improve patients' quality of life and help prevent sudden death in heart failure patients who have not experienced rhythm abnormalities, but who still have trouble breathing, despite medical treatment.

In this trial, participants who meet the entry criteria may remain on heart failure medications or be randomly assigned to receive one of two devices: a biventricular pacemaker or a biventricular pacemaker/defibrillator. With more than 2,000 projected participants nationwide, Companion is the largest device study to date, and it is the first to examine whether either type of device reduces mortality.

"We already have implanted biventricular pacemakers in about 50 patients. Some have had a dramatically positive response, many have had an improvement in symptoms," says Ewald. "In some patients, it may even remove the need for more drastic procedures in the future, such as heart transplant or implantation of a ventricular assist device. These clinical trials will allow us to determine which patients will benefit most so that we can further target the therapy."
Women in Medicine
A CAREER IN ACADEMIC MEDICINE brings a host of competing demands on one's time—teaching and mentoring students and trainees, treating patients, conducting and overseeing research, securing grants, serving on administrative committees, reviewing the scientific literature, traveling to conferences. Factor in any personal responsibilities, such as child or elder care, and extracurricular activities, and it might seem that there are not enough hours in a day to take on a single additional commitment.

Women faculty at Washington University School of Medicine did accept additional challenges, beginning in 1991, when a small group formed the Academic Women's Network (AWN). The group's main goals are to support the recruitment and academic advancement of women faculty at Washington University School of Medicine and to provide mentorship and support to junior faculty and trainees in the pursuit of their goals.

Now AWN is preparing to celebrate 10 years of achievement. On Saturday, November 17, AWN members will set up and oversee a series of hands-on activities at the St. Louis Science Center. A symposium featuring talks by four women faculty will be held on Friday, November 30, followed by a gala dinner/dance featuring prominent School of Medicine women from over the years. A historical display and video will document the accomplishments of some of the school's pioneering women.
The Academic Women's Network came about at the grassroots level. Six women faculty met in September 1990 to discuss how best to achieve academic advancement. With only a handful of senior women as role models, they discussed the need to promote interactions among women faculty in every department to combat a sense of isolation. As mothers of young children, they also discussed the challenge of making their work and family lives compatible. From these discussions, the idea for a more organized network of "women helping women" arose.

"About 30 women showed up at the group's first meeting—a significant turnout given the total number of women faculty at the time," says Linda J. Pike, PhD, associate professor of biochemistry and molecular biophysics and AWN's publications committee chair and de facto historian. Rosalind H. Kornfeld, PhD, professor of biochemistry and molecular biophysics and of medicine, was elected president. Over the next months, the organizing committee drafted a constitution and assembled a board of directors.

"We weren't sure how well the organization would be embraced," says Kornfeld. "I was afraid that it might be a flash in the pan. But it took off well. We were all very busy people, so it required dedication. But I believe it was beneficial to everyone who joined."

From the beginning, AWN made it a priority to work with the administration on issues of concern, which have included maternity leave, gender pay equity and the composition of search committees. At the time AWN was founded, Pike says, there were no female heads of departments at the School of Medicine. The department chair search committees were composed entirely of department heads and senior faculty, all of whom were men. AWN brought the matter to the attention of William A. Peck, executive vice chancellor for medical affairs and dean of the School of Medicine, and he responded by opening the chair search committees to women.

In 1997, Peck established the Office of Faculty Affairs as a result of the Task Force on the Status of Women, an AWN initiative. Peck sees AWN as a valued participant in the School of Medicine's efforts to move ahead on issues of importance to women faculty.

"Washington University School of Medicine has made significant progress thanks to the Academic Women's Network and its great leadership," says Peck. "We need to accomplish much more, however, and I look forward to working with AWN in the future."

AWN also sponsors programs that contribute to the quality of academic life. Its brown bag lunch series addresses topics as diverse as career issues, communication skills and juggling family responsibilities. Under the heading "Contemporary Women's Health Issues," AWN's continuing medical education program is the medical school's most popular, based on enrollment, Pike says.

In an effort largely spearheaded by Joan C. Downey, MPH, MD, assistant professor of pediatrics, AWN successfully advocated increased quality child care at the medical school, and published its first Parenting Resource Handbook in 1993. It included information on outside child care facilities, child care workers, schools and local family resources.

The handbook was so successful that Human Resources now provides support and aids in its distribution to both the medical and Hilltop campuses. In its latest revision, the handbook was expanded to include resources on elder care and is now titled the Family Resource Handbook.

AWN also presents awards every spring. The Mentor Award recognizes an individual who has served as an outstanding mentor to a female Washington University faculty member or trainee. The Leadership Award is given to one woman each in the graduating classes of the MD and PhD programs who has demonstrated outstanding leadership in service to, or advancement of, women within the community.
Karen L. O’Malley, PhD, professor of anatomy and neurobiology, is the current president of AWN, elected in July. O’Malley believes that AWN plays a role in attracting and retaining women faculty.

She also sees the value of women working together. “Organized efforts are the most visible, effective way to orchestrate change,” O’Malley says. “Frankly, none of us has time to fight individual battles. We need each other.”

Pike agrees with that assessment. “AWN is an organization that is very easy to work with because everyone is pulling in the same direction,” she says. “We come to this group with a consensus, and that lets us move forward.”

Current goals include increasing the group’s visibility, strengthening efforts to mentor graduate students and fellows, and advocating for the recruitment and promotion of women into the higher ranks of the faculty.

AWN is going strong at the 10-year mark, thanks to the hard work of many academic women who carved out time from their busy schedules to effect change. According to Pike, “the 10-year celebration is a testament to the determination of the women involved to promote the status of women and make things better for those who come after us.”

For more information, please visit the AWN website at http://pathbox.wustl.edu/~awn/ or contact Linda Pike at (314) 362-9502.

AWN Celebrating 10 Years of Achievement

The five women featured in the following vignettes represent a cross section of Washington University School of Medicine women faculty.

RESEARCHING the Past

In addition to conducting scientific research on dopaminergic systems and Parkinson’s disease, Karen L. O’Malley, PhD, professor of anatomy and neurobiology, is now doing historical research for the Academic Women’s Network (AWN).

O’Malley, newly elected president of AWN, is overseeing the production of a two-part retrospective on women faculty at Washington University School of Medicine that will be a major component of the organization’s 10th anniversary celebration. She is working on the project with Paul Anderson, director of the medical school archives, and Mabel L. Purkerson, MD, professor emerita of medicine and assistant professor of pediatrics.

The first part of the retrospective is a traveling documentary display of text and photos that highlights the teaching and research of 16 women who were central figures at the School of Medicine.

