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Outlook

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SPRING 2012

 Washington
University in St. Louis
SCHOOL OF MEDICINE

The public health

A multilevel strategy for
reducing cancer in society





Building up

Patient care and comfort is the focus of the new Center for Outpatient Health, which opened in March on the Washington University Medical Center campus. The 12-story facility, located at the corner of Forest Park and Euclid avenues, offers a more spacious and

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updated environment for resident clinics formerly located at Barnes-Jewish Hospital, including obstetrics and gynecology, psychiatry, specialty care (ENT, neurosurgery, orthopedic surgery, plastic surgery, urology), lab and radiology services, surgical and wound care, primary care, neurology and dermatology. The structure is LEED-certified, ensuring that it was constructed with energy usage and the environment foremost in mind.

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Outlook Spring 2012

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Outlook

Washington University School of Medicine

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Cancer and the Public Health

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Eat Less, Live Longer

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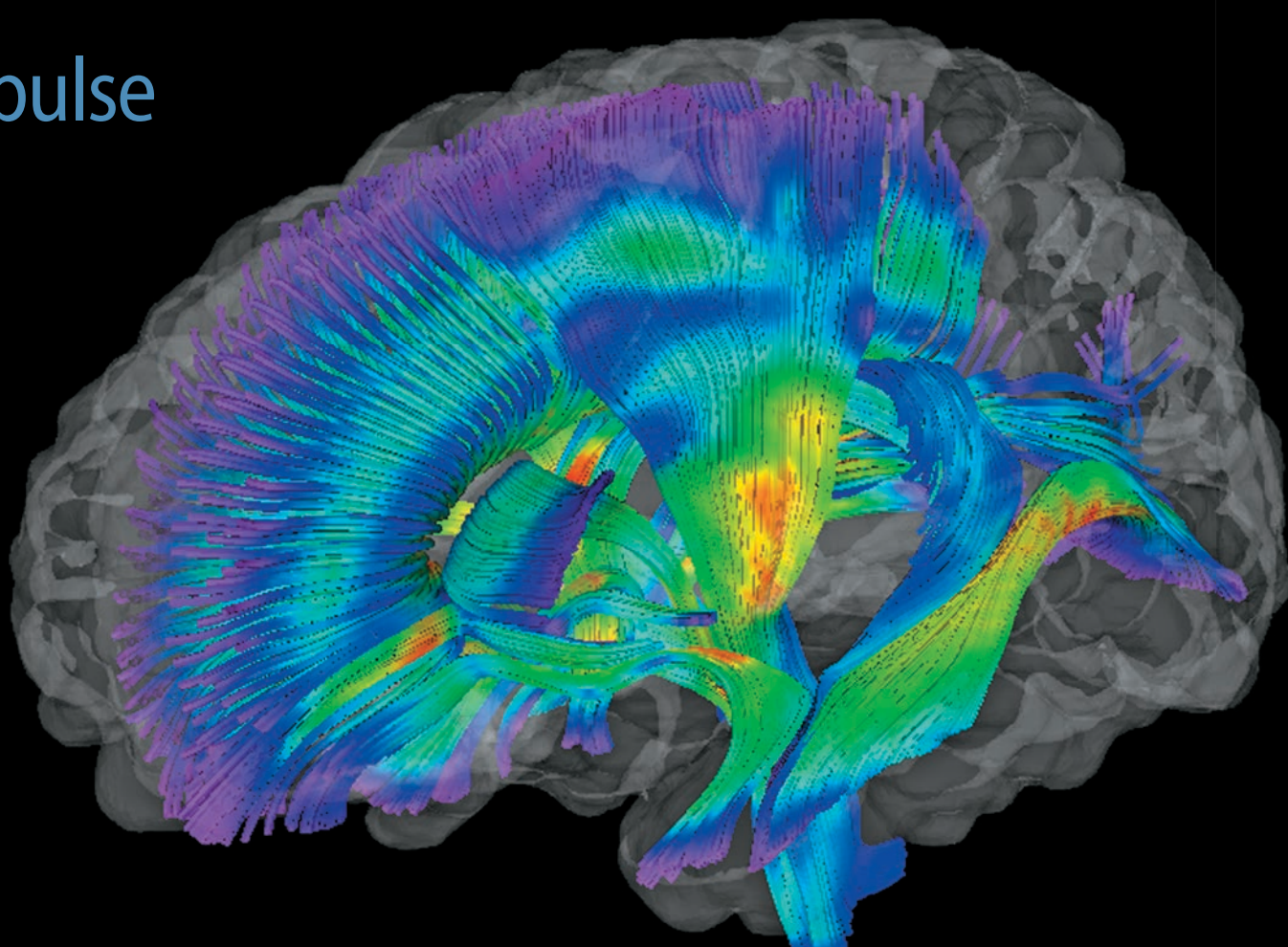
COVER Graham A. Colditz, MD, PhD, the Niess-Gain Professor of Surgery and chief of the Division of Public Health Sciences, has spent the past three decades studying the preventability of cancer. He and colleagues at the Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine work on multiple fronts to address this ubiquitous disease. To learn more, please turn to page 16.

PHOTO BY ROBERT BOSTON

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JASON J. WOLFF, PhD/UNC

Diagnosing autism

Early indicators for autism in infants as young as six months

Researchers have found significant differences in brain development in infants as young as 6 months old who later develop autism, compared with babies who don't develop the disorder.

The study, conducted by scientists at Washington University School of Medicine, the University of North Carolina at Chapel Hill and other centers, involved infants considered to be at high risk for autism because they had an older sibling with the diagnosis. The findings are published online in the *American Journal of Psychiatry*.

The new research, which relied on brain scans acquired at night while infants were sleeping naturally, suggests that autism doesn't appear abruptly, but instead develops over time during infancy.

"We were surprised that there were so many differences so early in infancy," says co-author Kelly N. Botteron, MD, who is leading the effort at the Washington University study

site. "As this study moves forward, we may want to scan babies at even younger ages so that we can try to see how early this pattern is emerging."

The new findings involved brain scans from 92 infants who had completed diffusion tensor imaging, a type of MRI scan, at 6 months and behavioral assessments at 24 months of age.

By 24 months, 28 of the infants met the diagnostic criteria for autism spectrum disorders. Scans of the infants with autism revealed changes in the pathways that connect brain regions to one another. In particular, researchers found changes in multiple fiber pathways in the brain's white matter.

Study results represent an important first step toward the development of a biomarker for autism risk.

In this composite image of white matter pathways in the brains of infants at risk for autism, warmer colors represent higher fractional anisotropy (FA) readings. FA measures white matter organization and development.

The changes were identified using fractional anisotropy (FA), a process that measures white matter organization and development, based on the movement of water molecules through brain tissue.

"The idea that connections may be less organized in children with autism fits with our hypothesis," says Botteron, a Washington University child psychiatrist at St. Louis Children's Hospital. "These children may have some changes in the brain's gray matter, too, but the way their neurons speak to each other clearly seems to be disrupted."

The study represents the latest findings from the Infant Brain Imaging Study Network, a \$10 million initiative funded by the National Institutes of Health (NIH).

"It's a promising finding," says Jason J. Wolff, PhD, first author of the paper and a postdoctoral fellow at UNC's Carolina Institute for Developmental Disabilities. "At this point, it's a preliminary, albeit a great, first step toward thinking about developing a biomarker for risk in advance of our current ability to diagnose autism."

Missouri consortium joins NIH national heart failure network

Grant to support clinical trials, training

A Missouri-wide consortium led by Washington University School of Medicine has joined a national heart failure research network sponsored by the National Institutes of Health (NIH). The consortium is one of only nine regional centers across the country.

The Washington University Heart Failure Network regional clinical center includes Washington University School of Medicine and Barnes-Jewish Hospital, Saint Louis University, the St. Louis Veterans Affairs Medical Center, Barnes-Jewish West County Hospital and the University of Missouri-Columbia.

With a \$3.5 million, seven-year grant from the National Heart, Lung, and Blood Institute, the center is responsible for coordinating clinical trials within its own region and among the eight other regional centers to investigate innovative treatments for heart failure. In addition, Washington University will lead training efforts of young investigators in clinical heart failure research.

The nationwide network trials are designed to change the way physicians practice medicine.

The consortium is led by Victor G. Davila-Roman, MD, professor of medicine, and Douglas L. Mann, MD, the Tobias and Hortense Lewin Professor of Medicine.

"We are excited to be a part of the NIH heart failure network because it will allow us to test hypotheses for trials that we develop in a much larger venue," says Mann, also chief of the Cardiovascular Division at Washington University.

Mann emphasizes that one advantage of the network is its ability to conduct trials that would not necessarily be funded by industry. Most pharmaceutical companies support trials intended to gain approval for new therapies from the U.S. Food and Drug Administration. The trials conducted within the network are designed to change the way that physicians practice medicine.

"In many of the proposed studies for the network, we will be investigating the best use of drugs that may have been off-patent for decades," Mann says. "No company would fund trials to tell you what dose to give or how to use these medicines. But these are questions clinicians face every day. We're now able to do these studies using inexpensive drugs that may change the way we practice medicine."

The other regional centers are Duke University; Mayo Clinic; Massachusetts General Hospital/Brigham and Women's Hospital; University of Vermont/Tufts University; Cleveland Clinic; Emory University; Thomas Jefferson University Hospital; and the University of Pennsylvania.



ROBERT BOSTON

Ambulance aid Sara L. Bollinger, left, Global Health Scholars in Medicine coordinator, and Basia H. Najarro, division administrator, both in the Department of Medicine, with the ambulance donated this past December to InCan, a cancer hospital in Guatemala City. Fully stocked with supplies and equipment, the ambulance was a joint project of internal medicine residents, the university's Engineers Without Borders program, and the Sam Fox School of Design & Visual Arts. Local automobile dealership Suntrup Ford also played a key role, donating \$12,000 in mechanical services. The Global Health Scholars in Medicine program expands global health education and research opportunities for resident physicians.

Life sciences supported by Monsanto

Washington University has received a \$930,000 grant from the Monsanto Co. to support graduate student research in life sciences. The grant, to be distributed over the next seven years, will establish a Monsanto graduate fellowship program.

Each year, two graduate students pursuing doctoral degrees in the university's Division of Biological and Biomedical Sciences (DBBS) will be selected as fellows. Life sciences include plant sciences, microbiology, biochemistry, immunology, genetics and other specialties.

Jordan K. Teisher, a doctoral student in evolution, ecology and population biology, and Jeremy D. King, a doctoral student in plant biology, have been named the first Monsanto graduate fellows.

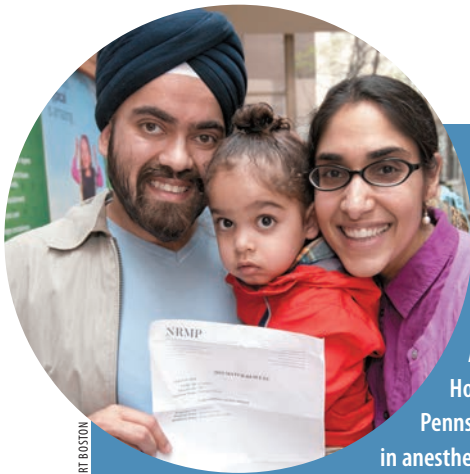
"Through this fellowship program, Monsanto is giving Washington University graduate students a unique opportunity to be exposed to the breadth of research in life sciences," says Stephen M. Beverley, PhD, the Marvin A. Brennecke Professor of Molecular Microbiology and chair of the executive council of the DBBS.

As fellows, the students will be taught how to run laboratory research programs. They also will have the opportunity to interact with Monsanto scientists to gain experience in a corporate research environment.



JORDAN K. TEISHER

Common reed, *Phragmites australis*



ROBERT BOSTON

Matches made

Gurmukh Sahota, an MD/PhD student, with his wife, Puneet, also an MD/PhD student, and their son, Anand, will be going to the Hospital of the University of Pennsylvania for Sahota's residency in anesthesiology. He was one of 121

students who matched to internships or residencies nationwide and in Canada at this year's Match Day event, held on March 16. Thirty-eight students will be staying in St. Louis for residencies at Barnes-Jewish Hospital or St. Louis Children's Hospital. To view more images from Match Day 2012, please visit medicine.wustl.edu.

New center devoted to patient care

Several Barnes-Jewish Hospital resident clinics recently began moving into the new, 12-story Center for Outpatient Health at the corner of Forest Park and Euclid avenues. All of the clinics slated to take up residence in the facility will be relocated by the end of spring.

"Patients have commented that they have driven by the new building so they know where to go," says Pat Rekart, manager of the OB/GYN Clinic, one of the first to make the move. "We think their excitement will go through the roof when they actually get in the space."

Aside from the freshness and warmth of the new environment, the functionality of the clinics was closely studied and addressed. Larger exam rooms feature exam beds designed for bariatric patients, which will help with their comfort.

The new space will allow for increased collaboration and offer multiple services for patients, all in one easy-to-access location.

The hallways are wide, allowing more space for patients in wheelchairs and with walkers.

New medical services to be provided at the center include hyperbaric oxygen therapy, gynecological procedures such as LEEP (loop electrosurgical excision procedure)

and diagnostic hysteroscopy, and prostate, nerve and muscle biopsies. Other pluses in the center include collaborations that weren't possible before, such as having diabetic educators in the same space as residents to assist with the management of diabetic patients.

"It's a new building with new equipment, almost like a brand new start," says Angel Joos, a clinic service representative in the Medicine Clinic. "We have a strong history with our co-workers and patients. Even in the old, outdated space, we managed to give each other and our patients a little piece of hope or peace, or whatever they needed on any given day. Moving to the new space with them offers a fresh start of new possibilities."

Grant to fund first clinical trials aimed at Alzheimer's prevention

Preventing damage, loss of brain cells

The School of Medicine has received nearly \$4.2 million from the Alzheimer's Association to accelerate the launch of the first clinical trials to prevent the symptoms of Alzheimer's disease. The award is the largest research grant in the history of the 32-year-old association.

Randall J. Bateman, MD, principal investigator of the grant and director of the Dominantly Inherited Alzheimer's Network (DIAN) Therapeutic Trials Unit at Washington University, will lead the trials, which will determine if the disease can be halted or delayed before problems in memory and other brain functions become apparent.

