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# Record



Washington University in St. Louis

Feb. 14, 2008

record.wustl.edu

## Breakdown of kidney's ability to clean itself may cause disease

By MICHAEL C. PURDY

**T**he kidney actively cleans its most selective filter to keep it from clogging with blood proteins, School of Medicine scientists reveal in a recent study.

Researchers showed that breakdown of this self-cleaning feature can make kidneys more vulnerable to dysfunction and disease.

"We speculate that defects of this clearance mechanism can leave things on the filter that can damage it," said senior author Andrey Shaw, M.D., the Emil R. Unanue Professor of Immunobiology in Pathology and Immunology. "This could include autoimmune antibodies that mistakenly target the body's own tissues like those that occur in the disease lupus."

The study appeared in the Jan. 22 Pro-

ceedings of the National Academy of Sciences.

Despite extensive knowledge of the structure of the kidney, several scientific controversies linger over how the organ does its complicated and essential job of filtering wastes from the blood for disposal without simultaneously discarding too much water or key blood proteins in the urine. Understanding how these tricky tasks are accomplished is essential to developing new treatments for kidney disease and renal failure, which are among the top 10 causes of death in the United States.



Shaw

Like many mechanical filtering systems, the kidney passes the blood through a series of progressively finer screens. After passing through a structure known as the glomerular basement membrane (GBM), fluid and serum proteins must finally pass through the most selective filter of the kidney, which is comprised of specialized epithelial cells called podocytes. These cells form a web-like barrier to the passage of large serum proteins into the urine.

"The kidney screens 150-200 liters of blood daily, and we were curious as to how the kidney keeps the filter from clogging up," said first author Shreeram Akilesh, an M.D./Ph.D. student. "The two most common blood serum and plasma proteins are albumin, which helps regulate blood volume and convey a number of different sub-

stances around the body, and immunoglobulin G (IgG), a type of immune system antibody. Because they're so common, we figured they would be among the most likely to get stuck on the filter and set out to look for proteins that help clear them."

Researchers looked for proteins made in podocytes that could bind to albumin and IgG, which likely provide the "handles" the podocytes need to grab proteins and clear them from the filter.

A protein known as FcRn was high on the list of likely suspects. Akilesh had studied FcRn previously in the laboratory of co-author Derry C. Roopenian, Ph.D., professor at the Jackson Laboratory in Bar Harbor, Maine. Prior research there and in other laboratories had revealed that FcRn

See Kidney, Page 6



**Fireside chat** Former congressman Richard A. Gephardt gave his personal insight into the current state of presidential primary affairs to a group of students and faculty who braved an icy, snowy afternoon Feb. 11 to hear him in the Women's Building Formal Lounge. Gephardt's experience gives him a point of view known by only a few in this country; he served 14 terms in the U.S. House of Representatives and ran for the Democratic nomination for president in 1988 and 2004. The Gephardt Institute for Public Service sponsored the event.

## Money and appearance influence political campaigns, study says

By SHULA NEUMAN

**I**f politics were like high school, Republicans would be the football stars and Democrats would be chess club captains. Those stereotypes are the easiest way to summarize part of the conclusions from a study by Michael Lewis, Ph.D., assistant professor of marketing in the Olin Business School.

By approaching political campaigns from a marketing perspective, Lewis was able to determine the effectiveness of branding and advertising. The goal of the research was to understand the relative effects of candidates' appearance and advertising spending strategies on election outcomes.

"The reality is that these campaigns are run like marketing campaigns," Lewis said. "They're driven by focus groups, there's a lot of advertising, and people use marketing language, such as 'positioning.'"

"There is a lot going on in a political campaign that mirrors marketing," he said. "You've got an incumbent versus a challenger. In marketing language, that's an established product versus a new entrant."

Typically, challengers don't have as much awareness in the minds of consumers as incumbents do. We've got a brand structure, which is the brand of Republicans and the brand of Democrats."

When it comes to how a candidate looks, the research found that Republicans generally did better when they appeared more competent and trustworthy, while Democrats experienced success when they appeared more intelligent and likable.

"This is where we get into something that might be a little tough to talk about because it's easiest to think of this in terms of stereotypes," Lewis said. "Republicans tend to do better when they look like a high-school quarterback or a CEO — square jaw, cropped hair. Democrats did better when they had the look of a college professor."

Lewis and his co-author, JoAndrea Hoegg, Ph.D., a professor at the University of British Columbia, based their research on 112 congressional elections in 2000 and 2002.

In order to determine the impact of looks, sub-

See Politics, Page 2

## Genome of bacterium that makes rare form of chlorophyll sequenced

By TONY FITZPATRICK

**R**esearchers at Washington University and Arizona State University have sequenced the genome of a rare bacterium that harvests light energy by making an even rarer form of chlorophyll called chlorophyll d.

Chlorophyll d absorbs "red edge," near-infrared, long wavelength light that is invisible to the naked eye.

In so doing, the cyanobacterium *Acaryochloris marina* competes with virtually no other plant or bacterium in the world for sunlight. As a result, its genome is massive for a cyanobacterium, comprising 8.3 million base pairs. It is sophisticated, too. The genome is among the largest of 55 cyanobacterial strains in the world sequenced thus far, and it is the first organism containing chlorophyll d to be sequenced.

Robert Blankenship, Ph.D., the Lucille P. Markey Distinguished Professor in Arts & Sciences and principal investigator of the project, said with *Acaryochloris marina* now sequenced and annotated, the immediate goal is to find the enzyme that causes a chemical structure change in chlorophyll d, distinguishing it not only from primarily chlorophyll a and b, but also

from nine other forms of chlorophyll.