The illustrious group includes two Nobel Prize-winners, Gerty T. Cori and Rita Levi-Montalcini; accomplished lecturer Mildred Trotter, a faculty member for 42 years; Jessie L. Ternberg, the first female surgeon on the faculty and the first female division chief of pediatric surgery; and Margaret Smith, best-known for isolating the St. Louis encephalitis virus.

William A. Peck, MD, executive vice chancellor for medical affairs and dean of the School of Medicine, is co-sponsoring the second part of the history project, a video narrative featuring former women faculty members and their contemporaries.

“Many prospective faculty are going to ask: ‘Am I going to be the lone woman in this department? Are there going to be other support systems, other mentors?’ The hope is that we can use the video for student and faculty recruitment and documentation,” O’Malley says.

Karen L. O’Malley, PhD, AWN president.
Nash graduated from Meharry Medical College in 1945. After residency training, she accepted a staff position at Homer G. Phillips Hospital in St. Louis. Her early experiences were marred by the same rigid segregation that affected all aspects of American life at the time. Each week, Nash and her colleagues took the streetcar to St. Louis Children’s Hospital to attend Friday morning conferences; however, they weren’t allowed to touch patients or to do ward rounds with the other young doctors, all white.

Nash is best known for her work as an advocate for children. By visiting “preemie” units in other hospitals around the country, she was able to develop a designated ward for premature infants (the first in St. Louis) that was cleaner and included air conditioning and individual bassinets, as well as to provide improved training for nursing staff.

“People don’t understand that children have special needs that have to be fulfilled with care,” says Nash, a concern that is as relevant today as it was 50 years ago. “But that’s another story.”

“During those five years, a lot of good things happened,” says Linda M. Mundy, MD, assistant professor of medicine and medical director of the center. “First, we showed that we could provide access to care and keep women in care. Second, vertical transmission of HIV from the infected pregnant woman to child has been about 1 percent overall—astoundingly low.”

Despite its successes, finding additional monies proved challenging. The Academic Women’s Network (AWN) became an advocate for the Center’s continuation. Working with senior administration and through the Washington University Physician’s Network, AWN was able to secure three years of fiscal support for program development.

Says Mundy: “AWN was willing to say, ‘You do something that’s important, just like women faculty are important. Just as we need advocacy for women faculty, the Helena Hatch Special Care Center needs advocacy—we can be the group that provides it.’”

In the world of medical care and research, $2.9 million only goes so far.

By 1998, the $2.9 million that was awarded to Victoria Fraser, MD, associate professor of medicine, to start up what is now Washington University’s Helena Hatch Special Care Center for Women, was running out. The five-year, non-renewable federal grant was one of 27 awarded nationwide to identify underserved people with HIV.
PROVIDING Clinical Care

Barbara S. Monsees, MD, and her colleagues are on a mission: to provide accessible, high-quality breast imaging services to women and to make the experience as pleasant and efficient as possible.

As chief of Mallinckrodt Institute of Radiology's breast imaging section and head of breast imaging at Barnes-Jewish Hospital, Monsees oversees an effort that includes the imaging side of the Breast Health Center on the north campus of Barnes-Jewish Hospital, satellite imaging facilities on the hospital's south campus and at the BJC Medical Group in Sunset Hills, and a mammography van.

The breast imaging section's five physicians, all women, along with 13 BJH technologists and numerous additional staff, perform, process and interpret 46,000 breast exams each year. According to Monsees, professor of radiology, the majority of these are routine screening mammograms. The group provides a full range of other breast imaging services, including minimally invasive imaging-guided biopsies. Its clinicians work closely with other physicians, usually surgeons, to offer patients complete breast health care.

Monsees' choice of medicine as a profession was made at a time when female physicians were still uncommon. Just 10 percent of her classmates were women when she earned her medical degree at Washington University in 1975, and there were few female faculty to whom she could look for guidance.

"Things have changed during my career," says Monsees, noting that today the ratio of male to female students is about 50/50. "But when today's women students look above them, there is still an under-representation of women at higher ranks in the medical school. Hopefully, it's just a matter of time before that changes."

TRAINING Future Scientists

Helen M. Piwnica-Worms, PhD, professor of cell biology and physiology, Howard Hughes Investigator and leader of the Siteman Cancer Center's cellular proliferation program, is a basic scientist. Her research focuses on regulation of the human cell division cycle and how perturbation in its control contributes to human cancer.

But as head of a research lab, one of Piwnica-Worms' most important jobs is serving as a mentor. Students in her lab -- PhD, MD, MD/PhD, postdoctoral research fellows and clinical fellows who want research experience -- learn to ask scientific questions and to design experiments to address those questions.

Piwnica-Worms enjoys the give-and-take of the mentoring relationship. "As students mature, they begin to counter my suggestions with better ones," she says. "The best students turn into colleagues."

The first female full professor in her department, Piwnica-Worms grew up with a love of math and science. She never believed that gender would hinder her career choice.

Even so, she acknowledges that there are still very few women in the basic science departments, here and at other universities. This despite the fact that more than one-half of the trainees in the field are women and have been for many years.

Women who have earned their PhDs and go on to postdoctoral training often leave academia, she says, exploring other avenues in which they can better balance family and career.

Piwnica-Worms believes that choosing what you are passionate about and following that dream is critical to both success and happiness. "If you do good work, you're valued as a colleague. If you are answering exciting problems, people want to interact with you."
An antibody sequesters a protein that interferes with neural function—and could hold a key to preventing Alzheimer’s.

BY STEVE KOHLER

OF ALL OF THE HURDLES THAT BLOCK the way to understanding Alzheimer’s disease—the complexity of brain metabolism, the possibility that more than one mechanism is at work, and others—one of the highest has been that the disease does its harm behind the blood/brain barrier.

That barrier, the brain’s protective shield, confounds observations and makes it difficult to deliver agents that might have an effect. The barrier acts as a filter, screening out large molecules and regulating the flow of small proteins, such as Amyloid beta. Many also think that Amyloid beta—referred to as Aβ—is the building block for plaques that accumulate in the brains of Alzheimer’s patients. Many researchers believe that Aβ disrupts memory, dislocates thought processes and eventually destroys identity.

What may turn out to be the leap that clears the hurdle comes from researchers in the laboratory of David M. Holtzman, MD, the Paul and Charlotte Hagemann Professor of Neurology. Holtzman and his colleagues devised an elegant and uncommonly linear series of experiments in mice showing that it does not appear to be necessary to cross the blood/brain barrier in order to have an effect on the brain side of the equation. The work points enticingly at potential therapies for the disease.

“Amyloid beta is made by almost every cell in the body, but by far the highest production is by nerve cells in the brain,” Holtzman says. “We’ve shown that there are equilibriums in the concentration of Amyloid beta in the brain, in the cerebrospinal fluid (CSF), and in the plasma. And we can influence those equilibriums.”