The research will be conducted through the DIAN, an international research partnership focused on understanding inherited forms of Alzheimer's. DIAN is headed by John C. Morris, MD, the Harvey A. and Dorismae Hacker Friedman Professor of Neurology. Bateman and Morris treat patients at Barnes-Jewish Hospital.

"We're grateful for the Alzheimer's Association's support for these trials and for the generous support it has given us throughout the long journey that has led to them," says Morris, who also is the director of the Charles F. and Joanne Knight Alzheimer's Disease Research Center at Washington University. "We've been working for years to find a way to treat Alzheimer's disease before patients develop dementia, and it's very exciting to be making plans to start the first of such trials later this year."

"If we can find a way to delay or prevent dementia in trial participants, that would be a tremendous success story."

JOHN C. MORRIS, MD

Families enrolled in the DIAN study have inherited forms of Alzheimer's that cause dementia at a much earlier age than the more common sporadic forms of the disease. Last July, DIAN researchers announced at the Alzheimer's Association International Conference that they could detect biological markers of presymptomatic disease in DIAN participants up to 20 years before the patients were expected to develop memory problems.

"We want to prevent damage and loss of brain cells by intervening early in the disease process — even before outward symptoms are evident because by then it may be too late," says Bateman. With the advice of a newly formed consortium of 10 pharmaceutical companies, DIAN researchers under Bateman's leadership will select what they believe to be promising pharmaceuticals for the trials. The goal will be to see if treatment can reduce the biological markers, potentially delaying or preventing the onset of symptoms.



Job fare Brittany Minor and Jenny Easo, from left, both master's students in the School of Medicine's Program in Occupational Therapy, talk with Liz Hanson of MarianJoy at the Occupational Therapy/Physical Therapy Job Fair held in March at the School of Medicine. More than 200 students from Washington University and eight other schools attended the event, which featured more than 30 representatives from employers in the two fields. The Washington University Student Occupational Therapy Association hosted the event. Among the best 25 jobs for 2012 as ranked by *U.S. News & World Report*, physical therapy ranked No. 8 and occupational therapy ranked No. 10.

PATHOLOGY AND IMMUNOLOGY

How sepsis can suppress immunity

Patients who die from sepsis are likely to have had suppressed immune systems that left them unable to fight infections, researchers at the School of Medicine have shown.

The findings suggest that therapies to rev up the immune response may help save the lives of some patients with the disorder. Sepsis is a severe illness in which bacteria overwhelm the bloodstream.

The researchers compared tissue samples taken from the lungs and spleens of 40 patients who had died of sepsis to those of patients who died from other causes. They reported their findings in the *Journal of the American Medical Association*.

"More than 225,000 people die each year from sepsis, and developing more effective therapies has been challenging," says senior investigator Richard S. Hotchkiss, MD, professor of anesthesiology. "This project attempted to understand the mechanisms that underlie how the immune system responds to sepsis."

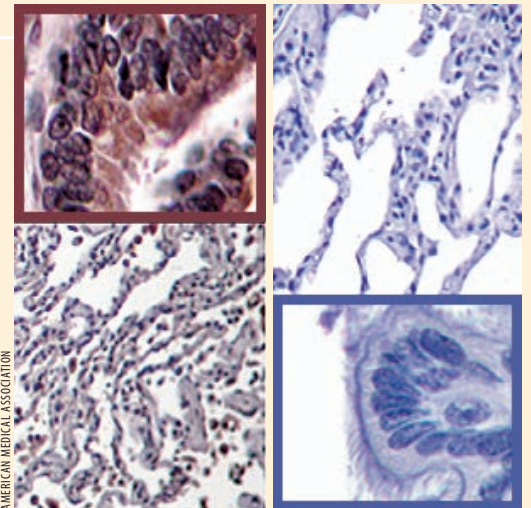
That's been an important question, because the onset of sepsis usually includes

what doctors call a "cytokine storm," when the body's immune system produces a massive inflammatory response. Some patients die during this initial phase. But others survive, including a significant number whose sepsis evolves into a longer, chronic phase.

"These patients often get new infections," says co-investigator Jonathan M. Green, MD, professor of medicine and of pathology and immunology. "They come into the ICU very sick, and we try to get them over that hump, but then they get stuck and don't get better. They typically develop new infections, either a bloodstream infection or pneumonia."

Hotchkiss had been collecting tissue samples from patients who died from sepsis, and Green brought expertise in lung function and immunology to the project. First author Jonathan S. Boomer, PhD, analyzed the tissue to determine whether key immune system cells, called T-cells, were activated to respond to secondary infections like pneumonia or whether those cells were defective.

"We found that these T-cells were not able to function in the ways required to fight an



AMERICAN MEDICAL ASSOCIATION

In a sepsis patient's lung cells (left), brown indicates a protein with the potential to "turn off" T-cells. Lung cells from a patient without sepsis remain blue (right), indicating that the protein is not present.

infection," says Boomer, a research instructor in medicine. "T-cells were present in both the lung and the spleen, but they failed to mount an effective immune response."

According to Hotchkiss, the study points to how the paradigm for treating sepsis should change. "It's pretty clear from this study that in some patients, we need to find ways to activate T-cells to fight sepsis."



RAY MARLIN

Health happening A health and wellness fair held earlier this spring at the School of Medicine offered faculty, students and staff a variety of free health screenings and informational booths. Washington University physicians were on hand to discuss dermatology, weight-loss surgery, gynecology, sports medicine, internal medicine, cardiology, diabetes and physical therapy with participants one on one. Sponsored by the university's Wellness Council, the event also provided information on area fitness centers and smoking cessation.

Genome Institute gets \$114 million

Washington University's Genome Institute has received a \$114 million grant to continue its groundbreaking genomic research. The institute is a world leader in unraveling the genetic basis of cancer, deciphering the genetic differences among humans around the globe, and exploring the DNA of microbial genes that naturally coexist with human genes in the body.

The four-year grant comes from the National Human Genome Research Institute (NHGRI), part of the National Institutes of Health (NIH). Washington University's Genome Institute is one of only three large federally funded genome centers in the United States.

The Genome Institute and other large-scale centers are sequencing production and intellectual power-houses for the NHGRI.

"The new grant allows us to build on our earlier work and more effectively decode the information contained in our genomes to better understand, diagnose and cure disease," says Richard K. Wilson, PhD, director of the Genome Institute

and a professor of genetics. "In this next phase of funding, we will discover new sequence variants that can be used to select the best treatment options for patients — a primary goal of personalized medicine."

The new grant underscores the expertise of the Genome Institute, which contributed heavily to the Human Genome Project. A portion of the cancer genomic research at the institute is being carried out as part the Cancer Genome Atlas, a collaboration funded by NHGRI and the National Cancer Institute. The Genome Institute's researchers also are playing a leading role in the 1,000 Genomes Project and the Human Microbiome Project.

DNA sequencing now available for patients with rare diseases

Unlocking secrets of genetic alterations

Rare genetic diseases, long overlooked because they affect relatively few people, are getting new attention. School of Medicine scientists are reaching out to patient advocacy groups and offering to decode the DNA of 99 patients with rare diseases to help find the genetic alterations responsible for their illnesses.

The patients' DNA will be sequenced at the university's Genomics and Pathology Services (GPS) at no cost to patients or the advocacy groups. The new effort is known as the Rare99X Clinical Exome Challenge.

"The genomics revolution provides many of the tools that may unlock the secrets of rare diseases," says Jimmy Lin, PhD, research instructor in pathology and immunology and founder of the Rare Genomics Institute. "We are excited to form partnerships with patient advocacy groups to apply these technologies to advance clinical understanding of these diseases."


An estimated 7,000 rare diseases affect some 25 million Americans. They range from Huntington's disease, a neurodegenerative disorder diagnosed in adulthood, to Neimann-Pick, a metabolic disorder which can occur in infancy.

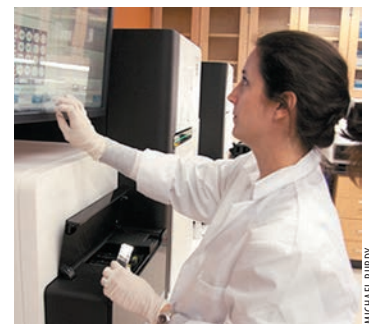
Many rare diseases are thought to be caused by genetic variations in the small portion of the DNA that codes for proteins, collectively known as the exome. This is the part of the DNA that will be sequenced.

By early last year, exome sequencing had helped researchers identify genetic causes for 39 rare diseases. Scientists think this is only the beginning.

"Identifying and validating gene alterations linked to disease is enabled by the advent of new sequencing methods that allow for highly sensitive analysis of the patient's genetic makeup," says Karen Seibert, PhD, director of GPS and research professor of pathology and immunology.

In addition to providing exome sequencing for rare disorders, Seibert notes that Genomics and Pathology Services also offers clinical genetic tests for patients with more common diseases such as cancer or heart disease. Mutations underlying those diseases can help physicians determine the best treatment options for patients.

 **more information**
gps.wustl.edu



MICHAEL PURDY

Research technician Maggie O'Guinn prepares a DNA sequencer.

Siteman Cancer Center expands services southward

Washington University School of Medicine and Barnes-Jewish Hospital have broken ground on the new Alvin J. Siteman Cancer Center in south St. Louis County.

"We are looking forward to providing more convenient care to our many patients in the South County area," says center director Timothy J. Eberlein, MD.

"As the largest provider of cancer care in the region, we want patients from South County to be able to see their physicians and receive treatment closer to their homes and families."

Construction is expected to be complete by early 2013, with patient appointments beginning soon after.



Located at Interstate 55 and Butler Hill Road, the center will provide comprehensive outpatient cancer care.

BSA LIFESTRUCTURES

METABOLIC BONE DISEASE

Treatment could alleviate rare bone disorder

Physicians at the School of Medicine, working with Shriners Hospital for Children and other institutions, have identified a promising new treatment for a rare and sometimes life-threatening bone disorder that can affect infants and young children.

Known as hypophosphatasia, the condition upsets bone metabolism, blocking important minerals such as calcium from depositing in the skeleton.

In the March 8, 2012, issue of the *New England Journal of Medicine*, researchers report that at one year of treatment with a new compound, patients with the most severe forms of hypophosphatasia showed greatly improved symptoms, including increased bone strength, better breathing and improved motor development.

"This was a small trial, but we were thrilled to see these results," says first author Michael P. Whyte, MD, professor of medicine, of pediatrics and of genetics, who treats patients at Shriners Hospital. "From

our experience with studies in mice, we had high hopes. But I think the outcome thus far is beyond anything we had expected."

Hypophosphatasia varies greatly in severity. Its mildest forms may not become apparent until adulthood, and sometimes it may only affect teeth. But in childhood and especially infancy, it can lead to bone weakness, known as rickets. In its most severe forms, hypophosphatasia can lead to death by respiratory failure and has been estimated to occur in about one in 100,000 births. But this number varies worldwide.

"When the condition is extremely severe, a baby may be born with almost no visible bones in an X-ray," says Whyte, also the medical and scientific director of the Center for Metabolic Bone Disease and Molecular Research at Shriners Hospital. "If an infant has fractured or very thin ribs, the thorax is not going to work properly and respiration is compromised. Together with profound muscle weakness, respiratory lethality is a frequent consequence."



At the beginning of the study, one patient's hand has almost no visible bone in an X-ray (left). After 24 weeks of treatment, substantial bone formation is visible in the same hand (right).

Hypophosphatasia is caused by a mutation that impairs an important protein, an enzyme called alkaline phosphatase, which then can't break down chemicals as it should, thereby blocking calcium and phosphate crystals from building normal bone.

The experimental treatment used in this study, ENB-0040, is a manufactured form of normal alkaline phosphatase, but enhanced so that it is targeted to bone.

NEW ENGLAND JOURNAL OF MEDICINE, 2012

outside the classroom —

beyond the clinic —

applying occupational therapy

where it matters most

the. bridge



preventing infections

doctoral student Jamie L. McGaha



OT student Sarah Lauterbach, Adam Pearson, OTD, OTR/L, OT student Brittany Perez, the Rev. Kathleen Wilder, executive director, and Christine Berg, PhD, OTR/L, at Centenary United Methodist Church, home of The Bridge



job-search resources

doctoral student Allison J. L'Hotta

At a homeless day shelter

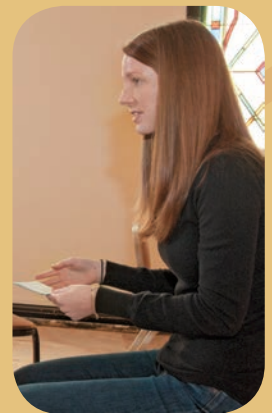
in St. Louis, 27-year-old Rashad McGlone struggles to find his way back to a productive life.

"I'm not a bad person," he says softly. "Drugs overwhelmed me. Now I need to figure out how to get a job. Here, I can get away from those negative things that were all around and identify what I need to do."

McGlone is one of a handful of men who are listening to Allison J. L'Hotta, a doctoral student in the Program in Occupational Therapy at Washington University School of Medicine. As part of her coursework, L'Hotta is not only learning how to give community talks, she also has identified resources in the surrounding neighborhood that can help participants with résumé development, job searches, even suitable clothes for a job interview.

"She got my attention with her eyes," says McGlone. "I matter, and she's showing me she has something important to say of interest to me."

On average, up to 500 people visit The Bridge shelter daily, seeking meals and a warm place to rest and socialize. "We're ground zero for people who are displaced for whatever reason," says Rev. Kathleen Wilder, executive director. "We function as a triage center, but we also offer resources that help get people back on their feet whenever they are ready to transition to jobs and independent living."



BY STEPHANIE STEMMLER

Steven D. Taff, PhD, OTR/L,
associate director of
professional programs
for the Program in
Occupational Therapy,
reviews the teaching
skills of doctoral students
Allison J. L'Hotta, center,
and Jamie L. McGaha.



RAY MARLIN

With limited resources and staff, The Bridge benefits from an outreach partnership with Washington University's occupational therapy program, which provides students and faculty to interview guests at The Bridge, identify needs, and develop solutions that can be implemented by Bridge staff. Those solutions often include basic skills training, goal planning, and adaptive as well as motivational strategies.