"The synthesis of chlorophyll by an organism is complex, involving 17 different steps in all," Blankenship said. "Someplace near the end of this process, an enzyme transforms a vinyl group to a formyl group to make chlorophyll d. This transformation of chemical forms is not known in any other chlorophyll molecules."

Blankenship said he and his collaborators have some candidate genes they will test. They hope to insert these genes into an organism that makes just chlorophyll a. If the organism learns to synthesize chlorophyll d with one of the genes, the mystery of chlorophyll d synthesis will be solved, and then the excitement will begin.

Blankenship and colleagues from both institutions published a paper on their work in the Feb. 4 online edition of the Proceedings of the National Academy of Sciences. The work was supported by the National Science Foundation and also involved collaborators from Australia and Japan. Three WUSTL undergraduate students and one graduate student participated in the project as well as other research personnel.

See Bacterium, Page 6



Robert Blankenship, Ph.D., examines the cyanobacteria *Acaryochloris marina*, which uses chlorophyll d for photosynthesis.



## Campus to celebrate George Washington Week

By NEIL SCHOENHERR

The annual George Washington Week, sponsored by the sophomore honorary Lock & Chain, will bring back an old tradition: horse and buggy rides around the Danforth Campus.

The celebration begins Monday, Feb. 18, and continues through Feb. 23. It will include birthday cake, appearances by "George" himself, cherry pie and a benefit party.

"George Washington Week serves as a time for us, the student body, to celebrate not only our namesake's birthday but our pride in Washington University," said Lock & Chain member Scott Friedman.

"As a service honorary, Lock & Chain stresses the importance of giving back to our community

— our campus and the greater St. Louis area. Our yearlong service project has allowed us to assist local, low-income high-school students in navigating the college application process," Friedman said.

Donations made for the horse and buggy rides will help benefit Lock & Chain's charitable projects throughout the year.

The schedule for the week:  
**Monday, Feb. 18:** Birthday cake and photo opportunities with "George Washington" from 11 a.m.-1 p.m. outside Olin Library.

**Tuesday, Feb. 19:** Cherry pie and photo opportunities with "George Washington" from 11 a.m.-1 p.m. outside Olin Library.

**Wednesday, Feb. 20:** Horse and buggy rides near the

Women's Building from 11 a.m.-1 p.m. Donations from riders are encouraged.

**Feb. 21:** Bob Hansman, associate professor in the College of Architecture and Graduate School of Architecture & Urban Design, will speak about City Faces, a community arts program he founded which offers year-round drawing classes in a St. Louis housing project. The talk begins at 5 p.m. in Graham Chapel.

**Feb. 22:** Lock & Chain will present awards during the men's basketball game at 8 p.m. in the Field House.

**Feb. 23:** Lock & Chain will host a benefit party for City Faces from 9 p.m.-midnight in the Wohl Student Center.

For more information, contact Friedman at [slfriedm@artsci.wustl.edu](mailto:slfriedm@artsci.wustl.edu).

## Earthquake seminar addresses ways to lessen damage

By TONY FITZPATRICK

The Department of Mechanical, Aerospace and Structural Engineering continues its series of seminars and workshops on the topic of reducing the damage that would occur if a strong earthquake strikes the New Madrid fault area again.

The first program covered subjects of hazards, codes, vulnerability and strengthening of infrastructure.

The speakers were practicing engineers and professors with wide experience in seismic hazard mitigation, especially in Missouri and the surrounding vulnerable region.

"We reviewed such topics as history, geology, hazards, codes and enforcement, strengths of existing structures, as well as nonstructural components and lifelines," said Phillip L. Gould, Ph.D., the Harold D. Jolly Professor of Civil Engineering and one of the

seminar's organizers. "Our intent was to raise awareness about earthquake hazards and preparedness before a very influential and vital audience."

The first seminar and workshop, "Reducing Earthquake Damage through Mitigation," was offered Feb. 12 at the Charles F. Knight Executive Education Center. Steve Besemer, earthquake program manager for the Missouri State Emergency Management Agency, gave a luncheon presentation to an invited audience of public officials at the local and regional level, followed by a panel discussion.

The seminar was scheduled during Missouri Earthquake Awareness Month and commemorates the anniversary of the New Madrid earthquakes that rocked this region in 1811 and 1812.

It was supported by a grant from the State Farm Insurance Co.

The next seminar is scheduled for mid-April. For more information, visit [me.wustl.edu/seminar](http://me.wustl.edu/seminar).

## Helium supplies endangered, threatening science and technology

By TONY FITZPATRICK

In America, helium is running out of gas.

The element that lifts balloons, spirits and voice ranges is being depleted so rapidly in the world's largest reserve — outside of Amarillo, Texas — that supplies are expected to be depleted within the next eight years.

This deflates more than blimps and party favors. Its larger impact is on science and technology, according to Lee Sobotka, Ph.D., professor of chemistry and physics in Arts & Sciences.

"Helium's use in science is extremely broad, but its most important use is as a coolant," said Sobotka, a specialist in nuclear chemistry and physics who collaborates with researchers at several national laboratories.

Generally the larger users of helium, such as the national laboratories, have the infrastructure to efficiently use and recycle helium, Sobotka said. The same cannot be said of many smaller-scale users.

Helium plays a role in nuclear magnetic resonance, mass spectroscopy, welding, fiber optics and computer microchip production, among other technological applications. NASA uses large amounts annually to pressurize space shuttle fuel tanks.

"Helium is nonrenewable and irreplaceable," Sobotka said. "Its properties are unique and unlike hydrocarbon fuels (natural gas or oil), there are no biosynthetic ways to make an alternative to helium. All should make better efforts to recycle it."