The course of the investigation began unexpectedly when Ron DeMattos, PhD, instructor in neurology and a researcher in Holtzman’s lab,
set out to examine the relationship between Aβ and a molecule that binds to it. He was looking for the trigger that transforms Aβ from its normal, apparently harmless form to the misfolded type that clumps together to create plaques.

To understand the work, DeMattos says it is important to think of proteins as bound together in complexes, because “that’s what they do. In physiology, we deal with complexes.” DeMattos was using the antibody m266, an antibody that binds to Aβ and is therefore a tool for tracking down the protein, to find what it was binding to. He observed that the m266 he used as a probe not only bound to Aβ but also prevented it from binding to other proteins and apparently captured for itself all the Aβ that was available. In the words of Holtzman and DeMattos, m266 had “sequestered” all of the Aβ in the solution.

That observation made, DeMattos and Holtzman set to work in earnest, with the help of colleagues Maia Parsadanian, Mark O’Dell, Eric Foss, Kelly Bales and Steven Paul. First, they confirmed the affinity of Aβ for m266 in a benchtop experiment (see sidebar). Then they turned their attention to genetically altered mice that overproduce Aβ and therefore develop Alzheimer’s disease-like changes in their brains.

They injected m266 or a control agent into the blood of two groups of the Alzheimer’s mice, then measured to see if the antibody had, in fact, sequestered Aβ there. They discovered that in the m266-treated mice, they could find almost no Aβ in the blood that was not bound to the antibody. It all had been sequestered. The amount of Amyloid beta that had been captured by m266 was about 1,000 times higher than what they expected to find, even in these mice designed to develop Alzheimer’s disease.

What was the origin of this excess of the potentially dangerous Aβ? Was m266 in the blood a “sink” that altered the equilibrium of Aβ in the various compartments in which it is present—the brain, the cerebrospinal fluid, the blood? To answer those questions, the researchers first had to devise a new method of extracting cerebrospinal fluid from the mice. Such small animals produce only tiny amounts of CSF, and procedures are delicate.

New technique in hand, they again injected mice with m266 and were able to record a subsequent change in concentration of free Aβ in the CSF. That the change they saw was an increase, a counterintuitive result, is not as important as the news that the presence of m266 in
Healthy neural function

Impulses travel freely from one neuron to another.

Problem Protein

Produced throughout the body, the protein Amyloid beta (Aβ) is found primarily in the brain. This normally benign protein appears to accumulate as harmful plaques in the brains of Alzheimer's patients. Although studies have shown a link between Aβ and Alzheimer's, little is understood about the function—and proper balance—of this protein in the body.

Neural blockage

Protein can accumulate in plaques, damaging neurons and short-circuiting connections. Is this a key event in Alzheimer's?

Achieving a balance

Once researchers determine the ideal levels of Aβ needed in the brain, treatment with m266 could help restore a healthy equilibrium of Aβ in people with Alzheimer's disease.
the blood effected a change on the other side of the blood/brain barrier, Holtzman says. Why Aβ increased transiently is now under investigation, and the early thinking is that over a longer period, the concentration will indeed go down.

The hypothesis of m266 as a sink that draws Aβ out of equilibrium was further demonstrated when the researchers loaded the brains of their subject mice with additional Aβ, then injected the m266 antibody or a control agent into the blood. The results: With m266, a massive accumulation of Aβ was measured in the blood, as much as a 365-fold increase after three hours, compared to mice that received no m266.

And, DeMattos says, the effect continues. Over 96 hours, the m266-treated mice showed more than 1,000 times as much Aβ sequestered in the blood as their untreated counterparts.

But all of this work was preliminary; the big question came next. The investigators most wanted to know if increasing the presence of m266 in the blood could prevent or reduce the deposition of the sticky, thought-disrupting form of Aβ in the brain.

Over five months, 14 Alzheimer's-model mice were administered saline solution. A second group of 13 received a control antibody. And another group of 14 was treated with m266. When the mice were examined at nine months of age, the brains of 11 of the 27 mice in the two control groups were seriously riddled with Aβ plaques. Among the 14 m266-treated mice, however, only one had the same level of plaque deposition.

Holtzman says that the lab's most important result is the demonstration that brain metabolism of Aβ can be altered from the blood side of the blood/brain barrier, that equilibrium can be influenced. Commenting on the work, John C. Morris, MD, Friedman Professor of Neurology and co-director of the Alzheimer's Disease Research Center, says "Drs. DeMattos and Holtzman have worked out an elegant method to drastically reduce the amount of amyloid in the brain, which is thought to initiate the brain damage associated with Alzheimer's." Holtzman and his colleagues now are looking for the mechanism by which the Aβ is transported across the blood/brain barrier.

With m266's ability to influence Aβ equilibrium, the possibilities for treating Alzheimer's disease brighten considerably. "Aβ can misfold under certain conditions, and everybody has the potential to get this disease," Holtzman says. But an agent that sequesters what many believe to be the culprit, prevents it from accumulating in its dangerous form, and then clears it from the system sounds like a therapy waiting only for doses to be established. And Holtzman and DeMattos say that m266 could form the basis for a therapeutic agent.

"The technology to humanize mouse antibodies is well-tested and safe," DeMattos says. Though no one yet knows what the function of normal Aβ is, he is confident that dosages could be established that preserve normal function but eliminate the excess required for plaque-building. The direct application of m266 as a therapeutic medicine faces some difficulties: Holtzman says that such a drug probably would have to be administered every few weeks. "Cost might be a factor, but it certainly is possible," he says.

Another approach might be to find a similar agent with comparable effects, since Aβ is known to bind to other, abundant elements, such as lipoproteins, which medical science knows how to manipulate effectively.

Says Morris: "Research advances such as this have brought us to the exciting threshold of testing strategies that, if they are effective in humans, may arrest or even prevent Alzheimer's disease."

In addition to pondering preventative strategies, the researchers have begun investigating whether m266 might also reverse existing Alzheimer's disease pathology. "Plaques of Aβ in the brain are probably not inert," Holtzman says. Therefore, they may be accessible to treatment. Though he has no data yet to show that existing plaques can be reduced or eliminated, his lab has begun to assess the idea. In addition, his laboratory, in collaboration with Eli Lilly and Company, continues to explore the potential of using anti-Aβ antibodies to develop new diagnostic and treatment options for Alzheimer's disease.