"It's a huge gift," says Wilder. "Their ability to do basic skills assessments enables us to better understand what our guests need to transition away from being homeless. A social worker can do crisis intervention, but we've seen the value of an occupational therapist who is focused on identifying the skills each person has and the barriers they need to overcome to reach their goals."

Not many people would expect to see an occupational therapist in a community setting, but the

Over the last five years, students pursuing masters and doctoral degrees in occupational therapy have been required to do fieldwork in community practice settings. The variety of settings offers a wide diversity of locations and populations, at times giving students eye-opening experiences.

"Although I've served in soup kitchens many times before, I've never actually sat down and conversed over a meal with another individual," says Christina T. Davison, a doctoral student who was at The Bridge assessing needs. "It really broke down a wall, seeing past the stereotypes."

"Our skills can help with teaching others how to transition from one stage to the next," Davison adds. "Examples here may be creating ways to teach life skills, such as budgeting and home management, to help these individuals move toward sustainable housing. We hope to provide The Bridge a program that will help place stepping stones to move individuals forward in their lives towards independence."

Short "micro-teach" programs created for The Bridge focus on health maintenance and employment exploration. Jamie L. McGaha, a doctoral student, recently discussed infection prevention. "So what are the signs that your cut is not healing well?" she asks a group of homeless men. "How about if you touch it and it feels hot? Or if you see something is leaking out of the cut? Have you ever seen that?"

Her audience nods. A short but lively discussion concludes with McGaha offering information about the locations of nearby free health clinics.

"Occupational therapists are adept at breaking down a task step by step, sharing that information with an individual or organization, and then focusing on motivation, readiness to change, and necessary life skills and adaptive changes," says instructor Jeanenne M. Dallas, MA, OTR/L. "In

"i have seen firsthand the difference that we can make helping individuals return to important occupations..."

— doctoral student Gregory S. Seymour

Program in Occupational Therapy is pushing the field back to its historic roots.

"A century ago, occupational therapists were part of the fabric of the community, helping the homeless, the war wounded, the mentally ill," says M. Carolyn Baum, PhD, OTR/L, FAOTA, the Elias Michael Director of the Program in Occupational Therapy. "Then our role predominantly moved into hospitals and rehabilitation facilities as payment models moved toward institutionalized care. For the past decade, we've been pushing to re-introduce our involvement in the community because we have the expertise to teach life skills, and we need to provide those services where people reside or seek help."

Steps to Finding a Job

- 1) Find a job opening
- 2) Fill out an application
→ You can write the address of the Bridge as your address
- 3) Submit a resume
- 4) Interview

a hospital setting, that may be helping a patient recover after a stroke, but in a community setting it may be teaching people how to adapt to chronic illnesses or injuries, or overcome societal issues such as homelessness.”

Doctoral student Gregory S. Seymour agrees. “Personally, I am ecstatic that occupational therapy has moved back into a community role. I have seen firsthand the difference that we can make helping individuals return to important occupations such as cooking, attending school, working and spending time with their families.”

At The Bridge, in particular, a close partnership has blossomed. Assistant professor Catina Callahan O’Leary, PhD, LMSW, lives three blocks from The Bridge and now serves as president of the organization’s board of directors. “We’ve shown that occupational therapy can play a critical role here. We developed an educational model to teach our students, but in reality, we’ve also built a strong link to the community where we should be, and want to be, actively engaged.”

Sixty-year-old Mark Jackson holds a building maintenance job but has been coming to The Bridge and other shelters for more than nine years. “My mind is open,” he says. “I’m trying to figure out how to get — and keep — my own place. I haven’t figured it out yet and I’m hoping people like them,” he says as he gestures to students L’Hotta and McGaha, “can help me. I don’t want a handout. I want a hand up.”

“Anywhere you interface with human beings, you have the potential for occupational therapy,” says Wilder, noting that The Bridge has decided to hire a part-time occupational therapist from the Washington University Program in Occupational Therapy later this year. “Because of this program, I see, and believe in, the power of occupational therapy to effect positive change.” □

Community Resources

- 1) The St. Patrick Center
- 2) Employment Connections
- 3) The Clubhouse
(Associated with the Independence Center)

Importance: Cuts, scrapes, blisters
Clean when permeable

Signs of Infections

- Redness spreading or streaks
- Swelling

occupational therapy reaches out

The Bridge homeless day shelter is one of 30 St. Louis community organizations that has benefited from the Program in Occupational Therapy’s commitment to “service learning,” which integrates meaningful community service with instruction and reflection.

“Our students perform a service while they learn,” says Christine R. Berg, PhD, OTR/L, assistant professor

of occupational therapy and of neurology, who leads the effort to identify organizations that need and could benefit from occupational therapy assistance.

“We ask agencies to identify a challenge, and we give them a group of students and a faculty mentor who can meet with participants and then propose potential solutions that the agency can implement.”

Parent/Teacher Education

Almost Home
Grace Hill Settlement Center*
Queen of Peace Center and
Peace for Kids Development Center
Southside Day Nursery Learning Center
The Bridge*
The Kingdom House*
Youth in Need Project Head Start East

St. Louis Area Agency on Aging and
Disability Resource Center
The Learning Tree Intergenerational
Day Care Center

Community Services

Community Health in
Partnership Services
Edgewood Children’s Center
Enabling Mobility Center
Mary Ryder Home
Peter & Paul Community Services
The Mary Culver Home for the
Visually Impaired
The St. Louis NORC (of the Jewish
Federation; Naturally Occurring
Retirement Community)*

Youth Skill Development

Central Institute for the Deaf
EnTeam-Learning to Win Together
Loosen the Leash:
Train a dog, Save a kid*
North Grand Neighborhood Services,
Angel Baked Cookies*
Paraquid Independent Living Center
Small Rain
The National Children’s Cancer Society,
Beyond the Cure*

Employee, Volunteer and Alumni Programs

Center for Women in Transition
Girl Scouts of Eastern Missouri
HealthStreet
Mental Health Association of
Eastern Missouri
The Mission Continues*
The Rehabilitation Institute of St. Louis
Voices for Children
Youth Exploring Science, a program
of the St. Louis Science Center*

Building Health Resources

American Parkinson Disease
Association
Barnes-Jewish Behavioral Health
Casa de Salud (“House of Health”)*
Enabling Mobility Center
Gateway Area Chapter of National
Multiple Sclerosis Society
Shearwater High School*

* agency partners in 2012



Innovative vision

John E. Heuser, MD, devised a way to freeze cells in about one-ten-thousandth of a second by driving them onto a block of copper cooled to minus 450 degrees Fahrenheit. These "quick-frozen" cells can then be split open, "deep etched" to remove some of the ice, and coated with an ultrathin film of metallic platinum so they can be seen with an electron microscope. In this image of the junction or synapse between an elongated nerve (pale green) lying on the surface of a muscle fiber (darker green), the nerve is punctuated every ten-thousandth of an inch or so by bands of membrane activity (orange), the areas where communication occurs between nerve and muscle.

FROZEN IN TIME

Capturing intricate, insightful views
of ultrafast biological processes

HE NEVER INTENDED TO MAKE ART.

Four decades ago, John E. Heuser, MD, professor of cell biology and physiology, wanted to find a way to peer through the murk inside the body and its cells and take clear pictures of key processes in action.

Heuser's answer to the problem, a unique technique called quick-freeze deep-etch electron microscopy, has helped him answer many important scientific questions ever since. He also has worked to make it possible for other scientists around the world to put the process to use in their own laboratories.

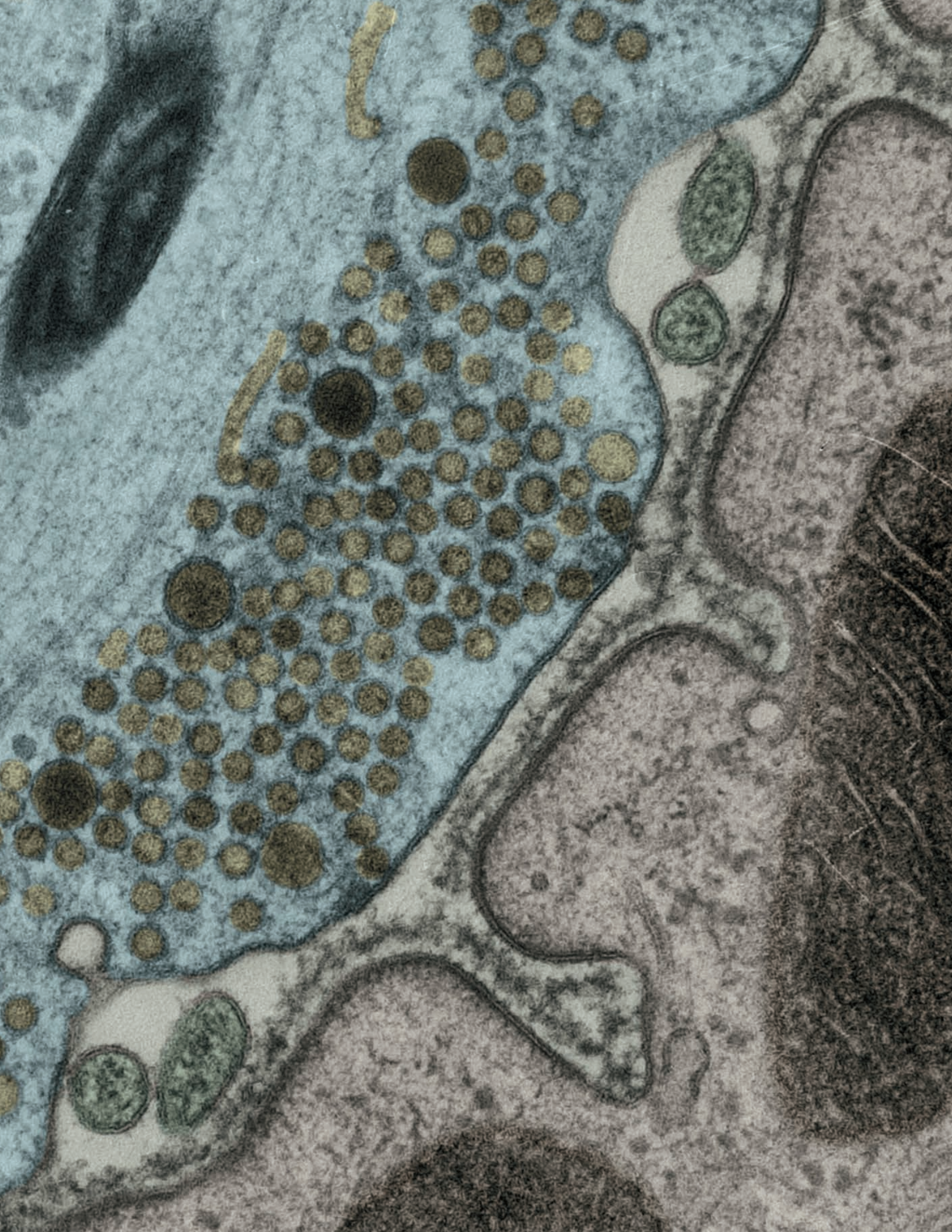
Heuser has won wide appreciation for the artistic beauty often found in the images he produces. His micrographs are typically filled with otherworldly textures and patterns, magnificent micro-architectural structures, and the drama of fleeting but critical moments captured and frozen for eternity.

In recent years, Heuser's scientific colleagues have recognized his broad contributions to cell and molecular biology by electing him to fellowship in the American Academy of Arts and Sciences, the American Academy of Microbiology, and the National Academy of Sciences. The artistic merits of his research were recognized recently in an on-campus exhibition of his electron micrographs organized by colleagues Paul C. Bridgman, PhD, professor of anatomy and neurobiology, and Krikor T. Dikranian, MD, PhD, associate professor of anatomy and of physical therapy.

The images are now permanently displayed on the third floor of the Farrell Learning and Teaching Center, near the histology labs where medical students will have some of their first encounters with the cells and tissue structures seen in Heuser's micrographs.

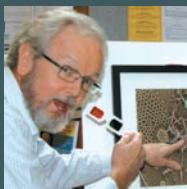


John E. Heuser, MD, explains the process of quick-freeze deep-etch electron microscopy.

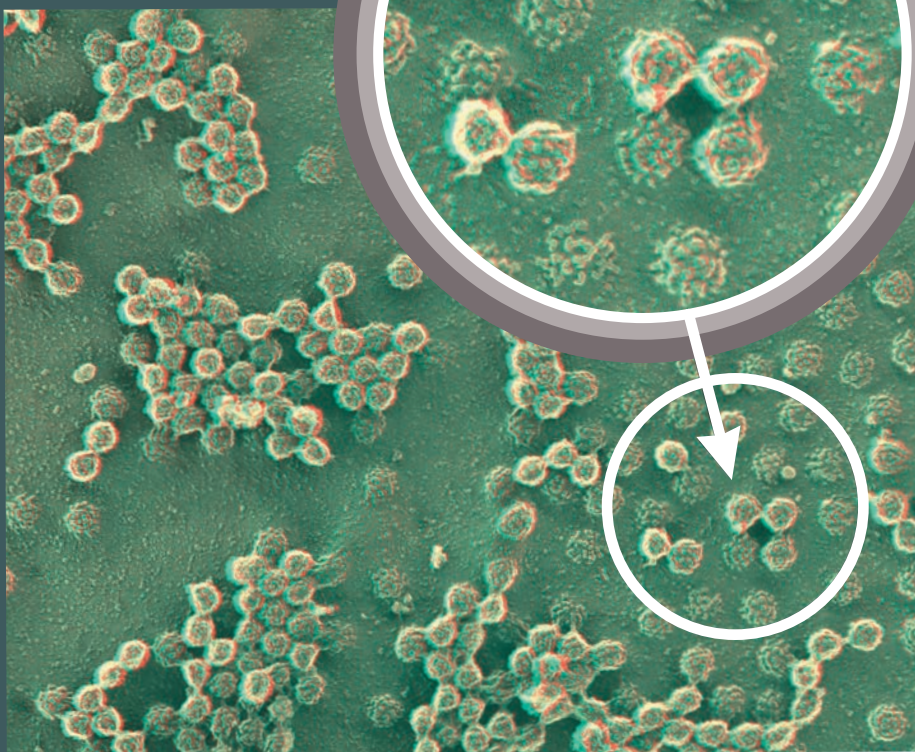


Fighting disease ▶

Heuser has helped School of Medicine colleagues who are researching dangerous infectious diseases, including the infamous H1N1 influenza that threatened the world just two years ago. In this image, he showed the huge number of flu viruses that a sick cell can release (the enlargement shows how they bud out of a cell) and revealed that these viruses also stick to cells unusually tightly. This ultimately helped clinicians understand why this particular flu was so severe and so dangerous.