The helium we have on Earth has been built up over billions of years from the decay of natural uranium and thorium. The decay of these elements proceeds at a snail's pace.

As uranium and thorium decay, some helium is trapped along with natural gas deposits in certain geological formations. Some of the produced helium seeps out of the Earth's mantle and drifts into the atmosphere,

where there is approximately five parts per million of helium. However, this helium, as well as any helium ultimately released into the atmosphere by users, drifts up and is eventually lost to the Earth.

"When we use what has been made over the approximate 4.5 billion years the Earth has been around, we will run out," Sobotka said. "We cannot get significant quantities of helium from the sun — which can be viewed as a helium factory 93 million miles away — nor will we ever produce helium in anywhere near the quantities we need from Earth-bound factories."

"Helium could eventually be produced directly in nuclear fusion reactors and is produced indirectly in nuclear fission reactors, but the quantities produced by such sources are dwarfed by our needs," he said.

Unlike any other element, helium 4 (two protons, two neutrons) becomes a liquid below 4.2 Kelvin, just four degrees short of absolute zero. When an object is placed next to liquid helium, energy is extracted from the object, making it colder. The energy extracted from the object vaporizes the helium. It is this helium vapor, which, Sobotka claims, should always be recaptured and recycled for future use.

In addition to the Texas Panhandle, helium can be found in small regions of Colorado, Kansas and Oklahoma. It is also found and marketed in Australia and Algeria. Russia has the world's largest reserves of natural gas, where helium certainly exists.

The price of liquid helium is about \$5 per liter, having gone up more than 50 percent over the past year because of what Sobotka calls "conventional" economics. He cited the withdrawal of some companies from the marketplace and the emergence of others that are not yet in production as the driving force behind higher prices, and not the scarcity of the element.

Helium capture in the United

States began after World War I, when the primary use of the gas was for dirigibles.

Because helium is non-flammable, its use in balloons prevented another Hindenburg tragedy. The U.S. government ran the helium industry for 70 years, but since the mid-90s it has been in the domain of the oil and natural gas industries.

"The government had the good vision to store helium, and the question now is: Will industry have the vision to capture it when extracting natural gas, and consumers the wisdom to capture and recycle?" Sobotka asked. "This takes long-term vision because present market forces are not sufficient to compel prudent practice."

Helium plays second fiddle to oil and natural gas, and much of it is lost in a process that removes noncombustible nitrogen and helium from the product of prime interest.

"When they stick that straw into the ground to suck out oil and gas, the helium comes out, and if it doesn't get captured, it drifts into the atmosphere and is lost," Sobotka said. "Helium production is a side industry to oil and natural gas, an endeavor that nobody wants to lose money on."

Meanwhile, laboratories worldwide could make better attempts at conserving helium. They can either use costly machines called liquefiers that can capture, store and reliquify helium on site, or researchers can take captured helium in gas form, return it to the company that originally sold it to them and receive a monetary return, just as in a deposit on a bottle.

"We have to be thinking of these things," he said. "Up to now, the issue often hasn't risen to the level that it's important. It's a problem for the next generation of scientists. But it's incumbent upon us to have a vision, and tell it like it is — a resource that is more strictly nonrenewable than either oil or gas."

## Politics

— from Page 1

jects in a lab were shown pictures of pairs of opposing candidates and asked which appeared more competent, more intelligent, more likeable or more trustworthy. Lewis said that those quick judgments helped determine which political party tended to be associated with which characteristics.

"We also asked subjects to guess which candidate was Republican and which was Democrat. We looked at those responses in terms of the different personality measures we collected," Lewis said. "We found that people who appeared more competent and more trustworthy were identified as Republican."

In addition to considerations of the candidates' appearance, advertising spending and the use of negative ads impacted outcomes.

For incumbents, the relationship between spending great quantities on advertising and winning the campaign had very little effect.

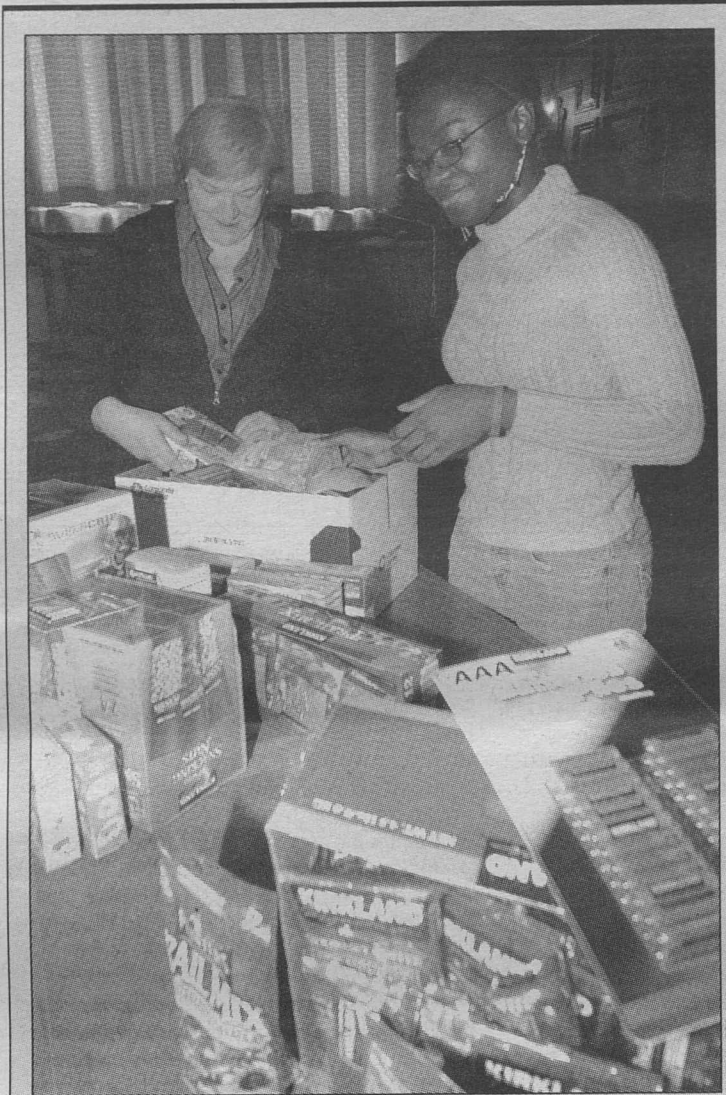
But for the challengers, there was a strong positive relationship between spending levels and vote shares. However, for incumbents, the relationship between spending and votes was more complex.