Editor's note: This research was performed in collaboration with Eli Lilly and Company.
Medical Center Update

Siteman Cancer Center recognized by National Cancer Institute

The Alvin J. Siteman Cancer Center at Washington University School of Medicine and Barnes-Jewish Hospital received national recognition in August 2001 by becoming a National Cancer Institute-designated Cancer Center. The Siteman Cancer Center is the only institution in Missouri and within a 240-mile radius of St. Louis to receive National Cancer Institute (NCI) designation.

The milestone recognizes the breadth, depth and balance of activities by researchers, clinicians and staff seeking to advance cancer knowledge, increase cancer screenings, and ultimately, to improve cancer care.

The Siteman Cancer Center comprises the combined cancer-related programs of Barnes-Jewish Hospital and Washington University School of Medicine. The NCI designation comes in the form of a special federal Cancer Center Grant given to the School of Medicine for basic and clinical cancer research and cancer prevention programs.

“We are deeply honored to achieve this distinction,” says Timothy J. Eberlein, MD, director of the Siteman Cancer Center. “Receiving NCI designation is a tremendous acknowledgement of our ability to make a difference in the fight against cancer in the St. Louis community and beyond.”
NCI DESIGNATION is based on the center's ability to address complicated questions related to the cause and progression of cancer through the School of Medicine's excellent programs in basic and clinical research.

New information gained through the endeavors of Siteman Cancer Center-affiliated faculty and staff will help reduce the burden of cancer locally and nationally by leading to improved strategies for cancer prevention, detection and treatment. This process is enhanced by scientists' and physicians' access to the most advanced research tools and techniques, a close association between state-of-the-art research and clinical care, and the ability to address regional and national cancer concerns.

"NCI designation recognizes the outstanding medical research and patient care by Washington University faculty affiliated with the Siteman Cancer Center, as well as the success of the longstanding partnership between Barnes-Jewish Hospital and Washington University School of Medicine," says William A. Peck, MD, executive vice chancellor for medical affairs and dean of the School of Medicine. "We now have the opportunity to bring cancer research from the laboratory to the bedside even quicker, thereby continuing to serve the best interests of our patients and the public."

The effort to gain federal NCI designation accelerated in 1995, when the School of Medicine obtained an NCI Cancer Center Planning Grant, a first step toward NCI designation.

An additional critical step in the growth of cancer programs at Washington University and Barnes-Jewish Hospital occurred in 1996, when the board of Barnard Free Skin and Cancer Hospital decided to have the university coordinate Barnard's outstanding indigent cancer care, cancer research and community education programs. Subsequently, Barnes-Jewish Hospital joined the university in running these important programs.

Following these and other favorable developments, Washington University submitted a grant application to the NCI in October 2000. In January 2001, a panel of more than 20 nationally recognized cancer experts reviewed the scope and quality of the Siteman Cancer Center's cancer research programs.

As part of the NCI designation, the Siteman Cancer Center will be the beneficiary of a new $4 million federal grant to Washington University School of Medicine. The grant will facilitate further multidisciplinary research, including clinical research and clinical trials that often occur within Barnes-Jewish Hospital or Siteman Cancer Center clinical spaces. This new NCI grant is in addition to the more than $80 million in cancer research and related training grants currently held by the School of Medicine's 240 researchers and physician-scientists affiliated with the Siteman Cancer Center.

The Siteman Cancer Center now has eight multidisciplinary research programs and 11 centralized resource facilities, or core facilities, that help to spur progress in these cancer programs. It also supports numerous outreach efforts aimed at improving cancer prevention, detection and treatment, as well as patient and family services.

"The achievement of an NCI-designated cancer center is a victory for the people of St. Louis as well as for the entire region," says Ronald G. Evans, MD, president of Barnes-Jewish Hospital. "Cancer patients at the Siteman Cancer Center can be assured of the latest treatments and care, including all the clinical and psychological components in a patient-friendly environment."
Faith through Adversity

Jill Trice, MD '76, has faced her share of unknowns, yet she says, “I have always enjoyed my work, my life.” Diagnosed with lupus in 1985, she labels it “a disease of ‘might’s,” and knows firsthand what it might cause, including joint pain, pneumonitis and pancreatitis, plus complications from steroid therapy. Her husband once found her comatose from cerebritis and was told that she would die. She weathered every crisis, and her disease has been in remission since 1996. Now she is chronicling her experiences in a book, Living with Lupus, the Red Wolf.

Attending medical school at Washington University presented an early unknown: Trice’s first experience in an integrated learning situation. She had graduated cum laude from Philander Smith College in her native Little Rock AR, and had married a fellow student who joined the Navy and went to sea. They were apart until 1977, when her husband, Jesse, landed a shore job in St. Louis. By then, Trice was a resident in pediatrics at St. Louis Children’s Hospital, and then a fellow in pediatric neurology. She revealed in learning from “the greats” — among them Drs. Dodge, Prensky, DeVivo and Volpe. Her husband’s transfers in 1980 to Rhode Island and California interrupted her training, so she completed work at Brown University and at the University of California at San Diego (UCSD). Trice stayed at UCSD as an assistant clinical professor of neuroscience and pediatrics, and did research there and at the Salk Institute for six years.

The Trices’ two sons were toddlers when her lupus struck. Her most difficult health problems occurred in 1986; by March 1987, she was able to return to work. Later that year she faced yet another unknown. Her husband transferred to Seal Beach CA and, needing a slower pace and family time, she accepted a position “completely foreign” to her training, as a civilian physician in the Department of Occupational Medicine at the Navy Medical Clinic in Seal Beach. She cared for patients, provided emergency services, taught paramedics and repeatedly received Outstanding Performance Awards.

In 1998, Trice happily returned to pediatric neurology. She now directs clinical neurology at Children’s Hospital of Orange County, and is an associate clinical professor at UCSD.

Through all the unknowns, Trice rejoices in the knowns: her Christian faith; her “Rocks of Gibraltar”: husband Jesse and sons Matthew and Jeffrey; the care of “special physicians”; and the support of extended family, friends and colleagues.

To Heed a Higher Calling

By the time Mark Stover received his bachelor’s degree in chemical engineering (with highest distinction) from the University of Kansas in 1996, he had logged an impressive list of honors, including the National First Place Award in the American Institute of Chemical Engineers Student Design Competition. He also had begun to suspect that he wanted to be a doctor instead of an engineer. His biomedical engineering course had intrigued him, and the prospect of more human interaction than engineering offered was appealing. He shadowed several physicians, became certified in CPR, and unexpectedly learned about heart function when he was diagnosed with mitral valve prolapse.

Stover postponed his career decision in order to fulfill two other long-held desires: to travel abroad and “to do something good.”
He earned a Certificate from the School of Teaching English as a Second Language in Seattle and spent two years teaching at a post-secondary institute in Mbamba, Nigeria. There he saw people dying from curable diseases because medical help wasn’t accessible or affordable. His deepened appreciation for the job physicians do intensified Stover’s desire to become one. He returned to the University of Kansas, took medical school prerequisites and was accepted at Washington University School of Medicine. He chose the School of Medicine, in part, because it offered opportunities for involvement in community service activities.