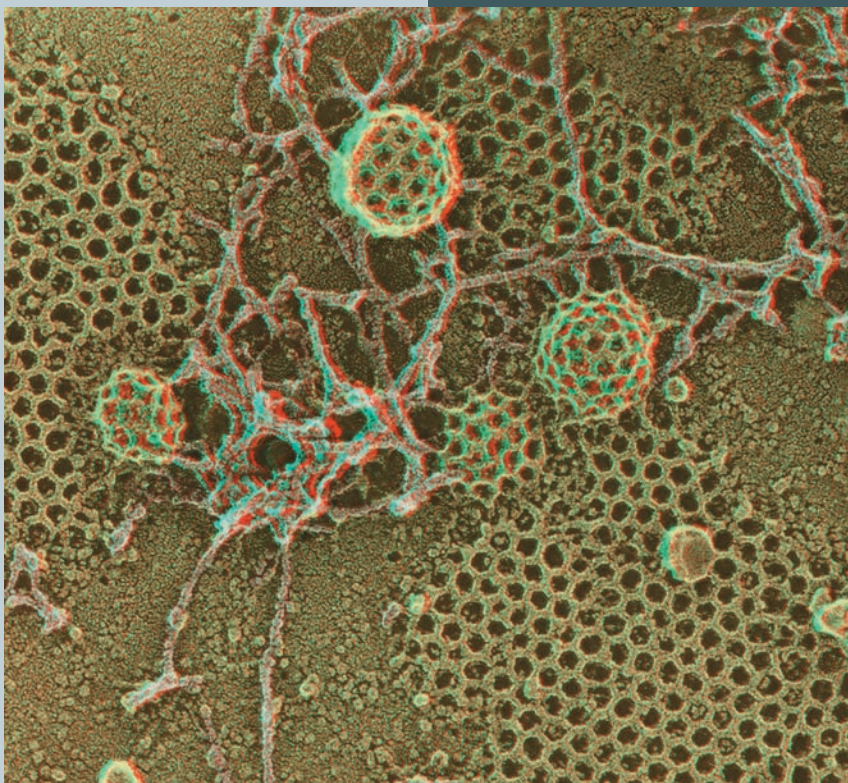


3D
images



◀ Arrested action

In further studies of the process of communication across the synapse, Heuser examined the interiors of nerves (blue) that he “quick-froze” at precisely the moment they were active. He found they were filled with hoards of tiny membranous spheres (yellow) — what are now called presynaptic vesicles.



◀ Magical construction

Heuser also demonstrated that during synaptic communication, vesicles are not just discharged by the nerve but are also “recycled” by special molecular-uptake machinery that takes on a form very much like Buckminster Fuller’s classic geodesic architecture. In this image of the internal surface of a cell, Heuser showed that the geodesic domes can flex and bend. While they start out flat, they gradually curve inward until they completely pinch off the surface, and thereby “pull” the vesicles back inside the nerve.

**FROZEN
IN TIME**

See more at outlook.wustl.edu

Cancer

AND THE

PUBLIC

HEALTH

BY JULIA EVANGELOU STRAIT





Graham A. Colditz, MD, PhD, reviews epidemiological research with Victoria V. Anwuri, MPH, project manager at the Alvin J. Siteman Cancer Center.

Nearly 60 percent of all cancers are preventable.

A staggering statistic — especially when some prevention strategies, such as exercise and eating right, seem within our control. But cancer’s bigger picture is far more complex, say researchers at the School of Medicine. They assert that society-wide commitment is needed to reduce this insidious disease.

Change is the focus of Graham A. Colditz, MD, PhD, chief of the Division of Public Health Sciences at the School of Medicine and an evangelist for cancer prevention.

Whether advancing tobacco regulation or promoting transdisciplinary laboratory research to accelerate our understanding of disease, Colditz and his public health colleagues are urging all members of society to reexamine the status quo — from urban planning to medical research funding — and make changes that could reduce the burden of cancer in the future.

Such transformation will require nothing short of changing hearts and minds: countering skepticism — even in the medical community — that cancer is preventable; planning decades-long research programs; encouraging early interventions and research into preventing disease, rather than just treating chronic conditions; and designing communities and public policy to support active lifestyles, provide easy access to healthy foods, and discourage unhealthy behaviors.

“We actually know an enormous amount about the cause and preventability of cancer,” says Colditz, the Niess-Gain Professor of Surgery and associate director of Prevention and Control at the Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine. “It’s time we made an investment in implementing what we know.”

— CONTINUED ON PAGE 20 —

RESOURCES

The Institute for Public Health is a university-wide initiative designed to transform our approach to public health and partnership with the community.
publichealth.wustl.edu

The Division of Public Health Sciences contributes to the goals of preventing disease, promoting health and improving access to quality care.
publichealthsciences.wustl.edu

Read about eight lifestyle recommendations that can lower risk for cancer as well as heart disease, stroke, osteoporosis and diabetes.
siteman.wustl.edu/8ways

Current obstacles to cancer prevention

RESEARCH

SOCIETY

Families and communities largely shape one's lifestyle from adolescence into early adulthood, when cancer risks accumulate. Despite this fact, our society views cancer as a distant threat, an older person's disease.

MEDICINE

Lifestyle/risk accumulates during early years...

Cancer begins, undetected, in midlife



Reimagining HEALTH

A comprehensive, lifespan vision

More than half a million people die in the United States every year due to cancers we already know how to prevent. Applying that knowledge could prevent more than half of all cancer. Addressing this problem requires refocusing and coordinating efforts at multiple levels: the conduct of research, the delivery of medical care and the foundation of health policy. An individualistic culture must find ways to nurture healthy communities as the basis of living better lives.



SOCIETY

Embrace social and behavioral changes for individuals and communities. Live healthier while young. Engage schools, health centers and community groups in targeting tobacco use, obesity and physical inactivity.



RESEARCH

Establish transdisciplinary research programs ranging from society to the cell. Transcend fragmentary efforts; span institutional boundaries. Forge sustainable community partnerships. Create knowledge, apply it.



MEDICINE

Overcome skepticism about prevention. Focus beyond high-risk subsets toward whole-population health. Advocate behavioral changes, early interventions and disease prevention as a means to lifespan health.



POLICIES

Public health science demonstrates ways in which the benefits of science-based public health initiatives can far outweigh the costs; for example, regulatory measures have proven effective for curbing smoking.

RECOMMENDATIONS FOR CHANGE

Studies of the causes, biology and treatment of cancer are generally too brief, fragmentary and isolated. But full exploration of the disease's decades-long origins requires years of data. Human impatience impedes more comprehensive research.

Cancer medicine is mostly a crisis response: Screenings and histories are typically done near age 50, emphasizing high-risk individuals. Late interventions, costly technologies and reactive therapies too often fail to stem cancer's fatal progression.

DIAGNOSIS & TREATMENT

Medical care may be powerless to stop the disease



We already know how to prevent most cancer.

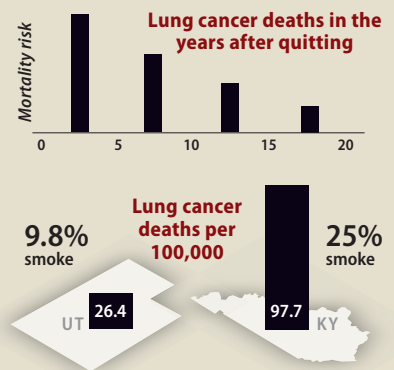
CROSS-SPECTRUM SYNTHESIS

Devise a coordinated social strategy built on a scientific knowledge base

- ◆ Maintain dialogues among social groups to better understand the needs of select communities
- ◆ Help communities establish their own priorities for research and medical care
- ◆ Work toward eliminating the disparities in access to information and to quality health care
- ◆ Overcome resistance to organizational change
- ◆ Establish standards for review and accountability
- ◆ Commit to a public health infrastructure that supports implementation science, transdisciplinary research and delivery
- ◆ Make these efforts as comprehensive, multifaceted and dynamic as disease itself

Prevention in action

Tobacco use poses the single largest cancer prevention problem — and potential solution. Quit, and year by year the specter of cancer subsides. Better yet, never start. Comparing Utah's percentage of smokers to Kentucky's helps explain the Bluegrass State's higher lung cancer mortality rate.



Commitment to change

Through our relationships, advocacy and support of social programs, we can make a profound difference. Simply practicing the eight basic ways to live healthier promises more than preventing cancer within. It offers a much broader hope for revitalizing our society.

- ◆ Maintain a healthy weight
- ◆ Exercise at least 30 minutes a day
- ◆ Quit or never start smoking
- ◆ Eat a healthy diet
- ◆ Consume alcohol moderately if at all
- ◆ Protect yourself from sexually transmitted diseases
- ◆ Protect yourself from the sun
- ◆ Get appropriate cancer screenings



By participating in events such as the Prostate Cancer Community Partnership, epidemiologist Graham A. Colditz, MD, PhD, left, aims to improve understanding of cancer prevention at the community level. Colditz believes that scientists should partner with communities, respond to their needs and not set agendas from afar.

Knowledge is power: Health communication researcher Kimberly A. Kaphingst, ScD, explains why it is essential for individuals to know their family's health history and talk about that information with their doctor. If cancer is a part of that history, early screenings may save lives.

Process spans decades

New genetic research suggests that the seeds of some cancers are sown early — perhaps two decades or more before a doctor might make a diagnosis.

“We used to focus on diet, activity and weight in the year or two before the patient was diagnosed,” Colditz says. “But now we know the process spans decades. More recently, we’ve started to examine what I would call the more appropriate time frame for looking at lifestyle and habits — adolescence and early adult years — 20 or more years before diagnosis.”

Such research supports the idea that even small changes in lifestyle may have a large impact over a lifetime in preventing cancer. That’s the idea behind Siteman Cancer Center’s “8 Ways” campaign, eight simple guidelines to lower cancer risk.

One example of research into the impact of early life on cancer risk is Colditz’ work on benign breast disease in adolescence. In a recent study reported in *Cancer*, Colditz and colleagues showed that adolescent girls with a family history of breast disease — either cancer or the benign lesions that can become cancer — have a higher risk of developing benign breast disease as young women than other girls. And unlike girls without a family history, this already elevated risk rises with increased alcohol consumption.

“This points to a strategy to lower risk — or to avoid increasing risk,” he says, “by limiting alcohol intake, especially in adolescence and early adulthood.”



All in the family

This type of information demonstrates the value of knowing a patient’s family history early.

“Many primary care providers assess family history at age 50, which is a bit late,” says Colditz. “If you’ve got a family history of cancer, you need to start screening earlier.”

Since knowing family history is so important for appropriate screening, health communication researcher Kimberly A. Kaphingst, ScD, assistant professor of surgery, hopes to simplify the process and make it more useful for patients.

Like a symbol-filled family tree, the traditional tool used for assessing a family’s history of disease is known as a “pedigree.”

“If you’re used to reading the code, you can glance at a pedigree diagram and gather an immense amount of information,”

Kaphingst says. “But for people who don’t see them every day, it can make things unnecessarily complicated.”

In one study, Kaphingst is asking whether a story-based approach is more effective for gathering information about a patient’s family history.

“We tried to design an alternative to the pedigree tool, one that is more focused on family stories,” she says, “to provide concrete examples of how you might actually have a conversation with your family about health history and record that information.”





Community members like Dewey Helms, left, Isadore M. Wayne, standing, and Leon E. Ashford work with epidemiologist Bettina Drake, PhD, MPH, to analyze focus group data. Doing so reveals the barriers to research participation among minority groups and suggests new ways to encourage their interest.



Any exercise — even as little as 30 minutes of walking per day — can yield big health benefits. Kathleen Wolin, ScD, right, discusses the health benefits of physical activity with prevention study participant Virginia K. Jordan at the BJC WellAware Center on the Washington University Medical Center campus.

Eliminating disparities

Even without a detailed family history, some broader groups are known to be at higher risk of developing cancer than the general population. Siteman Cancer Center's Program for the Elimination of Cancer Disparities (PECaD) is aimed at narrowing this gap.

"Although the racial disparity is declining in cancer death rates, it is still 32 percent higher in African-American men and 16 percent higher in African-American women than in other racial and ethnic groups," says epidemiologist Bettina Drake, PhD, MPH, assistant professor of surgery.

In an effort to lower these rates, PECaD investigators are working with the local community, including churches, health clinics and public libraries, to get the word out about cancer screening and to encourage members of minority groups to participate in ongoing research.

"We're doing focus groups among African-American men to determine what barriers there might be in the decision to donate tissue for clinical studies," Drake says. Such repositories serve as tools that may help shed light on the reasons why African-American men develop prostate cancer at higher rates than other men.

"We're very interested in looking at diet, exercise and other behavioral factors in combination with a person's genetics," says Drake. "If someone has a genetic predisposition to prostate cancer, perhaps we can encourage him to do something that might stave off the disease or its recurrence."

Benefits beyond prevention

One such approach might be regular exercise. A sure benefit seen for prostate cancer patients is the improved quality of life after treatment for those who are more physically active.

"Our preliminary research suggests that men who are active, even if they are overweight or obese, have better urinary function after prostate surgery than men who are inactive," says epidemiologist Kathleen Wolin, ScD, assistant professor of surgery.

Wolin's work also has shown that exercise can reduce the risk of colon cancer in both men and women. There is evidence that it reduces breast cancer risk as well.

And it doesn't have to be intense exertion. Thirty minutes of walking per day shows a measurable benefit in reducing the risk for a number of chronic diseases.

"That's one of the great things about prevention," Wolin says. "One lifestyle choice can have a beneficial effect on multiple cancers as well as other chronic diseases. Not only does physical activity reduce the risk of colon and breast cancer, it also reduces risk for heart disease, stroke and diabetes."