While low and moderate levels of incumbent spending bode well for vote shares, very high levels of incumbent spending have negligible effects on results. This indicates that incumbents frequently overspend, Lewis said.

When it comes to negative advertising, the results were fairly surprising. While negative advertising had an adverse effect on incumbents, challengers tended to benefit a great deal from engaging in mudslinging.

The research has implications for how political campaigns are managed, Lewis said. For example, the respective parties might want to take appearance into consideration when determining who should run for office.

Additionally, once the campaign is up and running, political strategists should consider the impact that spending and negative advertising may have on the election results.



JOE ANGELES

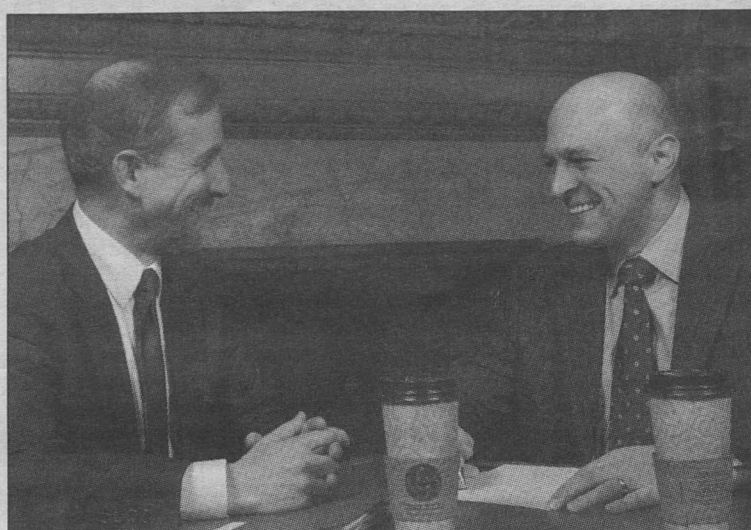


COURTESY PHOTO

**From WUSTL with love** TOP: Judy Musick (left), administrative manager in the Department of Biology in Arts & Sciences, and Judith Tigah, a WUSTL sophomore, examine items donated by the campus community for care packages to U.S. troops serving in Iraq. In February, the WUSTL military care package group — organized by Jill Edwards, project manager in diversity and administration — mailed 10 boxes weighing a total of 178 pounds to Iraq. Inside were snacks, toiletries, batteries and more than 700 home-baked brownies and cookies. ABOVE: One of the soldiers receiving packages is Major Dave Goodwin, a WUSTL police officer currently serving in Iraq. Since March 2004, the University community has mailed roughly 5,370 pounds of snacks, baked goods, toiletries and sporting goods to troops overseas. The next mailing will be in late March. For more information or to donate, contact Edwards at 935-5623 or [jilledwards@wustl.edu](mailto:jilledwards@wustl.edu).



## School of Medicine Update



Michael Cannon (left), executive vice chancellor and general counsel, talks with William F. Howard, who was recently appointed associate vice chancellor and chief counsel to the School of Medicine, at their weekly meeting.

### Howard named chief counsel to WUSTL School of Medicine

By BETH MILLER

William F. Howard, a longtime higher-education attorney, has been appointed associate vice chancellor and chief counsel to the School of Medicine. In addition to serving as the senior attorney for the School of Medicine, Howard also will serve as deputy general counsel for the University.

Howard will assume overall leadership for the delivery of legal services to the School of Medicine, supervising the work of the University's associate general counsels as well as directly providing advice and counsel on all aspects of the school's operations, including regulatory compliance, corporate transactions, clinical operations, research affairs, risk management and strategic planning.

Howard was most recently interim vice president and general counsel at The George Washington University in Washington, D.C., where he was responsible for a wide range of legal, operational and financial aspects of the university and its medical center.

He was a key leader in planning, negotiating and implementing the spinoff and affiliation of the university's clinical practice group into a tax-exempt corporation, in restructuring the university's HMO subsidiary and in transferring teaching hospital operations to a new limited partnership. He joined George Washington in 1996 as deputy general counsel.

Before joining George Washington, Howard was deputy chief of the educational affairs division and assistant attorney general of the Maryland Office of the Attorney General, where he provided legal counsel to the University System of Maryland and its divisions.

"Bill has an extraordinary level of experience in handling the legal affairs of a university medical center," said Michael Cannon, executive vice chancellor and general counsel.

"His 20 years of senior leadership and experience representing universities in all their dimensions and complexity will greatly benefit Washington University," he said.

Howard said he is looking forward to working with Cannon and Chancellor Mark S. Wrighton.

"The more I learned about Washington University and particularly its medical school, the more excited I became about the prospect of coming here and making a contribution to its mission," Howard said.

"The school is obviously at the 'top of the class' nationally, and it presents a host of exciting chal-

lenges and opportunities to be associated with physicians and researchers who are at the cutting edge of science today. If I can help the school in some small way, I'd find it very rewarding," he said.