Stover, who holds the Robert Karsh, M.D. Distinguished Alumni Scholarship, serves as Medical Education Representative for the Class of 2003. He has volunteered at the Saturday Forest Park Southeast Neighborhood Health Center, which provides free medical care to needy patients, has taught middle school students through the Students Teaching AIDS to Students program, and helped found Earthdocs, a recycling group. He has been involved in the Forum for International Health and Tropical Medicine and plans a fourth-year elective abroad. Someday he intends to make his way back to Africa, perhaps to staff a clinic for several years, perhaps as a volunteer for short-term service.

Stover says he is realistic: “I do not have delusions about saving the world.” Nevertheless, it is a safe bet that wherever he goes in the world, he will be found “doing something good.”

Setting the Record Straight

VerG Lil SleE’S PRIME INTEREST these days is “to try to get somebody to do what needs to be done to fix the medical record system.” Slee, MD ’41, is senior author of The Endangered Medical Record (Ensuring Its Integrity in the Age of Informatics), which describes how diagnostic details are lost by the current system, how ambiguous code sources aren’t identified, and how the problems can be remedied. A review in the Journal of the American Medical Association stated: “The authors convincingly argue that the result of these shortcomings is a wealth of inaccurate, distorted data that threaten the healthcare information infrastructure in this country.”

When he graduated from medical school in 1941, Slee expected to become a surgeon. World War II intervened, and after serving four years in the U.S. Air Force in China, Slee realized that he was “interested in longer-range concerns than most day-to-day patient care.” That led him to a master’s degree in public health from the University of Michigan and a position as public health officer and hospital administrator.

Needing to evaluate how well health care needs were being met, Slee soon learned that there was no system in place for collecting comparable statistical information from patient records. He has been a pioneer in quality management ever since.

With a grant from the W. K. Kellogg Foundation, Slee developed the first hospital discharge abstract system. As head of the Commission on Professional and Hospital Activities (CPHA) from 1956 to 1980, he designed data management systems and taught key personnel how to use them. The Estes Park Institute, which he helped form, has conducted more than 180 conferences on patient care evaluation. He led the modification of International Classification of Diseases, Ninth Edition (ICD-9) for use by U.S. hospitals and authored a multi-disciplinary dictionary, Slee’s Health Care Terms, now in its fourth edition.

In 1998, CPHA established the “Vergil N. Slee Distinguished Professor of Healthcare Quality Management,” at the School of Public Health, University of North Carolina at Chapel Hill, one of many honors he has received.

The Slees moved to Brevard NC in 1985. His wife of 60 years (they married on his graduation day) is Beth Stoke Slee, a ’42 alumna of Washington University’s School of Fine Arts and the recipient of its Honor Award during her senior year. Her paintings have been shown in juried exhibitions in eight states, and she was recently voted Artist of the Month by the Hendersonville County (NC) Art League. Two of the Slee’s four children, David and Sara, are artists. Dan is a school administrator and Debora is a lawyer. She and her husband are co-authors of The Endangered Medical Record. If Slee has his way, that record’s condition will soon improve.
"IT ALL COMES DOWN TO FRIENDSHIPS," says Eric Suba, MD '84, discussing the Viet-American Cervical Cancer Prevention Project (VACCPP) which he and Stephen Raab, MD, HS '91, established in 1996. "The project would amount to nothing without the personal relationships which have evolved over the years among Vietnamese and Americans."

During his internship at the University of Colorado in 1984, Suba was inspired by a presentation by Sandy Dawsey, MD, now an epidemiologist at the National Cancer Institute, who had just returned from working with Pap screening in rural Thailand. Armed with the facts that cervical cancer is the No. 1 cause of cancer deaths among women in the Third World and that Pap screening, virtually unavailable to those women, is an effective means of prevention, Suba determined that someday he would try to make screening accessible in a developing country.

After completing his fellowship in surgical pathology at Washington University in 1990, Suba accepted a position with the Permanente Medical Group in Redwood City CA. (In 2000, he moved to their South San Francisco site.) By 1993, he became a partner at Permanente and decided it was time to pursue his dream. He describes his decision to target Vietnam as "idiotically simpleminded... I simply thought that, just in case things worked out, of all the places in the world, Vietnam was where I would most love to see things happen. I felt that we Americans had a clear debt to that society."

Suba easily persuaded Raab, one of his best friends when both were postgraduate trainees at Washington University, to fly to Vietnam with him in 1994. They went "hoping they could make something" of the possibility of establishing a Pap screening program there. At that time, Raab was an assistant professor of pathology at the University of Iowa College of Medicine. He moved to Pittsburgh in 1997, and is now professor of pathology and laboratory medicine at the Medical College of Pennsylvania and Hahnemann University and co-director of the Center for Clinical Effectiveness and Outcomes Research at Allegheny General Hospital. Raab says: "I became involved out of interest, and I had no concept what cervical cancer screening services were like in Vietnam. I stayed involved because I think we can actually help."

Suba subsequently spent vacations in Vietnam getting to know and becoming friends with medical professionals there. In 1995, he began sponsoring training visits in the United States for Vietnamese colleagues to learn new techniques for cancer diagnosis and treatment (37 to date, 27 of whom have been guests in Suba’s home during part or all of their exchange visits).

Initially, Raab handled the professional end of most of the training at the University of Iowa while Suba managed the complicated logistical side. Eventually Suba was able to arrange opportunities at additional sites, including Harvard, Stanford, the University of Texas at Galveston, and at Washington University, where Carlos A. Perez, MD, HS ’63, professor and chair of radiation...
The Viet-American initiative has shown what hope—joined with scientific knowledge, skill and incredible persistence—can accomplish.

"It all comes down to friendships."
Eric Suba, MD '84, on the success of the Viet-American Cervical Cancer Prevention Project

Suba and Raab lead intensely busy lives. Raab is internationally known in the fields of cytopathology and outcomes research. In addition to caring for patients and teaching, he has given hundreds of invited lectures and published hundreds of articles. In 2000, he received the U.S. and Canadian Academy of Pathology Recognition Award. Raab was a section chief of the recent Bethesda 2001 Conference, which is influential in setting cervical screening policy in the United States and abroad. In May 2001, he moderated the scientific lecture series at the 17th International Congress of Cytology in Amsterdam.