Indeed, Colditz emphasizes that the "8 Ways" are more than cancer prevention strategies: They improve overall quality of life.

"A patient in one of our trials talked about what it was like to go from not exercising at all to being able to walk around a football field," Colditz says. "She described the program as 'lifesaving.'"



eatLESSliveLONGER

Reducing calories may lead to a longer, healthier life.

BY JIM DRYDEN

Studies routinely suggest that more exercise and lower calorie intake can reduce risk for chronic disease, but some people take that notion much further. *They believe that we could live a lot longer if we ate a lot less.*

For nearly 20 years, a growing number of individuals have been severely restricting their caloric intake with the goal of significantly lengthening their lives. In fact, the Calorie Restriction (CR) Society website mentions age 120 as a target.

Members of the society refer to themselves as CRONies (Calorie Restriction with Optimal Nutrition). They aren't, they say, promoting anorexia. Rather, they work diligently to get all of the vitamins and nutrients they need without consuming calories they don't. Whereas a healthy man might normally eat about 2,500 calories per day, practitioners of CR shoot for 1,800. Instead of 2,000 calories, women consume 1,500 to 1,700 calories per day. Many basic health practices — such as eating a healthy diet and getting regular exercise — can reduce the risk of premature death. But that's not the same thing as living to be 120 years old.

Attorney and fitness aficionado Joseph Cordell has practiced calorie restriction since 2002. Here, for example, he eats a typical lunch topped by an apple peel — just the peel.

ROBERT BOSTON



FOODforTHOUGHT

John O. Holloszy, MD, left, and Luigi Fontana, MD, PhD, are leading research efforts aimed at determining whether calorie restriction can slow the progress of aging and lengthen life in humans.

It's important to note, however, that most of the scientific studies on calorie restriction have been done in animals; it's not yet known whether CR extends life in people. Researchers at the School of Medicine are looking for answers.

"Some of our original findings were almost accidental," says John O. Holloszy, MD, professor of medicine. "We were studying rats to look at the effects of diet and exercise and, as expected, we found that sedentary rats that ate a standard diet had the shortest average life spans. Meanwhile, the rats that exercised by running on a wheel lived longer, but the animals on calorie restriction lived even longer still."

And it wasn't just a little longer. Some animal studies have shown life span increases of 50 percent or more.

"But a key difference between those animal studies and what we're likely to find in humans is that the animals spend their entire lives on a calorie-restricted diet," says Holloszy. "Most of the people who take up calorie restriction eat a standard diet for the first several decades of their lives and don't begin restricting calories until much later. We don't know yet whether they start too late to provide the dramatic effects on longevity that we've seen in animals."

To find out, Holloszy and colleague Luigi Fontana, MD, PhD, have been looking at markers of aging in people on CR. They've studied CRONies and have looked at changes in people who were randomized to consume a calorie-restricted diet for just a few months. They've compared the effects of endurance exercise to the effects of CR, looking at markers of inflammation, "primary aging" (maximal life span) and "secondary aging" (age-related diseases that prevent a person or animal from reaching maximal life span).

What they've found is that a healthy diet and regular exercise are very effective at limiting risks associated with secondary aging, similar to results from the animal studies.

"About 30 percent of the animals on calorie restriction died at an advanced age without any of the diseases normally related to aging," says Fontana, associate professor of medicine at Washington University and an investigator at the Istituto Superiore di Sanità in Rome. "In contrast, among

animals on a standard diet, the great majority (94 percent) develop and die of one or more chronic diseases."

Animals on calorie restriction still die eventually, but they don't get sick first. And calorie restriction goes farther by also affecting markers associated with primary aging. The same thing appears to be true in people. For example, ultrasound examinations have shown that the hearts of people on calorie restriction are more elastic and efficient than those of age- and gender-matched control subjects. They also have lower markers of inflammation. The changes seem to be related to the CR diet, rather than to body weight.

"Many of the changes we've observed are due to lower energy intake, rather than to leanness," Fontana says. "We've found that although exercise helps prevent many problems that can cut life short — such as obesity, diabetes and cardiovascular disease — only CR appears also to influence primary aging."

Exactly how CR has its impact is the focus of ongoing studies. Fontana, Holloszy and colleague Marco Colonna, MD, professor of pathology and immunology and of medicine, are investigating metabolic, heart and immune function, as well as other changes related to CR.

All three have conducted research funded by the Longer Life Foundation, a group that supports pilot studies related to longevity.

"The School of Medicine and the Reinsurance Group of America co-sponsor the Longer Life Foundation (longerlife.org), an innovative model of a productive way that academics and industry can collaborate to help science and medicine move forward," says Samuel Klein, MD, the Danforth Professor of Medicine and Nutritional Science and director of the university's Longer Life Center.

Despite their findings, the researchers aren't ready to recommend that the rest of us drastically cut our calories.

"I don't really hope to extend life spans to 120 years," says Fontana. "The average lifespan in Western countries is about 80 years, but there are too many people who are only healthy until about age 50. We want to translate our discoveries about calorie restriction and related genetic and physiologic changes to close the gap between 'health span' and life span." □

Studies show that calorie restriction limits disease and lengthens life in animals. Will it have the same effect in humans?

Onward and upward — the journey continues

MATCH DAY WAS HELD MARCH 16, 2012, and 120 graduating medical students took part in the National Resident Matching Program. During the annual ceremony, senior medical students in the United States learn which residency programs they will enter. School of Medicine graduates are highly

successful in obtaining competitive training programs. In 2012, 33 percent of the graduating class selected a primary care field and 27 percent matched into highly competitive specialties, including dermatology, plastic surgery, ophthalmology, neurosurgery, general surgery, urology, orthopaedic surgery and otolaryngology.

Matched! Fourth-year medical students, from left, Kristen E. Ziara, Scott D. Harring, Ameet I. Thaker, Michelle T. Feltes and Esther M. Papp proudly display the letters carrying the good news of their residency matches.

CALIFORNIA

Fresno

University of California-San Francisco-Fresno

EMERGENCY MEDICINE
Daniel Kai-Ming Kwan

Los Angeles

UCLA Medical Center

ANESTHESIOLOGY
Guguamobi Onyinye
Ozoigbo
Sungkook Andrew Park

PEDIATRICS-CHILD NEUROLOGY
Jennifer Nicole Dines

UCLA Semel Institute for Neuroscience

PSYCHIATRY
Nathaniel Daum Ginder

San Diego

University of California-San Diego Medical Center

INTERNAL MEDICINE
Sunil Kumar Das

San Francisco

University of California-San Francisco

ANESTHESIOLOGY-RESEARCH
Benedict Joseph Alter

NEUROLOGICAL SURGERY
Jonathan Dean Breshears

Santa Monica

UCLA Medical Center-Santa Monica

FAMILY MEDICINE
Katie Yi Hu

COLORADO

Denver

University of Colorado

FAMILY MEDICINE
Mukti Vinayak Kulkarni

PEDIATRICS
Anna Leah Hartrich
Ramsey

CONNECTICUT

Farmington

University of Connecticut Health Center

GENERAL SURGERY
Ioanna Georgopoulos
Mazotas

New Haven

Yale-New Haven Medical Center

OPHTHALMOLOGY
Yingxin Zhang

DISTRICT OF COLUMBIA

Washington

George Washington University

EMERGENCY MEDICINE
Michelle Toni Feltes
Esther Marie Papp

PATHOLOGY
Tanya Denise Auzenne

ILLINOIS

Chicago

Northwestern University-McGaw Medical Center

INTERNAL MEDICINE
Matthew Scott Painschab
OPHTHALMOLOGY
Leslie Chana Neems

PEDIATRICS

Nicole L. Nejedly

University of Chicago Medical Center

EMERGENCY MEDICINE
Jason Eric Turner

RADIATION ONCOLOGY
Andrew Yoowon Lee

University of Illinois

DIAGNOSTIC RADIOLOGY
Arman Sheybani

INTERNAL MEDICINE
Jenna Lauren Miller

Peoria

University of Illinois-St. Francis Medical Center

EMERGENCY MEDICINE
Jason Tao Kan

MARYLAND

Aberdeen

Department of Defense

DEFERRING RESIDENCY-U.S. ARMY RESEARCH
Justin Brooks

Baltimore

Johns Hopkins Bloomberg School of Public Health

DEFERRING RESIDENCY-MPH
Lauren Ann Anderson

Johns Hopkins Hospital

GENERAL SURGERY
Rebecca June
Craig-Schapiro

MASSACHUSETTS

Boston

Beth Israel Deaconess Medical Center

GENERAL SURGERY
Christopher David Barrett

Boston University Medical Center

ORTHOPAEDIC SURGERY
Cassandra Nicole Riggs

Brigham and Women's Hospital

EMERGENCY MEDICINE
Michael Edward Billington

INTERNAL MEDICINE
Anna Helena Jonsson

PATHOLOGY-CLINICAL
Roger V Belizaire

UROLOGY
Adam Benjamin Althaus

Children's Hospital

CHILD NEUROLOGY
Bhooma Rajagopalan
Aravamuthan

Harvard Medical School-Spaulding Rehabilitation Hospital

PHYSICAL MEDICINE AND REHABILITATION
Shirley Lynn Shih

Massachusetts General Hospital

DIAGNOSTIC RADIOLOGY
Mark David Mangano

GENERAL SURGERY
Dana Michelle Schwartz

INTERNAL MEDICINE
Nneka Nnaoke Ufere

ORTHOPAEDIC SURGERY
Forrest Hayes Schwartz

PEDIATRICS-CHILD NEUROLOGY
Albert L. Misko

MICHIGAN

Ann Arbor

University of Michigan Hospitals

INTERNAL MEDICINE
Jennifer Jill Macdonald

PLASTIC SURGERY
Katherine Bernadette
Santosa

MINNESOTA

Rochester

Mayo Clinic

RADIATION ONCOLOGY
Ryan Kevin Funk

MISSOURI

St. Louis

Barnes-Jewish Hospital

ANESTHESIOLOGY
Wayland Cheng
Michael Christopher

Montana
Aaron John Norris

DERMATOLOGY
David Yuan-Sou Chen
Shaanan Satish Shetty

DIAGNOSTIC RADIOLOGY
Stephen Arthur Currie

Monica Rae Drylewicz
James Matthew Essenberg
Lauren Jeanne Saling

EMERGENCY MEDICINE
Maia Dorsett

Sara Lynn Manning
Clark Samuel Smith

GENERAL SURGERY
Jennifer Yu

INTERNAL MEDICINE

Pavan Bhat
Seth Michael Bloom
Stephanie Moore Canham
Salil Hemant Desai
Charles Ginsberg
Ian Clark Glenn
Eric Preston Nolley
Ami Yogesh Patel