Earlier in his career, Howard was an associate attorney with Venable, Baetjer and Howard in Baltimore and was a law clerk to Chief Judge Harrison L. Winter of the U.S. Court of Appeals for the Fourth Circuit.

A native of Cleveland, Ohio, Howard earned a law degree from the University of Michigan Law School in 1984, where he finished second in his class.

He earned a bachelor's degree in economics from Michigan State University in 1980, graduating third in his class. He is a member of the National Association of College and University Attorneys and the Washington Metropolitan Area Corporate Counsel Association.

Howard also was involved in community activities in the Baltimore area, including several environmental groups and the Alzheimer's Association, Greater Maryland Chapter.

"Bill's superb track record in legal leadership stems not only from his formidable intellectual and legal skills, but also from his talents as a great listener and brainstormer on business and legal issues alike," Cannon said.

"We're just thrilled with the commitment Bill has made to Washington University."

## Children's Discovery Institute funds new research initiatives, scholars

Will brain-powered robots one day restore mobility to children with cerebral palsy? Do circadian rhythms impact the outcome of cancer therapy? Can the root cause of pediatric heart disease be explained by a fruit fly?

Thought-provoking and intriguing questions like these will chart the course for eight new research initiatives funded by the Children's Discovery Institute (CDI). The CDI is a partnership between the School of Medicine and St. Louis Children's Hospital to leverage research, including access to the human genome, and direct patient care to accelerate cures for childhood disease.

The CDI has approved \$2.2 million for the new research and appointment of two full-time scholars and one academic fellow. Since its launch in January 2006, the CDI has awarded nearly \$7 million toward novel pediatric research programs.

Spanning seven departments within the Schools of Medicine, Engineering and Arts & Sciences, the CDI's philosophy of interdisciplinary team-building has set the table for breathtaking discoveries, according to Jonathan Gitlin, M.D., scientific director.

"People are interacting in ways we never could have imagined possible," said Gitlin, the Helene B. Roberson Professor of Pediatrics and professor of genetics. "Diversity makes everything work. You want people in the room who have different ideas."

One such dream team combines an assistant professor of computer science with researchers in biomedical engineering and pediatric neurosurgery. Headed by William Smart, Ph.D., assistant professor of computer science, the project seeks to develop a robot that can be controlled by signals directed from

the human brain.

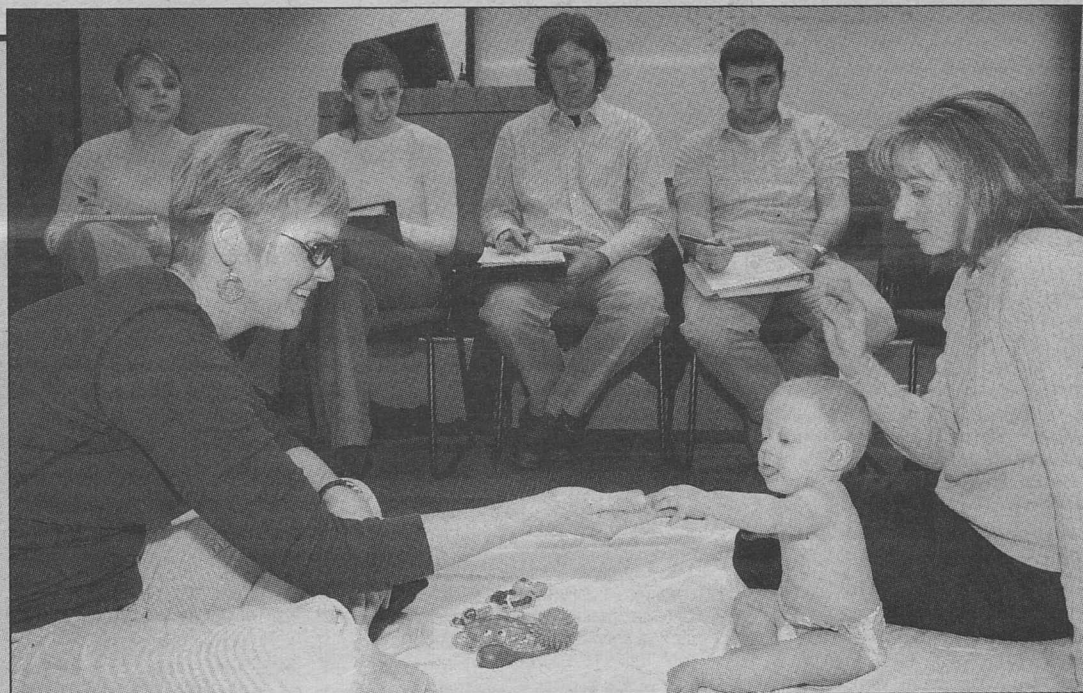
"This is about as far from where I thought I'd be working as I've ever imagined," Smart said. "Of everything I've done in my career, I'm most excited about this project because, if it sees its full potential, it will really change the quality of life for children with cerebral palsy and beyond."

Erik Herzog, Ph.D., associate professor of biology, is investigating circadian rhythms and tumor biology in flies and mice with Josh Rubin, M.D., Ph.D., assistant professor of pediatrics, of neurology and of neurobiology, to discover new drugs and therapeutic approaches in children with brain cancer.

Jennifer Gries Duncan, M.D., one of two new CDI scholars recruited to the faculty through this round of funding, will join the Congenital Heart Disease Center. Her work will focus on a model of metabolic disease in the heart of the fruit fly to answer questions about the formation of the human heart. The goal is to provide a bridge between the rapid gains in genetic technology and the clinical need to answer biologically relevant questions in children with congenital heart disease.