Suba focuses on clinical work, making thousands of diagnoses each year. The World Health Organization has asked that VACCPP revise the official WHO cervical screening guidelines and Suba was an invited consultant to the WHO Policy Conference on Cervical Cancer Screening held in March in Switzerland. In May, he discussed the VACCPP on "Africa Calls," a continuing education teleconference sponsored by the Annenberg Center for Health Sciences and broadcast from Harvard to participants in South Africa, Zimbabwe, Botswana, Uganda, Tanzania and Kenya. The intent of the conference organizers was to encourage African medical leaders to emulate the VACCPP approach in their own countries.

Despite such international recognition, one of Suba's most cherished honors this year is the Distinguished Alumnus Award from his secondary school, The Priory, in St. Louis.
THE ANNUAL MEETING of the Washington University Medical Center Alumni Association (WUMCAA) was held on May 10, 2001, during Reunion 2001. President Thomas R. Pohlman, MD ’76, presided at the meeting.

Pohlman reviewed the activities of the past year and reported on the distribution of funds by the Executive Council during the 2000-01 fiscal year. The council made allocations totaling $359,267, including nearly $151,000 for Distinguished Alumni Scholarships, $72,000 for Continuing Medical Education’s on-line learning modules, $48,000 to buy computers for the media center and other study areas, $8,000 for student support in summer primary care preceptorships, and the remainder to a variety of student organizations and community service projects. A distribution of funds can be found on the graph shown below.

Pohlman also presented the slate of new officers and Executive Council members for 2001-02 submitted by the nominating committee to succeed members whose terms expired on June 30, 2001.

In addition, four alumni were selected in January to have Distinguished Alumni Scholarships named for them. The Distinguished Alumni Scholarships are awarded to four first-year students. The alumni honorees and students will meet later this year.

Officers and Executive Council Members 2001-02

<table>
<thead>
<tr>
<th>Position</th>
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<tbody>
<tr>
<td>President-Elect</td>
<td>Carlton S. Pearse, MD ’78</td>
</tr>
<tr>
<td>Vice President</td>
<td>Brent Allen, MD ’76</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Walter Benoist, MD ’72</td>
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<tr>
<td>Local Alumni, Three-Year Terms</td>
<td>Robert Baglan, MD ’76</td>
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<tr>
<td></td>
<td>Carolyn Martin, MD ’76 and FHS ’80</td>
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<td></td>
<td>Joseph K.T. Lee, MD ’73, Chapel Hill NC</td>
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<td></td>
<td>Thomas McKinney, MD ’80</td>
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<td></td>
<td>Jeffrey Tillinghast, MD ’80 and FHS ’88</td>
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Local Former House Staff, Three-Year Term

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<tr>
<td>Alan Wild, MD and FHS ’88</td>
<td>Seattle WA</td>
</tr>
<tr>
<td>Lyn McDivitt Duncan, MD ’86</td>
<td>Boston MA</td>
</tr>
<tr>
<td>Joseph K.T. Lee, MD ’73, Chapel Hill NC</td>
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<tr>
<td>Kathy Liu, MD ’79, Chicago IL</td>
<td>Jon Morris, MD ’92, San Diego CA</td>
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Distinguished Alumni Scholarships

<table>
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<th>Year</th>
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<tbody>
<tr>
<td>Robert H. Lund, MD ’49</td>
<td></td>
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<tr>
<td>Stuart Kornfeld, MD ’62</td>
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<tr>
<td>Alan L. Pearlman, MD ’61</td>
<td></td>
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<tr>
<td>Stanley Birge Jr., MD ’63</td>
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</tbody>
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Washington University Medical Center Alumni Association Fund Allocation Distribution FY 2000-01

- Distinguished Alumni Scholarships: 7%
- Student organizations & community service: 14%
- Continuing Medical Education—on-line education modules: 20%
- New computers for student use in computer labs: 10%
- Funding requests from various sources: 7%
- Ruth Bohnemeyer Award established: 42%

WUMCAA allocated more than $30,000 to student organizations last year. Members of the Forum for International Health and Tropical Medicine, above, received funding to participate in a medical volunteer experience in Nicaragua.
Alumni President
J. William Campbell

July 1, 2001 — J. William Campbell, MD ’77, assumed leadership of the Washington University Medical Center Alumni Association (WUMCAA). It was the year’s second milestone for Campbell, who also has been honored by the establishment of a named professorship at the School of Medicine.

The donor is John Doerr, a partner in the Silicon Valley venture capital firm of Kleiner Perkins Caulfield & Byers. Doerr and Campbell have been best friends since they were on their high school debate team together. “Bill Campbell is an outstanding physician,” Doerr says. “He’s a role model for medical school graduates. The J. William Campbell chair honors Bill’s service to patients through Barnes-Jewish Hospital and the Grant Medical Group, his teaching at Washington University, and his commitment to excellence in medicine.”

An excellent clinician-scientist will be chosen to fill the chair in the Department of Medicine.

“This is a way of upholding the skills and values of the bedside physician, which are critical core values these days,” Campbell explains.

Campbell has been in private practice in St. Louis for 18 years. Although he chiefly treats patients with HIV and other infectious diseases, he also practices general internal medicine. Since 1983, he has been an associate professor of clinical medicine. In 2000, the medical school presented him with the Community Scholars Award.

Community is a key word for Campbell when he thinks about WUMCAA, defining what the association is and what it should become. “The medical school community stretches beyond the walls of this institution,” he says. “In fact, we have alumni all over the world. We are a group of people whose goal is to provide the finest health care to people everywhere. And that means we’re dedicated to making advances in science and in basic public health.”

He recalled a recent alumni dinner honoring graduates from the last 40 years: Most were eminent researchers, but one was being lauded for his work at a leper colony in India.

He also applauds efforts of current students to serve the St. Louis community. He intends to continue WUMCAA’s support of neighborhood clinics and other student-run programs. He would like to develop a mentoring program, pairing students with graduates at labs and clinics around the world.

During his term, Campbell hopes to involve alumni of all ages in supporting the school. In fact, he doesn’t see much point in the custom of putting the year of graduation after a person’s name. “To me, that suggests your education has terminated, that your involvement with the school is no longer as vital,” he comments. Campbell believes, rather, that the school instills in its students such values as intellectual curiosity, honesty and dedication, which continue to guide them throughout their careers. “The alumni association should be a vibrant organization,” he says. “It’s not for reminiscing.”

Campbell received both his undergraduate and medical degrees from Washington University and completed his residency and a fellowship in infectious diseases at Barnes Hospital. He is a diplomate of the American Board of Internal Medicine and of the Subspeciality of Infectious Diseases. He is a member of the American College of Physicians and numerous other professional societies, including the St. Louis Infectious Disease Society. He received the Teacher of the Year award at the medical school in 1992 and 1993.