NEUROLOGICAL SURGERY
Syed Hassan Abbas Akbari

ORTHOPAEDIC SURGERY
Sara Marie Putnam

OTOLARYNGOLOGY
Emily Anne Spataro
Joseph Zenga



ROBERT BOSTON

PATHOLOGY

John Spellman Chrisinger

PSYCHIATRY

Colleen Elspeth Donovan

UROLOGY

Eric Hwan Kim

Mercy Hospital

INTERNAL MEDICINE

David Eugene Mosley

St. Louis Children's Hospital

PEDIATRICS

Bhooma Rajagopalan

Aravamuthan

DePorres Cormier II

Megan Stadum Gauthier

Tara Christine Jackson

Christina Grace Kwong

Christopher Edward Lust

Diwakar Turaga

PEDIATRICS-CHILD NEUROLOGY

Jennifer Lynn Griffith

Saint Louis University

School of Medicine

INTERNAL MEDICINE

Jemila Maxine Joseph

Washington University

School of Medicine

OPHTHALMOLOGY

Michael Vincent Stock

Victoria Hyun Yom

NEW JERSEY

Newark

UMDNJ-New Jersey Medical School

ORTHOPAEDIC SURGERY

Jacob Theodore Didesch

PHYSICAL MEDICINE AND

REHABILITATION

Michelle Minsun Jung

NEW YORK

New York

Memorial Sloan-Kettering

RADIATION ONCOLOGY

Carl J. DeSelm

New York Presbyterian Hospital-

Columbia

OBSTETRICS AND GYNCOLOGY

Cassandra Rae Duffy

New York University

DIAGNOSTIC RADIOLOGY

Eric Ross Flagg

INTERNAL MEDICINE

David Michael Levine

St. Luke's-Roosevelt Hospital

ORTHOPAEDIC SURGERY

Daniel Robert Howard

Rochester

University of Rochester-

Strong Memorial Hospital

ORTHOPAEDIC SURGERY

Wenjing Zeng

NORTH CAROLINA

Chapel Hill

University of North Carolina

PEDIATRICS

Kristen Elizabeth Ziara

Durham

Duke University Medical Center

DIAGNOSTIC RADIOLOGY

Scott David Harring

OHIO

Cincinnati

University Hospital

EMERGENCY MEDICINE

David Wesley Strong

Cleveland

Case Western Reserve-

University Hospitals

GENERAL SURGERY

Kevin Chialing Choong

Cleveland Clinic Foundation

GENERAL SURGERY

Julietta Hona Chang

Columbus

Ohio State University

Medical Center

INTERNAL MEDICINE

Nicole Renee Grieselhuber

OREGON

Portland

Oregon Health & Science

University

ANESTHESIOLOGY

Shaun Robert Yockelson

PENNSYLVANIA

Philadelphia

Children's Hospital

PEDIATRICS

Sanyukta Desai

Brian Richard White

Hospital of the University

of Pennsylvania

ANESTHESIOLOGY

Gurmukh Singh Sahota

GENERAL SURGERY

Carol Weichi Chen

Elijah Wade Riddle

PSYCHIATRY

Jeff Guanbo Zhao

Pittsburgh

University of Pittsburgh

Medical Center

ORTHOPAEDIC SURGERY

Tiffany Ying Wu

PEDIATRICS-CHILD NEUROLOGY

Neil Kunal Munjal

TENNESSEE

Nashville

Vanderbilt University

Medical Center

GENERAL SURGERY

Beth Ann Helmink

RADIATION ONCOLOGY

Sumeeta Varma

TEXAS

Dallas

University of Texas-

Southwestern Medical School

DERMATOLOGY

Jennifer Gibson Gill

OBSTETRICS AND GYNCOLOGY

Jacquelyn Michelle Means

Houston

Baylor College of Medicine

PEDIATRICS

Natalie Marie Villafranco

University of Texas Medical School

ORTHOPAEDIC SURGERY

Ryan Eric Blalock

UTAH

Salt Lake City

University of Utah

ANESTHESIOLOGY

Elliott Adam Karren

OTOLARYNGOLOGY

Daniel Robert Cox

VIRGINIA

Charlottesville

University of Virginia

DIAGNOSTIC RADIOLOGY

Christian Alexander Salinas

WASHINGTON

Seattle

University of Washington

ANESTHESIOLOGY

Aaron Moens Bertoni

Elizabeth Erica Hansen

INTERNAL MEDICINE

Catherine Rose Butler

Colin Douglas Godwin

Serena Szu-Min Lam

NEUROLOGICAL SURGERY

Robert Thomas Buckley

PATHOLOGY

Ameet Indravadan Thaker

Vancouver

Southwest Washington

Medical Center

FAMILY MEDICINE

Chelsea Morris

CANADA

Montreal, Quebec

McGill University

INTERNAL MEDICINE

Jessica Thom

OTHER

Deferring Residency

Iunia Alexandra Dadariat

Hans Joseph Friedrichsen

Postdoctoral Fellowship

Adam Gene Rouse

Postdoctoral Science

Dongyang Zhang

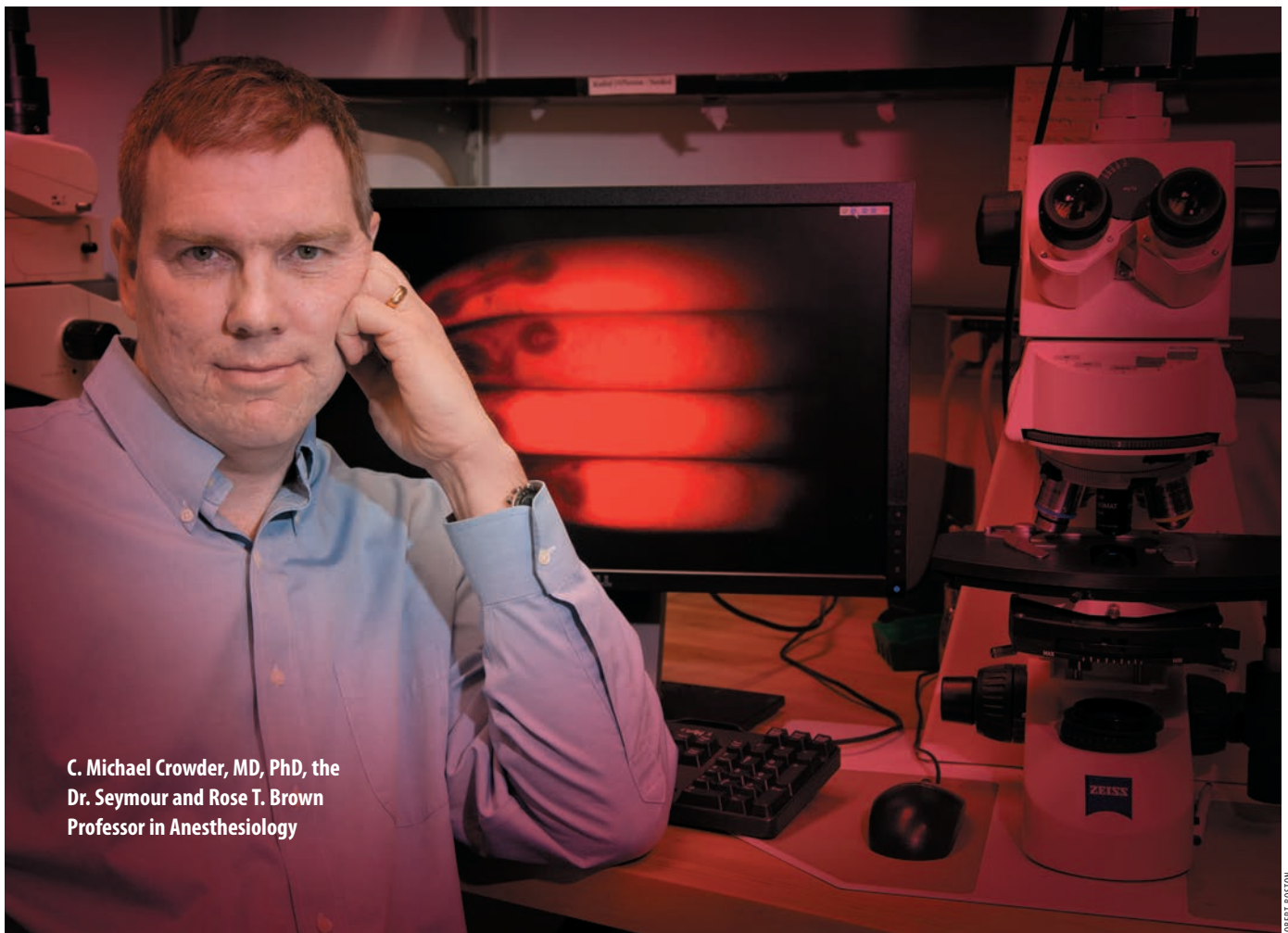
Philanthropic heroes

Couple's generosity moves research forward in multiple specialties

CMichael Crowder, MD, PhD, hopes that his research — investigating the damage low oxygen can cause in cells during heart attacks and strokes — will one day lead to better treatments for these devastating conditions.

Crowder is the Dr. Seymour and Rose T. Brown Professor in Anesthesiology at Washington University School of Medicine. When Don Brown, son of Seymour and Rose Brown, talks about Crowder's research, the enthusiasm in his voice is evident.

"Michael Crowder is a fabulous doctor, and it's very rewarding to see what this gift is accomplishing," he says. "My parents would be extremely pleased and gratified with the potential benefits to public health and the public good."



C. Michael Crowder, MD, PhD, the
Dr. Seymour and Rose T. Brown
Professor in Anesthesiology

ROBERT BOSTON



Dr. Seymour and Rose T. Brown have a long history of philanthropy at Washington University School of Medicine.

The generosity of the Brown family has enabled Crowder to conduct research that would not have been possible with current funding.

“In today’s environment, high risk/high reward research is difficult to start and even more difficult to maintain,” says Crowder. “The support of the Brown family has allowed me and my lab to take risks that we hope will result in completely novel research tools and discoveries that could lead to therapies for stroke and other hypoxic injury diseases.”

The Brown family has a long history of philanthropy at the School of Medicine. The Dr. Seymour and Rose T. Brown Professorship in Anesthesiology was established in memory of Seymour Brown, who died in 2006, and in honor of Alex S. Evers, MD, the Henry E. Mallinckrodt Professor and head of the Department of Anesthesiology. The family has established a second endowed professorship in the department, and the recipient will be named in two years.

“Seymour and Rose Brown have been generous supporters of anesthesiology research and the school’s Department of Anesthesiology,” Evers says. “Their donation of two endowed professorships has allowed us to honor and support our most talented anesthesiology physician-scientists and ensure that these talented individuals remain at Washington University.”

Rose Tropp, UC 36, and Seymour Brown, LA 40, MD 40, met at a party in the mid-1930s when she was an undergraduate at Washington University and he was a medical student. Although Rose was dating another medical student at the time, Seymour caught her attention. They both respected hard work and had grown up in St. Louis in families of limited means. Seymour’s mother ran a grocery store, and Rose’s father owned a haberdashery. Seymour put himself through medical school working as a janitor.

The couple married in 1941; both were 30 years old. Soon after, Seymour was called up to join the U.S. Navy as a

physician on a destroyer. He lived through many battles in the Pacific Ocean Theater during World War II — Battle of Midway, Battle of the Coral Sea, Battle of Guadalcanal and Doolittle’s Raid, for which he received several Naval decorations and commendations — and then worked at Naval Center hospitals in Boston and San Francisco.

In 1946, the couple returned to St. Louis to be near their families. Seymour became one of the first anesthesiologists in the Midwest and a pioneer of that specialty.

In more than 40 years as the chief of anesthesiology at St. John’s Mercy Hospital, Seymour Brown pioneered the establishment of regular pre- and post-anesthesia patient rounds for evaluation, post-anesthetic recovery areas, general intensive-care areas and one-day therapeutic and diagnostic procedure units. Brown also served on the clinical teaching faculty of Saint Louis University School of Medicine for more than three decades.

He was president of the Missouri State Society of Anesthesiology, as well as the president and an original founding member of the St. Louis Society of Anesthesiology, and the author of dozens of medical journal articles concerning his specialty. An annual lectureship in anesthesiology was established in his honor at Mercy Hospital in 1984.

Rose Brown, now 97, graduated from Washington University with a bachelor’s degree in education and biology, and later edited medical books and journals at the C.V. Mosby Co. Additionally, she taught deaf children for many years. She has been, and remains, a constant source of strength and inspiration to her family.

Seymour and Rose Brown funded the Seymour Brown, MD, and Rose Tropp Brown Endowment for Research in the Division of Gastroenterology, in memory of their son Alvin R. Brown, MD, who completed his residency in gastroenterology at the School of Medicine and passed away in 2000. Over the years, the Brown family has made other endowments and contributed to medical student scholarships.

“The Brown family gift helps to facilitate key advances by supporting technology and resources for training future generations of academic gastroenterologists,” says Nicholas O. Davidson, MD, head of the Division of Gastroenterology.

Don Brown appreciates that these gifts honor his parents, but most importantly, he hopes they will advance the frontiers of medicine, research and education at Washington University. “These endeavors are important to my family, and we will continue to support them,” says Brown. □



William A. Peck, MD, meets with second-year medical student Elisabeth T. Askin. Peck mentored Askin and third-year medical student Nathan H. Moore on a book they co-wrote for health professions students that explains U.S. health care system basics.

**Former dean's
hands-on approach to
supporting students
reaps great rewards**

From the top

Kevin R. Patel, MD 11, is a gifted young doctor planning a research career — a dream he is able to follow because, when he arrived at Washington University School of Medicine in 2007, he joined the distinguished ranks of Peck Scholars, recipients of scholarships given to medical students based on need and merit.

Now a neurology resident at Barnes-Jewish Hospital, Patel is reaping the benefits of his experience as a Peck Scholar: the knowledge that he received his education at one of the finest medical schools in the nation and the freedom from the full burden of medical school debt that allows him to pursue his passion for research.

Originally established in 2003 to honor William A. Peck, MD, when he stepped down after 14 years as executive vice chancellor for medical affairs and dean of Washington University School of Medicine, the Peck Scholars program has a simple goal: “We want,” Peck says, “to reward excellence.” Thirty-nine exceptional students have received these prestigious grants since 2004.

Peck, the Alan A. and Edith L. Wolff Distinguished Professor of Medicine and director of the university’s Center for Health Policy, says he needed “about one nanosecond” when asked what the school might do to honor him.

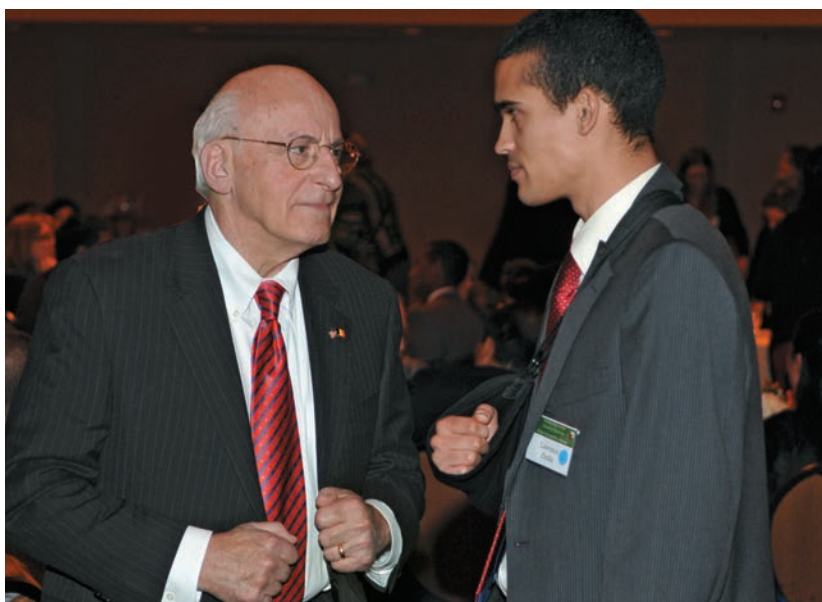
“I thought it was very important to enhance our scholarship program,” he says. The support of his friends and colleagues was “overwhelmingly” generous, he adds, “because the cause is so worthy.” Commitments to the fund today total nearly \$4.5 million. Peck and his wife, Patricia, are themselves major supporters.

Overall, the school’s robust aid program has helped it rise to the top in student selectivity rankings. “It enables us to continue to attract the top students,” says Peck. “These students are outstanding. I’m overwhelmed by their intelligence.

“They’re obviously excellent students, but it goes far beyond that,” Peck notes. “They have a wide range of extracurricular interests. They have open minds. They’re altruistic, providing services for the underserved. They’re filled with initiative; they’re entrepreneurial. It’s amazing to get to know them.”



MARK BEAVER



MARK BEAVER

Medical school debt looms large in the minds of students and graduates, Peck observes. It not only discourages would-be researchers, but also steers students away from lower-paying medical specialties.

Peck makes a point of getting to know the scholars, which further enriches their Washington University experience. “He offers his time to educate medical students on health policy-related issues,” Patel notes. “I’ve met him on a number of occasions. He’s played a significant role in my medical education.”

For second-year medical student Elisabeth T. Askin, the relationship has been inspiring. Peck has been a mentor on a writing project she co-authored with third-year medical student Nathan H. Moore — a book for health professions students that explains U.S. health care system basics. They met with Peck monthly as they researched and wrote the book, which will soon be published.

“He is a fantastic mentor,” Askin says. “He pushes me when he knows I can do better. He helps me be the kind of student I want to be. He’s unflagging in his support.”