"I consider myself fortunate to be at an institution with such a robust research environment and to work at a children's hospital that has capitalized on those resources to support endeavors that will make a difference in the future of child health," Gries Duncan said.

Other grant recipients in this round of funding are Robert H. Baloh, M.D., Ph.D.; Ali Nekouzadeh, D.Sc.; Barak Cohen, Ph.D.; Thomas Ferkol, M.D.; Anthony French, M.D., Ph.D.; Robert Heuckeroth, M.D., Ph.D.; Patrick Jay, M.D., Ph.D.; and Fanxin Long, Ph.D.



Something in the way she moves (From left) Susie Strecker, instructor in physical therapy, reaches out to Madelyn Latacha, daughter of Kim Latacha, in the Kinesiology II course in the Program in Physical Therapy, while students Kyleen Muehlenbein, Ginny Lawrence, Christopher Meachem and Rusty Russell try to guess Madelyn's age by her movements. This year's Baby Day Jan. 22 had 17 babies participating, ranging in age from 4 weeks to 18 months.

## Cancer gene drives pivotal decision in early brain development

By MICHAEL C. PURDY

A gene linked to pediatric brain tumors is an essential driver of early brain development, School of Medicine researchers have found.

The study, published recently in *Cell Stem Cell*, reveals that the neurofibromatosis 1 (NF1) gene helps push stem cells down separate paths that lead them to become two major types of brain cells: support cells known as astrocytes and brain neurons.

The NF1 gene is mutated in the inherited medical condition known as neurofibromatosis type 1. The study's results show that scientists likely will need separate treatments to deal with this condition's two major symptoms: brain cancers and learning disabilities.

"Our findings also have potential implications for the general study of brain development," said senior author David H. Gutmann, M.D., Ph.D., the Donald O. Schnuck Family Professor of Neurology and director of the WUSTL Neurofibromatosis Center. "Neuroscientists have identified a number of genes that regulate brain cell development, but this gene is particularly interesting because it is affecting cells at a very early stage."

More than 100,000 people in the United States have neurofibromatosis type 1, making it the most common tumor predisposition syndrome affecting the nervous system. The brain

tumors that appear in 15 percent to 20 percent of neurofibromatosis type 1 patients come from brain support cells known as astrocytes; in contrast, scientists believe the learning disabilities present in 60 percent to 70 percent of these patients are mainly due to problems in brain neurons.

Scientists wondered how an alteration in one gene was affecting two very different cell types. Astrocytes belong to a category of brain cells known as glial cells, which support, protect and nourish neurons and regulate the brain environment. Neurons are believed to do the "work" of thought and memory using electrochemical signals that they exchange with each other.

Gutmann and his colleagues turned to neural stem cells, the progenitor cells that give rise to neurons and astrocytes in the brains of developing embryos. Researchers led by Balazs Hegedus, Ph.D., a postdoctoral fellow, developed a line of mice in which they could selectively disable the mouse equivalent of the human NF1 gene, Nf1, in neural stem cells. Studies of these mice revealed that the Nf1 protein, neurofibromin, controls the activity of two signaling pathways, the cyclic adenosine monophosphate (cAMP) pathway and the Ras pathway. This allows neurofibromin to regulate the development of both neurons and astrocytes.

"We found that neurofibromin regulation of the Ras pathway is essential for the development

of astrocytes but not for neurons," Gutmann said. "The opposite was true of the cAMP pathway — the effect of neurofibromin on cAMP signaling was critical for neurons but not for astrocytes."

Gutmann said the search for treatments for neurofibromatosis type 1 should branch out along a similar dual track.

"For patients with brain tumors, we probably need to focus on identifying new or existing treatments that normalize Ras pathway activity," Gutmann said. "To treat the learning disabilities, we probably need to focus on the cAMP pathway."

More details of the molecular mechanisms that push neural stem cells onto the paths to becoming an astrocyte or a neuron may potentially be useful for understanding other developmental disorders of the brain, Gutmann said.

He and his colleagues plan to use this unique mouse model that lets them selectively disable Nf1 in brain progenitor cells to better understand the causes of neurofibromatosis type 1-related learning disabilities. Anatomically, the brains of neurofibromatosis type 1 patients contain no obvious structural defects that readily explain why the majority of children with the condition have learning disabilities. Insights from the study of this Nf1 mouse strain may provide a hint to where the problems lie.



## University Events

# Classic 18th-century comedy of errors presented by PAD



Junior Justin Joseph (left) as Charles Marlow and senior Noga Landau as Kate Hardcastle are the leads in the PAD production of 'She Stoops to Conquer.'

## 'She Stoops to Conquer' opens Feb. 22

BY LIAM OTTEN

**C**lass, courtship and dysfunctional families all collide in "She Stoops to Conquer," the classic 18th-century comedy of errors by Irish author Oliver Goldsmith.

This month, the Performing Arts Department (PAD) in Arts & Sciences will present a new production of this prototypical "situation comedy" in the A.E. Hotchner Studio Theatre. Performances begin at 8 p.m. Feb. 22 and 23 and at 2 p.m. Feb. 24. Performances continue the following weekend at 8 p.m. Feb. 29 and March 1 and at 2 p.m. March 2.

"She Stoops to Conquer" centers on Charles Marlow, an upstanding yet deeply reserved young gentleman traveling to meet a potential bride, Kate Hardcastle. Arriving in town, Marlow and his friend, George Hastings, stop at the local tavern, where they encounter Kate's mischievous stepbrother, Tony Lumpkin. Lumpkin, recognizing the pair, decides to play a practical joke and directs them to a nearby "inn," which turns out to be the home of the wealthy Mr. Hardcastle.