“Bill Campbell...[has] been a role model for medical school graduates.”

— JOHN DOERR
THE SCHOOL OF MEDICINE'S ANNUAL FUND DRIVE—the yearly solicitation of support for the school—ended at the close of June 2001. Medical, health administration, occupational therapy, physical therapy and nursing alumni and former house staff gave a total of $1,262,300 in fiscal year 2001. Through the inspiration of the Vellios Challenge, sponsored by Frank Vellios, MD '46, alumni and former house staff participation in the Annual Fund increased significantly.

The $200,000 Vellios Participation Challenge launched in February 2001. The challenge encouraged participation in annual giving at any level from MD and nursing alumni, as well as former house staff. Gifts of $100 and over matched two-for-one, and any gift from $5 to $100 matched with a $200 gift from Vellios. A large number of first-time donors, particularly young alumni, gave.

"Small gifts meant a great deal to us in our success this year because of Dr. Vellios' matching funds and the growing spirit of participation," says Emily Smirh, MD '68, Chair, Annual Fund. "I especially want to thank young alumni for getting involved."

The Vellios Challenge also gave a special incentive to MD alumni celebrating their reunions this year. In support of Vellios' generous challenge, alumni participation from reunion classes reached a high of 57.7 percent.

Reunion class gift drive efforts also played an important part in the success of the School of Medicine's annual fund drive this year:

- The Class of 1976 launched a scholarship gift drive in honor of their 25th reunion, raising nearly $50,000 in gifts and pledges.
- The Class of 1961 launched a scholarship gift drive in honor of their 40th reunion, raising $65,629 in gifts and pledges.
- The Class of 1951 set an all-time record for participation at 77 percent.
- The Class of 2001, to date, has recorded participation of 63 percent in a senior class gift.

Other notable FY '01 Annual Fund successes include:

- MD alumni and former house staff gave record amounts of $944,332 and $304,685, respectively.

- Nursing alumni maintained their participation rate of 26.8 percent and gave $32,720—a $4,000 increase over FY '00.

- Health Administration alumni realized an increase in the number of alumni giving during the fourth quarter, due to the excitement of new leadership. Stuart B. Boxerman, DSC, formerly interim director, was named director of the program.

- Additionally, the number of new Eliot Society members (donors of at least $1,000) reached 178 this year and 80 percent of current Eliot Society members renewed their memberships. Through the extra efforts of the volunteer membership committee, led by James W. Fleshman Jr., MD '80, the medical school successfully reached its goal. The medical school now has a total of 726 Eliot Society members.
Jasper AL, several times a year to visit Washington University’s Olin Library, he has retired but is thinking of volunteering in occupational therapy and is still husband of Margaret and father of Andrew.” His community activities include founding First Night Escondido (alcohol-free New Years’ Eve celebration of the arts), founding Rx Pets (canine visitation program at hospitals/hospices), founding Old Escondido Neighborhood Group (historic preservation), and chairing the Escondido Community Services Commission. He notes that his other activities include “breaking bones and shredding knees playing tennis & polo.”

Douglas Moir, MD ’69, continues in the solo practice of cardiology and internal medicine. He writes that he is “still husband of Margaret and father of Andrew.” His community activities include founding First Night Escondido (alcohol-free New Years’ Eve celebration of the arts), founding Rx Pets (canine visitation program at hospitals/hospices), founding Old Escondido Neighborhood Group (historic preservation), and chairing the Escondido Community Services Commission. He notes that his other activities include “breaking bones and shredding knees playing tennis & polo.”

C. Leon Partain, MD, PhD ’75, is the new editor-in-chief of the Journal of Magnetic Resonance Imaging. Partain heads the radiology department at Vanderbilt University in Nashville.

Sister Donald Mary Lynch, RSM, HA ’75, has moved to the Mississippi Delta to engage in community development, planning and advocacy. She previously spent 30 years in health care administration, eight years in religious community leadership, and had a year-long sabbatical. She lives in Cleveland MS.
Barbara Miller Behar, PT '77, continues to practice as a home care therapist for North Shore Long Island Jewish Health System in New York. She is married to Joel Behar, who has a PhD in medical sociology and works in a school district as well as in private practice. They have two children, Katie, 14, and Jonathan, 13. She welcomes correspondence from classmates.

Kweli Amusa, MD '78, has been appointed to the Louisiana State Board of Medical Examiners by Gov. Mike Foster. Amusa practices emergency medicine and lives in Slidell, LA.

Bob Schmitz, MD '78, of Durham NC, continues to renovate houses and apartments, coach soccer and play tennis. He and his family enjoyed a 19-day visit to China during the summer. He found it "much different than I thought it would be... very crowded, terrible air pollution, very noisy all the time everywhere, filled with very polite, friendly and talkative people who disagree with the government on some things and say so, and filled with magnificent things to look at, buy, visit, observe and eat... they'll eat anything. The fried scorpions were tasty, the fried silkworm cocoons were too disgusting!"

Dennis Devito, MD '80, has been competing in triathlons for several years and qualified last year at the Half Ironman in Clermont FL, for the Long Course World Championship held August 4, 2001, in Fredrecia, Denmark. He was one of nearly 100 U.S. athletes, ranging in age from 20 to 78, who competed with about 1,000 people from around the world. The course consisted of a 2.5-mile swim, a 114-mile bike ride and a 26.2-mile run. Devito, who had never done this distance before, completed the course in 11 hours and 55 minutes, finishing 30th out of 48 competitors in his age group.

Leslie W. Hall, MD '81, was recently presented the first annual award for Excellence in Teaching by the National Association of Inpatient Physicians, the premier U.S. medical society representing hospitalists. Hall, professor of medicine at the University of Missouri School of Medicine in Columbia, where he initiated the hospitalist teaching program, received the honor in recognition of his exemplary role as a teacher, academician, mentor and role model. This year he also received top teaching awards from the junior and senior medical students, as well as the Paul Sun Distinguished Faculty Award for Outstanding Contributions to Teaching, the highest teaching award presented by the school. Hall also has been selected as a faculty mentor for 10 medical students and 11 house staff.

Howard Mahler, MD, HS '83, was recently appointed medical director of the Kingsboro Addiction Treatment Center, Office of Alcoholism and Substance Abuse Services, State of New York.

Justin Starren, MD '87, is assistant professor of medical informatics and radiology at the College of Physicians and Surgeons of Columbia University in New York. He is co-investigator on the Informatics for Diabetes Education (IDEATel) project, the largest home teledmedicine project to date. He and his wife Jeanne keep busy renovating a 200-year-old farmhouse and trying to keep up with their 3-year-old twins, Quentin and Genevieve.