Jennifer Yu, a Peck Scholar and aspiring surgeon graduating this spring, expresses similar gratitude. “There’s no way I would have been able to pursue such a high-caliber education without the support of the Peck Scholars program and Dr. Peck.”

Yu was the student selected to speak to assembled scholarship students and benefactors at the annual dinner last fall. In her remarks, she addressed “these heroes, these sponsors of our dreams” and said, “Thank you for giving us the chance to pursue the Washington University experience and to join the ranks of those who are even now changing the face of medicine.” □

Above: Peck talks with medical student and Peck Scholar Lawrence R. Zieske at the annual School of Medicine scholarship dinner. Below: Medical student and Peck scholar Jennifer Yu made remarks on behalf of the students at the event.

 **for more information, please visit**
scholarshipinitiative.wustl.edu

Alumni funding promotes student interests

In addition to their demanding course work this past year, medical students took on the challenges of leading a full-scale student musical, traveling to underdeveloped nations to learn about international medicine, and treating hundreds of patients at the Saturday Neighborhood Health Clinic, all made possible through financial assistance from the Washington University Medical Center Alumni Association.

Laura J. Bierut, MD, professor of psychiatry and president of the Alumni Association's Executive Council for 2011–12, led an exciting and passionate discussion at a recent meeting in an effort to determine funding for groups that rely heavily on the support of the alumni association.

The Executive Council approved nearly \$50,000 to assist a variety of student-initiated projects engaging the community, both local and global, through service, science outreach and artistic collaboration. Among the groups supported were the Young Scientist Program, the Forum for International Health and Tropical Medicine, the Arts Commission and the Geriatrics Outreach Group.

Bierut reported that additional funding was provided to support the Alpha Omega Alpha chapter and social activities for the first- and second-year classes.

In addition, the council allotted \$160,000 for four new Distinguished Alumni Scholarships. When combined with School of Medicine funds, each student receives a full-tuition scholarship for four years. Each scholarship is named in honor of alumni who currently serve or formerly served on the school's faculty. They will be paired with students in the incoming first-year class.

The Alumni Association has nearly finished a \$750,000, 10-year commitment to the Farrell Learning and Teaching Center. In recognition, three of the building's small group rooms are named for the Alumni Association.

Bierut also acknowledged that alumni gifts have supported Alumni Endowed Professorships for nine faculty members. "This program is not common among our peer institutions," she said. "It's an example of one creative way that alumni are helping the school to recruit and retain talented faculty."

Although the support of the alumni association is crucial to the work of these various student groups, the alumni association would not be successful without the philanthropic support of alumni. The Executive Council works diligently to ensure that philanthropic support from medical alumni benefits important student programs.



Student leaders of the Forum for International Health and Tropical Medicine, one of many groups supported by the Washington University Medical Center Alumni Association

Washington University Medical Center Alumni Association 2011–12

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Secretary/Treasurer	David J. Callahan, MD 86, HS 90
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Andy Josephson, MD 01	

Ex Officio Members

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Larry J. Shapiro, MD 71	Ian Glenn, Fourth-Year Class President

Are you interested in learning more about the Alumni Association or joining its Executive Council? Please contact the Office of Alumni Relations at medicalalumni@wustl.edu.

1940s

John E. Hult, MD 49

Hult has had two books published. *Daktari Yohanna* is about Hult's four years as a medical missionary in Tanzania, and *Growing up in the Ozarks* is the story of his childhood with nine siblings living through the depression.

1950s

Malcolm Lewis, MD 52

Lewis counsels homeless men at the Nashville Reserve Mission.

David Ulmer, MD 54

Ulmer, though traveling less, still keeps active and busy with swimming, a current events forum, bridge with friends, and visits with family. His eldest grandson graduated *summa cum laude* in neurology from Duke University.

Wolff M. Kirsch, MD 55

Kirsch is active in neurological research at Loma Linda University School of Medicine. He was the 2011 recipient of the Sun Lee Award from the International Society for Experimental Microsurgery.

Daniel Divack, MD 56

Divack enjoys reading and painting and still attends weekly staff conferences. Other interests include New York's museums, concerts, operas and ballets.

Hubert Huebl, MD 56

Huebl coordinates and teaches medical students and is an associate clinical professor of surgery at Wayne State University.

John Holt Jr., MD 58

Holt is a member of the Jefferson County Medical Society and the American Medical Association, and is a fellow of the American College of Physicians, the American College of Chest Physicians and the American College of Cardiology. Many in his family work in the medical field: His wife and three daughters are registered nurses, and one son is a physician. The University of Alabama School of Medicine recently recognized him with a 50-year service award.

1960s

Anne Fletcher, MD 64

Fletcher has been retired for 15 years and is enjoying family, traveling and her summer home on Cape Cod.

Col. Josh Grossman, MD 65

Grossman has kept busy writing book reviews for *Tennessee Medicine*, the official medical professional journal of the State of Tennessee, mentoring and tutoring international medical graduates for the USMLE III, and teaching paramedics.

Thomas Prendergast Jr., MD 66

Prendergast is a senior runner/jogger and long-time golfer. He made his first hole-in-one in October 2011, after 58 years of playing golf.

Michael Rumelt, MD 66

Rumelt wrote a chapter on angle closure glaucoma in the November 2011 issue of *Glaucoma – Basic and Clinical Concepts*. He enjoys taking courses at Washington University's Lifelong Learning Institute, creative writing and piano lessons, bike riding for exercise, and trying to stay ahead of the aging curve.

Robert E. Hurley, HS 67

Hurley presented a paper at the Ethics of Organ Transplantation symposium at the University of St. Thomas in Houston TX.

Steven R. Goldring, MD 69

Goldring, chief scientific officer, has been named the first Richard L. Menschel Research Chair at the Hospital for Special Surgery in New York NY. In addition to providing leadership for the hospital's research division, Goldring's research objective is to translate basic research into new therapies for people with mobility disorders, with a focus on expanding the hospital's clinical registries and advancing its osteoarthritis initiative.

1970s

Christopher Achterman, MD 72

Achterman is working at Legacy Emanuel Hospital in Portland OR, though he is planning to end full-time practice in December 2012.

Donald R. Graham, MD 74

Graham is speaker, House of Delegates, of the Illinois State Medical Society and chairman of the Division of Infectious Disease at the Springfield Clinic.

Steven Brody, MD 77

Brody is on the voluntary teaching faculty of the University of California, San Diego School of Medicine. The co-author of his book (*Principles and Practice of Assisted Human Reproduction*), Robert G. Edwards, PhD, won the Nobel Prize in Medicine in October 2010.

John Rusche, MD 77

Rusche continues to stay busy as the minority leader of the Idaho House of Representatives.

Harold Kent, MD 78

Kent is serving his second year as president of the Georgia Society of the American College of Surgeons. He is also a member of the Board of Trustees of the American Society of General Surgeons and a board member of the Georgia Chapter of Docs4PatientCare. When not working, he and his wife enjoy traveling and scuba diving.

C. James (Jim) Holliman, MD 79

Holliman's central career interest is in helping students with global health experiences and careers. He also teaches counterterrorism and military medicine.

1980s

David J. Baltzer, HA 81

Baltzer is a Life Fellow of the American College of Healthcare Executives (ACHE) and received its 2011 ACHE Service Award, which is given to ACHE affiliates for activities that contribute to professionalism in health care leadership. He volunteers at Barnes-Jewish Hospital and the Missouri Botanical Garden.

Jeffrey I. Gordon, MD, HS 81

Gordon received the Distinguished Faculty Award at Washington University's Founders Day in November 2011. He is the Dr. Robert J. Glaser Distinguished University Professor and director of the university's Center for Genome Sciences & Systems Biology.

Hans Peter Schwarz, PhD 82

Schwarz is retired as a professor of pediatrics at the University of Munich, Germany, and has moved back to his native Switzerland with his wife, **Liselotte (Fehr) Schwarz, UC 82.**

Joseph Awad, MD 85

Awad is professor of medicine and pharmacology at Vanderbilt University, specializing in hepatology and liver transplantation, and chief of the transplant center at the Nashville Veterans Administration. He also hosted the 40th Anniversary International Trombone Festival at Vanderbilt's Blair School of Music last June. When not working, his time is devoted to family and playing the trombone as much as possible.

Robert Darnell, MD 85

Darnell was elected to the Institute of Medicine of the National Academy of Sciences. He also completed the New Jersey State Sprint Triathlon, his first.

1990s

Victor Aviles, MD 91

Aviles started his own practice and built a new community cancer center, now five years old, to serve the upper Cape Cod community. His wife, **Ann De Weer Aviles, MD 91**, works part-time in pediatrics and helps her husband run his practice.

Paul Ruggieri, HS 93

Ruggieri is a general surgeon in private practice, and his book, *Confessions of a Surgeon: The Good, the Bad, and the Complicated ... Life Behind the O.R. Doors*, was published in January. It is a memoir detailing his personal experiences as a surgeon regarding training, saving lives, losing lives, imperfections in the OR, and getting sued.

Victoria Akins, MD 94

Akins is enjoying her job as a pediatrician at Kaiser Permanente, where her husband, **Paul Akins, HS 95**, took a job five years ago caring for patients admitted to the regional neurosurgical service. Seven years ago, Akins created a kid's cycling event to raise money for the Mustard Seed

School, which serves homeless children in Sacramento CA. Creation of the Mustard Seed Spin, now a nonprofit organization, has been a rewarding journey.

Joseph Marceny, MD 94

Marceny is a pediatrician in a small practice that he can bike to when not on rounds at hospitals. He describes himself as a "tree hugger," who frequently wears tie-dyed shirts to work and often works with midwives, doulas, acupuncturists and holistic practitioners. Outside of work, he enjoys playing his bluegrass guitar and recently formed a band called Crow Hill.

Amy Puchalski, MD 97

Puchalski and her husband, **Robert Puchalski, MD 97**, welcomed their fourth child last year. She is working part-time in pediatric emergency medicine at Georgia Health Sciences University.

Gordon Strauss, MD 97

Strauss earned his MBA from Columbia Business School in May 2011. He sees patients at his private practice on the Upper East Side of Manhattan and is the director of Cardiovascular Behavioral Risk Prevention at Lenox Hill Hospital. In addition, he has launched an online smoking cessation program at www.quitgroups.com and is passionate about helping people break the addiction to prevent needless suffering and health problems.

2000s

Jordan Goldstein, MD 03

Goldstein is practicing orthopedics in the Chicago suburbs and is expecting his first child with his wife, Stephanie.

Nicole Mercer Bolton, MD 06

Bolton completed her radiology residency and is joining Regional Diagnostic Radiology, a private practice radiology group in St. Cloud MN. She is a general diagnostic radiologist.

Rebecca Feldman, OT 10

Feldman is an occupational therapist at the Westchester House and Springbridge Rehabilitation in Chesterfield MO.

IN MEMORY

Nanette Schneider-Dice, HS

Schneider-Dice died on July 16, 2011. She was 91. She was a member of the American Psychiatric Society, the American Medical Association, the National Wildlife Federation and the World Wildlife Fund. She leaves behind three children and 10 grandchildren.

Morris Alex, MD 43

Alex passed away Nov. 5, 2011, at the age of 91. He served in the Medical Corps during World War II. His family paid tribute to his concern for patients by establishing the Morris Alex, MD Prize Endowment at Washington University School of Medicine. The prize is given to the sophomore student showing the "best bedside manner" in the Practice of Medicine class. He is survived by three children, five grandchildren and six great-grandchildren.

Frank Vellios, MD 46

Vellios died on Dec. 27, 2011. After graduation, he trained his final year at Columbia University Hospital in New York. Following certification in 1950, he served as an instructor on leave from Washington University at two medical schools in Bangkok, Thailand. He was a member of Alpha Omega Alpha Medical Honor Society at Washington University and a member of many professional societies. He taught at Indiana University, Case Western University School of Medicine, University of Texas Southwestern Medical School and Emory University and was recognized in 2001 with the Alumni Achievement Award from the Washington University Medical Center Alumni Association.

John Blasdel Shapleigh II, MD 46

Shapleigh died on Oct. 26, 2011, at the age of 89. Born and raised in St. Louis, he completed his residency and fellowship in hematopathology at Barnes Hospital. For nearly 50 years he worked in private medical practice as an internist, hematologist and oncologist. Following his retirement, he founded the Hospice Foundation of Greater St. Louis for the purpose of edu-

cating the public and health care community about the benefits of hospice care. He loved traveling with his wife, gardening, tennis, squash and riding the tractor at his schoolhouse farm.

Purdue L. Gould, MD 48

Gould, 87, died on Aug. 24, 2011. After receiving his medical degree, he continued his education with a residency in neurosurgery at the University of Minnesota Medical School. He was an army major and head of the Korean War 8055th Mobile Army Surgical Hospital (MASH). He was the first neurosurgeon in Polk County FL before establishing his neurosurgery practices in West Palm Beach FL and Riyadh, Saudi Arabia, where he was an assigned physician for the king. He retired as medical director of Hospital Corporation of America International, an organization that works to establish medical facilities abroad. He was an avid boater and member, instructor and commander of the District 8 Palm Beach FL Power Squadron, which plans to bury his ashes at sea.

Selma Jean Boughan Harris, NU 48

Harris died on Feb. 25, 2012, in Asheville NC.

Alice H. Kasten, NU 48

Kasten, 84, died on June 27, 2011. She worked in neurosurgery at Barnes Hospital. After raising two children, she took a refresher course in 1967 and returned to the nursing profession with involvement in the developing field of infectious disease control at St. Louis Children's Hospital and St. John's Mercy, where she was the first infection control nurse. She was an avid reader, loved family, enjoyed travel, was a St. Luke's Hospital volunteer, maintained a lifelong interest in women's church work and remained enthused about piano and classical music.

Donna L. Lewis, NU 48

Lewis, 83, died on Sept. 2, 2011, in Quincy IL, where she was raised.

John A. McFarlane, MD 48

McFarlane, 88, died on July 23, 2011. After receiving his medical degree, he completed training in urology at the Mayo Clinic in Rochester MN. He practiced in Sioux City at Plaza Urological P.C. until retiring in 1984.