"Mr. Hardcastle is expecting Marlow, who, after all, has come to woo his daughter," said director Jeffery S. Matthews, senior lecturer in drama. "But Marlow, thinking that Hardcastle is just an innkeeper, appears incredibly rude, putting his feet on the furniture and ignoring the old man's war stories."

Yet Marlow has another, far graver problem: Upper-class women desperately intimidate him, and his initial meeting with the glamorous Kate (arranged thanks to another practical joke) is a stumbling disaster. Incapacitated by shyness, he is unable to look her in the face.

But Marlow later mistakes Kate, now dressed in plainer garb, for a lowly barmaid, at which point his confidence returns. Kate, deciding to test the young man's wits, plays along and pretends to be a poor relation of the Hardcastles. Relaxed and at ease, Marlow is soon smitten and asks the "barmaid" to elope.

"Everybody is involved in a mistake or a practical joke, everybody is playing some kind of role," Matthews said. "But everything is done in fun, the pranks are never cruel, and you really do care about the characters."

"It's farcical and sweet and terribly funny — truly one of the era's great comedies," he said.

Goldsmith, an Irishman who lived and worked in London, wrote "She Stoops to Conquer" in 1771 but initially had trouble getting it produced.

"The premise just seemed too far-fetched," Matthews said. "The irony is that Goldsmith, in his youth, made this very mistake." Heading off to boarding school, the young author mistook a well-appointed private home for the local inn and, to the homeowner's vast amusement, didn't learn his mistake until the following

morning. "It was a humiliation for him, but it later became the basis of the play," Matthews said.

When it finally debuted in 1773, "She Stoops to Conquer" became a massive success in both Great Britain and America. Samuel Johnson, Goldsmith's friend, wrote that "I know of no comedy for many years that has so much exhilarated an audience, that has answered so much the great end of comedy, making an audience merry." It remains one of the period's most-performed works.

The cast of 17 is led by junior Justin Joseph as Marlow and senior Noga Landau as Kate. Senior Kellen Hoxworth plays Hastings, while juniors David Weiss and Alexa Shoemaker play Mr. and Mrs. Hardcastle. Also featured are sophomore Ben Walsh as Tony; junior Jonathan Baude as Marlow's father; and junior Carli Miller as Constance Neville, Tony's wealthy fiancée, who attempts to elope with Hastings.

Senior Mitch Malasky's sets evoke an 18th-century stage and use "roll drops" — large painted trompe l'oeil backgrounds — to represent the play's three locations. Period costumes are by junior Catherine Elhoffer, with lighting by PAD lecturer Sean Savoie. Original music is composed by junior Kevin Nicoletti.

Tickets are \$15 for the public and \$9 for students, senior citizens, faculty and staff. Tickets are available at all MetroTix outlets and through the Edison Theatre Box Office.

For more information, call 935-6543.

## Global Warming • Eating Green • Politics of Motherhood

"University Events" lists a portion of the activities taking place Feb. 14-27 at Washington University. Visit the Web for expanded calendars for the Danforth Campus ([webevent.wustl.edu](http://webevent.wustl.edu)) and the School of Medicine ([medschool.wustl.edu/calendars.html](http://medschool.wustl.edu/calendars.html)).

### Exhibits

**School of Medicine Arts Commission Annual Art Show.** Farrell Learning and Teaching Center atrium. Through Feb. 15. 747-3284.

**"Thaddeus Strobe: Absolutes and Nothings."** Through April 21. Kemper Art Museum. 935-4523.

**"On the Margins."** Through April 21. Kemper Art Museum. 935-4523.

**"Weitman Exhibition."** Inaugural exhibition showcasing more than three dozen photographs of Herb Weitman, longtime head of Photographic Services. Through mid-March. Sam Fox School Weitman Gallery. 935-6500.

**"Disappearing Shanghai: An Installation of Photographs by Howard French."** Through March 3. Kemper Art Museum. 935-4448.

### Film

#### Friday, Feb. 15

**7:30 p.m. Film and Media Studies Japanese Film Festival.** "Hanging Garden." Brown Hall, Rm. 100. 935-4056.

#### Saturday, Feb. 16

**7:30 p.m. Film and Media Studies Japanese Film Festival.** "Linda Linda Linda." Brown Hall, Rm. 100. 935-4056.

### Lectures

#### Thursday, Feb. 14

**9 a.m.-4:30 p.m. Center for the Application of Information Technology Workshop.** "Marketing the IT Organization Internally." (Continues 9 a.m.-4:30 p.m. Feb. 15.) Cost: \$1,250, reduced fees available for

CAIT member organizations. CAIT, 5 N. Jackson Ave. 935-4444.

**Noon. Genetics Seminar.** "Haplotyping and Identity-by-Descent Matrix Calculation Methods for QTL Mapping in Pedigrees." Guimin Gao, research asst. prof. of biostatistics, The U. of Ala. at Birmingham. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

**4 p.m. Chemistry Seminar.** "Structure, Dynamics and Function in Biological Electron Transfer." David N. Beratan, prof. of chemistry, Duke U. McMillen Lab., Rm. 311. 935-6530.

**4 p.m. Vision Science Seminar Series.** "What Causes Age-Related Macular Degeneration? A Geneticist's View." Rando Allikmets, assoc. prof. of ophthalmic science, Columbia U. Maternity Bldg., Rm. 725. 362-3315.

**7 p.m. Sam Fox School of Design & Visual Arts Visiting Artist Lecture Series.** Harrell Fletcher. Steinberg Aud. 935-9300.