Christine M. Wietlisbach, OT '88, was recently appointed to the California Board of Occupational Therapy, a licensing and regulation board, by Gov. Gray Davis. She completed her Master of Public Administration degree, with departmental honors, from California State University, San Bernardino, in December 2000. Wietlisbach lives in the Palm Springs area, working full time in the rehabilitation department at Eisenhower Medical Center and teaching two classes in the occupational therapy program at Loma Linda University.

Ella Gutierrez, MD, HS '93, is president of DERM-CARE, P.C., and is in the private practice of dermatology at Missouri Baptist Medical Center in St. Louis.

Stacy Scott Brisco, DT '94, writes that "big brother Noah, 2, welcomed a new baby sister, Grace Mae, born on November 6, 2000." Brisco works part-time in Carmel IN, for a hand surgeon.

Carrie Batterson Erickson, OT '94, married Scott Erickson in January 1999. They have two children, Nathan Daniel (22 months) and Elaina Nicole (2 months). The Ericksons recently moved to Knoxville IL. She is employed as a school-based occupational therapist with Knox Warren Special Education District. The Ericksons welcome e-mail at egang@galesburg.net.

Jocelyn F. Bautista, MD '95, received a 2001 American Academy of Neurology Award for research in epilepsy at the annual meeting of the Academy in Philadelphia in May. The award consists of a commitment of $40,000 per year for two years plus $5,000 for tuition to support formal education in clinical research. Bautista is a fellow at The Cleveland Clinic.

Scott Gilbert, MD '96, has completed his final year of training and has taken a staff position as a nephrologist at New England Medical Center (Tufts Medical School) with "lots of teaching and clinical responsibilities."

Carissa Krane, PhD '96, has a new faculty appointment as assistant professor of biology at the University of Dayton. She is a 2001 recipient of the Caroline M. Suden/Frances A. Hellebrandt Professional Opportunity Award for Meritorious Research from the American Physiological Society.
Eric Stevens, MD '96, began a new position with a private practice pathology group in Bloomington IN, on July 1.

Kim Marshall, OT '97, is working for Southern Illinois Healthcare at the Herrin Hospital outpatient therapy department, primarily focusing on orthopaedic hand injuries. She also works with the state's Early Intervention Program as an independent contractor, serving children from birth to age 3 in their homes. She chairs the Illinois Occupational Therapy Association, Little Egypt District.

Cinda Barnes, OT '98, is working in the Alton IL area doing early intervention home health. She had a daughter, Brianna Rose, on September 21, 2000.

Dawn Ebach, MD '98, married Will T. Brown on April 28, 2001, in St. Louis. She is doing a fellowship in pediatric gastroenterology at St. Louis Children's Hospital.

Crystal A. Bingham, OT '99, was sworn into the U.S. Children's Hospital outpatient and home health services in Will T. Brown on April 28, 2001, in Sr. Paul MN.

Amy McKeen, PT '99, is working in an outpatient and home health settings in St. Paul MN.

Laura Peregoy, OT '99, and her husband Matt, along with big brother Ethan, welcomed Isaac James Peregoy into their lives on January 19, 2001. They live in Sullivan MO, where she practices school-based pediatrics.

IN MEMORY

Alvin G. Schopp, MD '37, a retired orthopaedic surgeon, died in St. Louis on April 18, 2001, of a heart attack. He was 89. Schopp had been on the faculty at Saint Louis University School of Medicine for many years. He served in the U.S. Army Medical Corps during World War II. In addition to his clinical practice, he conducted research on drugs used to relieve pain and muscle spasms for polio patients. He is survived by his wife and two sons.

Mathias F. F. Kohl, MD '41, a retired obstetrician/gynecologist, died in Rockford IL on May 25, 2001, of metastatic cancer. He was a cum laude graduate of the School of Medicine, where he once taught pharmacology. He is survived by his wife, Patricia.

Carolyn Forman Piel, MD '46, died of a heart attack February 24, 2001, at age 82, while snorkeling in the Caribbean. Piel was the first woman to chair the American Board of Pediatrics and was an important figure in the organization's history. She was a past president of the Western Society for Pediatric Research. Although retired from a lengthy tenure as professor of pediatrics at the University of California at San Francisco, she was active in academic affairs and had seen patients only two weeks before leaving on vacation. In addition to studying childhood rickets, Piel was well known as a researcher in pediatric nephrology and helped pioneer the use of electron microscopes for the study of kidney physiology. Four children survive, including a daughter who is a pediatrician. Her husband was the late John J. Piel, MD.

William N. Blalock, MD '52, of Paducah KY, died April 20, 2001, at Vanderbilt University Medical Center in Nashville. He founded Gastroenterology of Paducah in 1966 and was a former chief of staff at Lourdes Hospital there.

He served on the Red Cross board and was a volunteer for St. Nicholas Family Clinic. Survivors include his wife, Rudell McClain Blalock, one daughter, Mary Ann Braman, and one son, William Stanford Blalock, MD.

L. W. Miltonberger, DDS '56, died in Salt Lake City on March 24, 2001, at the age of 71. During his career he had been an associate professor of anatomy and assistant dean of admissions at the Washington University School of Dental Medicine and had also been on the faculties at the Utah School of Medicine and at Creighton University School of Dentistry. He is survived by his wife, Jeanne, and two sons.

FACULTY

John L. Trotter, MD '69, professor of neurology, director of the division of neuroimmunology, and co-director of the Multiple Sclerosis Center at the Medical Center, died at St. Mary's Health Center in Richmond Heights MO, on July 12, 2001. He was 58. Trotter was recognized as a leading authority in the field of neurology. Most of his research, however, focused on multiple sclerosis, a progressive disease of the central nervous system. One of the first neuroimmunologists in the United States, Trotter helped pave the way for dramatic improvements in the diagnosis and treatment of the disease. He is survived by his wife of 33 years, Alice Trotter, MD '69; daughter Amy McGregor, MD, of Houston; son Greg Trotter of Columbus OH; brother Robert Trotter of Webster Groves MO, and a grandson.

Memorial contributions may be made to the Multiple Sclerosis Clinical Research Fund at the Barnes-Jewish Hospital Foundation, One Barnes-Jewish Hospital Plaza, St. Louis, MO 63110 or the Community Covenant Church, 777 West Adams Ave., St. Louis, MO 63122.
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You may also fund a gift annuity with appreciated securities.

**Sample Rates of Return**

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SCHOOL OF MEDICINE

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REGISTRATION MATERIALS WILL BE MAILED IN FEBRUARY.
Illumination First-year medical student Karen Austin participates in a solemn candlelight procession honoring the victims of the Sept. 11 tragedy. The vigil was one remembrance among many held campus-wide. For more on the Washington University response, please turn to page 7.

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