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☐ Offer a preceptorship to a student between first and second year

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Gerald Thomas Perkoff, MD 48

Perkoff died on Dec. 25, 2011. After a decade in Utah, he returned to St. Louis and Washington University School of Medicine, joining the faculty as associate professor of medicine in 1963. He served as professor of medicine from 1965–79 and as director of the Division of Health Care Research from 1968–79.

Shields O. Livingston, MD 50

Livingston, 91, died on June 28, 2011. After serving in the Naval Air Force during World War II, he earned a medical degree at Washington University, where he met and married Harriette Lutz Livingston, his wife of 62 years. Together they have three children, five grandchildren and two great-grandchildren. Livingston retired in 1990 after a 40-year career treating patients in Dallas TX as a general surgeon.

Jack Zuckner, HS 50

Zuckner died on March 22, 2011. He served in the U.S. Naval Reserve as a lieutenant and was the first person to become a Master with the American College of Rheumatology in the state of Missouri. He enjoyed tennis, snow skiing, gardening and traveling.

Raymond O. Frederick, LA 49, MD 52

Frederick died on July 24, 2011. He was a retired general surgeon and a veteran of World War II who lived every moment to the fullest. He is survived by his wife of 57 years, Mitzie, three children and eight grandchildren.

Walter E. Lansche, LA 48, MD 52

Lansche, 83, died on June 13, 2011. During his undergraduate years, he was a member of the track and basketball teams. Following graduation, he was actively involved with the university, serving on the W Club Executive Committee, on the Alumni Board of Governors, and as president of the Washington University Medical Center Alumni Association. He was inducted with the Class of 2008 in the Washington University Sports Hall of Fame as a Distinguished Service member for his exceptional contributions to the development and advancement of the athletics program. He worked as an orthopedic surgeon, entering private practice in 1959, before retiring in 1992.

Warren William Simonds, HA 52

Simonds died on Jan. 25, 2012.

Ellison “Jeep” C. Pierce Jr., HS 53

Pierce, 82, died on April 3, 2011. He worked at New England Deaconess Hospital for 35 years, rising to chairman of the anesthesiology department. In 1982, Pierce founded the Anesthesia Patient Safety Foundation with the vision that “no patient shall be harmed by anesthesia.” Robert Bode, chairman of the Department of Anesthesia at New England Baptist Hospital and former president of the Massachusetts Society of Anesthesiologists, said Pierce’s push for electronic monitoring systems for patients under anesthesia caused anesthesia-related deaths to plummet from about 1 in 10,000 to 1 in 200,000 in less than two years.

Edwin Salzman, LA 50, MD 53

Salzman, 82, died on Oct. 3, 2011. He attended Washington University for both his undergraduate and medical degrees, finishing first in his class at both. He had careers as a pioneering vascular and thoracic surgeon, medical researcher, Harvard professor and deputy editor of the *New England Journal of Medicine*. During his career, he wrote hundreds of articles in medical journals and co-authored a standard text on hemostasis and thrombosis. Among his honors, he received the American Heart Association’s Distinguished Achievement Award and the Washington University Medical Center Alumni Association Alumni Achievement Award. His most significant finding may have been the demonstration of aspirin’s antithrombotic effect in venous disease and that aspirin could prevent post-operative venous thrombosis.

Robert C. Schaan, BA 49, MD 53

Schaan died on Aug. 14, 2011. After receiving his medical degree, he worked for 38 years as a pediatrician. After retirement, he was medical director of Waukegan Development Center.

Lois Virginia Stephens Warren, NU 54

Warren, 76, of Hannibal MO, died on July 2, 2011. She worked as a nurse at Barnes Hospital in addition to serving as an administrator at Willow Care Nursing

Center, Pike County Memorial Hospital, and the Health Department of Henry County MO. Warren was the founder of Pudd’n Heads in the Hannibal Historic District, and she enjoyed cooking, caring for her animals, and researching family history.

Richard A. Nelson, MD 57

Nelson, 80, died on July 8, 2011. He was in the U.S. Army 82nd Airborne and 7th Special Forces (Green Berets) and served as a medical officer. As one of the first doctors to serve in Vietnam, he reported to Congress, recommending the formation of mobile medical units. He also earned his Parachutist Badge and received the Army Commendation Medal and Ribbon. He started his own private practice, became a Diplomate of the American Board of Neurology and Psychiatry, and was a Fellow of the American Academy of Neurology.

Maurice “Josh” Jurkiewicz, HS 59

Jurkiewicz, 87, died on May 29, 2011. He earned a DDS degree and served a tour of duty with the Naval Reserves in Normandy before receiving his medical degree and completing a residency in general surgery and plastic surgery at Barnes Hospital. He was the Chief of Plastic Surgery at the University of Florida, Chief of Surgery at VAMC in Gainesville, and Chief of Reconstructive/Plastic Surgery at Emory University. He held many other positions as well, including being a plastic surgeon consultant at Walter Reed Hospital in Washington DC and the Shriners hospitals. He also was involved in numerous organizations, serving as president of the American College of Surgeons. Honors include being an Honorary Fellow of the Royal Australasian College of Surgeons and an Honorary Fellow of the Southern Surgical Association. He is survived by two children, two grandchildren, three siblings, and his legacy of patients, students, associates and friends.

Kathleen Norris, NU 67

Norris, 71, died on July 2, 2011. She is survived by her husband, four children, six siblings, and many nieces, nephews and friends.

Charles G. Wieland, HS 68

Wieland, 75, died on Aug. 23, 2011. He served in the U.S. Air Force, stationed at Wurtsmith Air Force Base in Oscoda MI for two years, and worked in the radiology department of St. Elizabeth's Hospital in Belleville IL for more than 30 years before retiring in 1998. He enjoyed golfing, reading, computers and spending time with his family. He was an avid sports fan who attended many St. Louis Cardinals and St. Louis Rams games and enjoyed watching his grandchildren's games.

Richard B. Shaw, HS 72

Shaw, 68, died on Oct. 5, 2011. He practiced general surgery for 35 years and was on the staff of United Regional Hospital in Wichita Falls TX, where for many years he directed the monthly tumor conference. During his service in the U.S. Army, he was stationed in Panama, where he met and soon married nurse Patricia (Bolls) Shaw.

James A. Thompson, MD 53

Thompson died on Nov. 30, 2011. Following high school, he enlisted in the U.S. Army and served in the infantry during World War II. He fought and was captured in the Battle of the Bulge. After being liberated from the POW camp at war's end, he completed his service before resuming his education. He graduated from the University of Montana before attending Washington University School of Medicine. He completed postgraduate training at Harborview Hospital in Seattle WA, the Lahey Clinic in Boston MA, and Georgetown University Hospital in Washington DC. He enjoyed his first "job" as a ship's physician for Grace Lines Cruise Ships in 1957, before moving to Olympia WA in 1958 to begin his practice in internal medicine as a physician with the Memorial Clinic. He practiced there until his retirement in 1995. His wife, Eleanor Giffin-Thompson, preceded him in death in 2001. He enjoyed his family, running and traveling with his wife to San Francisco many times over the years. Thompson is survived by his son, Mark, and daughter, Karen, four grandchildren and one great-grandchild.

Barbara A. Chouinard, OT 96

Chouinard, 43, died on Aug. 11, 2011. Prior to working at Anderson Hospital in Maryville IL, she worked at St. Luke's Hospital in St. Louis. She is survived by her husband, Tom, and two sons.

Chayim Y. Newmark, MD 00

Newmark, 37, was a pediatric endocrinologist at St. Barnabas Medical Center in Livingston NJ. After medical school, he completed pediatric and endocrinology residencies at St. Louis Children's Hospital. A very active researcher and a principal investigator of many diabetes and growth hormone studies, he also was involved in many philanthropic and community activities. One of his passions was caring for young women with Turner Syndrome.

FACULTY

John P. Boineau, MD

Boineau, professor of surgery, medicine and biomedical engineering, died on Nov. 7, 2011. He was 78. He was a pioneer in surgical treatment of Wolf-Parkinson-White syndrome, a heart condition that can lead to episodes of rapid heart rate, and atrial fibrillation, a condition where the heart rhythm is irregular and too fast, including the development of the Cox-Maze procedure. He joined the School of Medicine faculty in 1984 as a professor of surgery and of medicine and co-director of the Cardiothoracic Surgery Research laboratories. In addition, he was director of the Department of Medicine's Pacemaker Center and Outpatient Pacemaker Services and medical director of cardiac rehabilitation at the Heart Care Institute at Barnes-Jewish West County Hospital. He was the author of *The ECG in Multiple Myocardial Infarction and the Progression of Ischemic Heart Disease*, published in 2005. He is survived by his wife, Wanda, a cardiology diagnostic technician in the cardiovascular division, and three children.

Stuart S. Sagel, MD

Sagel, professor of radiology and former director of the chest radiology section at the Mallinckrodt Institute of Radiology, died on Nov. 11, 2011. He was 71. Sagel came to Washington University in 1972 as an assistant radiologist. In the late 1970s, the Mallinckrodt Institute became one of the first medical facilities to acquire a CT scanner; Sagel soon began publishing a series of influential scientific papers on using CT in the clinic. He wrote and edited a textbook, *Computed Body Tomography with MRI Correlation*, that many radiologists regarded as the best in its field for decades. He is survived by his wife, Beverlee; sons **Scott Sagel, MD 96**, a graduate of the School of Medicine, Darryl and Brett; five grandchildren; a sister; and a brother.

STAFF

Vicki Kunkler

Kunkler, 64, director of publications and communications at the Mallinckrodt Institute of Radiology (MIR), died on Feb. 1, 2012. She was the editor of MIR's magazine, *Focal Spot*, and administrator of the MIR website. She worked at the School of Medicine for more than two decades. She also was a volunteer at Shriners Hospital and a board member of Meds & Food for Kids.

If you wish to make a tribute gift in honor of any of the above alumni or faculty, please contact: Pamela Buell, Washington University Medical Alumni and Development, Campus Box 1247, 7425 Forsyth Blvd., Suite 2100, St. Louis MO 63105-2161, (314) 935-9691.

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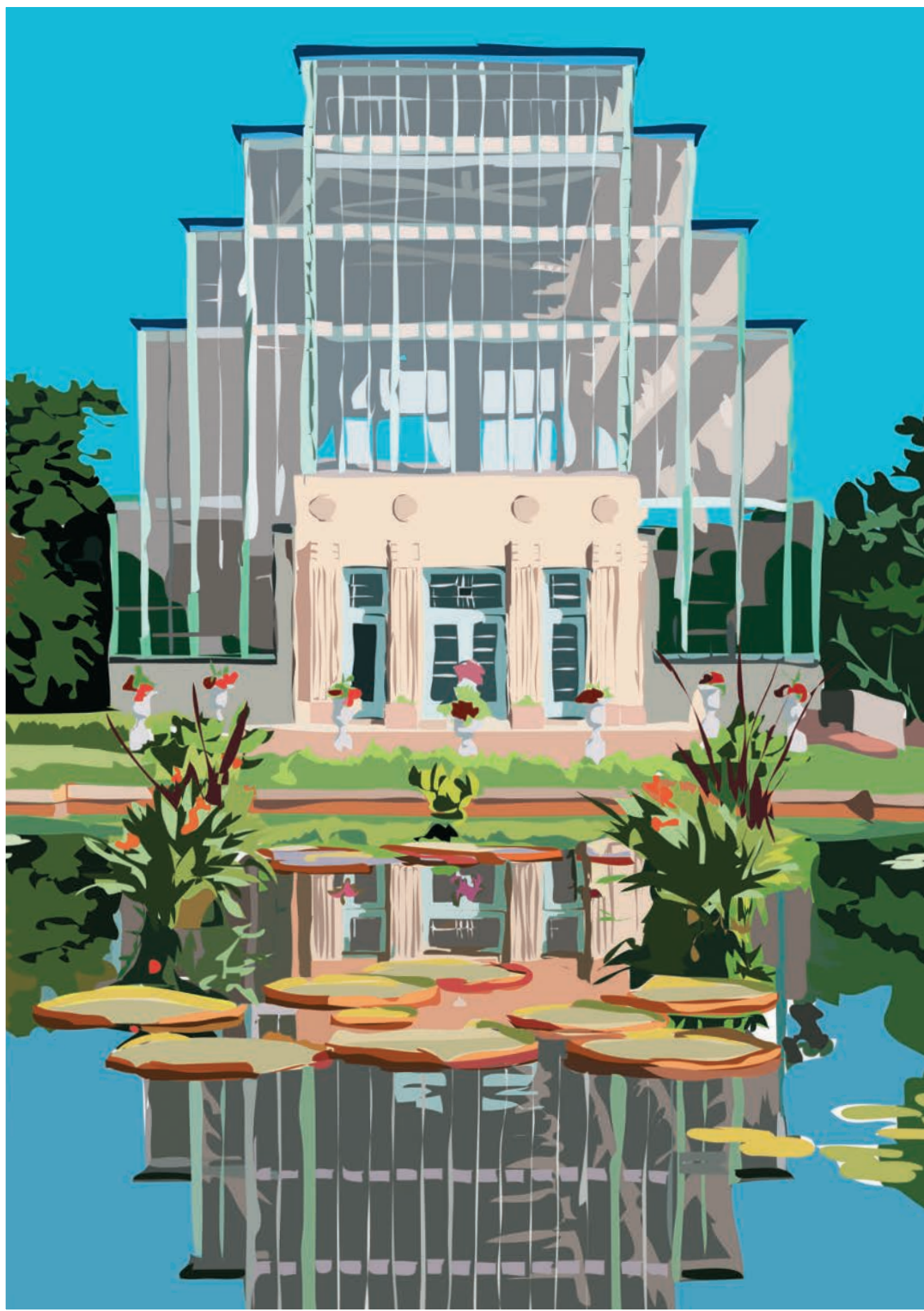
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Washington University School of Medicine in St. Louis



COURTESY OF MARK HURD

Jewel Box

Although it appears to be a silkscreened or Japanese woodblock print, the art of Mark Hurd, FA 87, is all digital. A select exhibit of his colorful St. Louis scenes is on display in the School of Medicine's Farrell Learning and Teaching Center this spring. Hurd is a proud alum of Washington University in St. Louis, and his father, James R. Hurd, MD, served as associate director for the residency program in emergency medicine from 1973–74. To see more of Hurd's art, please visit: markhurdgraphics.com

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