#### Friday, Feb. 15

**9:15 a.m. Pediatric Grand Rounds.** Gregory A. Storch, prof. of pediatrics. Clifton Aud., 4950 Children's Place. 454-6006.

**11 a.m. Computer Science & Engineering Colloquium.** "Creativity Support Tools: Accelerating Discovery & Innovation." Ben Shneiderman, prof. of computer science & engineering, U. of Maryland. Cupples II Hall, Rm. 217. 935-6160.

**11 a.m. Energy, Environmental & Chemical Engineering Seminar Series.** "Carbon Nanotubes as PEM Fuel Cell Catalyst Support." Yangchuan Xing, assoc. prof. of chemical engineering, Mo. U. of Science & Technology. Lopata Hall, Rm. 101. 935-5548.

**Noon. Cell Biology & Physiology Seminar.** "ESCRT-III Family Members Stimulate Vps-4 ATPase Activity Directly or Via Vta 1." David J. Katmann, asst. prof. of biochemistry & molecular biology, Mayo Clinic. McDonnell Medical Sciences Bldg., Rm. 426. 362-6630.

**3 p.m. Joint Center for East Asian Studies Colloquium.** "Colonial Imagination: The Making of Counterculture in Modern Korea." Choi Kyeong Hee, assoc. prof. of East Asian languages & civilizations, U. of Chicago, and Soyoung Kim, prof. of cinema studies, Korea National U. of Arts. Women's Bldg., Formal Lounge. 935-4448.

### How to submit 'University Events'

**S**ubmit "University Events" items to Angela Hall of the Record staff via:

**e-mail** — [recordcalendar@wustl.edu](mailto:recordcalendar@wustl.edu)  
**campus mail** —  
Campus Box 1070  
**fax** — 935-4259

Upon request, forms for submitting events will be e-mailed, mailed or faxed to departments to be filled out and returned. Deadline for submissions is noon the Thursday prior to publication date.

**6 p.m. Assembly Series.** "Loveline with Dr. Drew." Drew Pinsky, advice columnist. Lab Sciences Bldg., Rm. 300. 935-5285.

**6:30 p.m. Kemper Art Museum Lecture.** Douglas Fogle, curator, Carnegie Museum of Art. (6 p.m. reception, Kemper Art Museum.) Steinberg Aud. 935-4523.

**7:30 p.m. Saint Louis Astronomical Society Meeting.** "Global Warming — Causes and Cures." Carl Bender, prof. of physics. McDonnell Hall, Rm. 162. 935-4614.

#### Saturday, Feb. 16

**11 a.m. MLA Saturday Seminar Series.** "Congress After the 2008 Elections." Steven S. Smith, prof. of social sciences & political sciences. McDonnell Hall, Goldfarb Aud. 935-6700.

#### Monday, Feb. 18

**9 a.m.-4:30 p.m. Center for the Application of Information Technology Workshop.** "Business Finance & Budget Fundamentals for IT Professionals." (Continues 9 a.m.-4:30 p.m. Feb. 19.) Cost: \$850, reduced fees available for CAIT member organizations. CAIT, 5 N. Jackson Ave. 935-4444.

**2 p.m. Religious Studies Symposium.** "Writing a People's History of Chris-

tianity." Co-sponsored by the Catholic Student Center. Catholic Student Center, 6352 Forsyth Blvd. 935-8677.

**4 p.m. Immunology Research Seminar Series.** "Toll-like Receptors, Inflammation and Cancer." Giorgio Trinchieri, program dir., center for cancer research, National Cancer Inst. Farrell Learning & Teaching Center, Connor Aud. 362-2763.

**4 p.m. Physics Seminar.** "Luttinger Liquids and the Exotic World of One-Dimensional Conductors." Matthew Grayson, prof. of electrical engineering & computer science, Northwestern U. (3:45 p.m. coffee.) Compton Hall, Rm. 241. 935-6276.

**4:30 p.m. Religious Studies Lecture.** E.G. Welton Lecture in Early Christianity. "Jesus as Exorcist and Healer." Richard A. Horsley, prof. of liberal arts & the study of religion, U. of Mass. Boston (Reception follows.) Whitaker Hall Aud. 935-8677.

**5:30 p.m. Cardiac Bioelectricity & Arrhythmia Center Seminar.** "Learning the AV Node Through Ablation." Jane Chen, asst. prof. of medicine. (5 p.m. reception.) Whitaker Hall, Rm. 218. 935-7887.

#### Tuesday, Feb. 19

**Noon. Molecular Microbiology & Microbial Pathogenesis Seminar Series.** "HIV Entry and its Inhibition." Robert Doms, prof. of microbiology, U. of Penn. Cori Aud., 4565 McKinley Ave. 362-9223.

**12:15 p.m. Physics Brown Bag Seminar.** "Who AM I? Neutrinos' Identity Crisis." Kai Zuber, U. of Dresden, Germany. (Noon snacks.) Compton Hall, Rm. 241. 935-6276.

#### Wednesday, Feb. 20

**Noon. I-CARES Brown Bag Seminar.** "Applied Economic Analysis of Biofuel Policies and Markets Underway at the Food and Agricultural Policy Research Institute at the U. of Mo." Wyatt Thompson, asst. prof. of agricultural economics, and Seth Meyer, asst. research prof. of agricultural economics, U. of Mo. McDonnell Hall, Rm. 212. 935-9541.

**4 p.m. Global & Transnational Feminisms Lecture Series.** "Whiteness on the Margins of Native Patriarchy: Race, Sexuality, Caste and the Agenda of Transnational Studies." Shefali Chandra, asst. prof. of history and gender & women's studies, U. of Ill. at Urbana-Champaign. McMillan Cafe. 935-5102.

**6:30 p.m. Center for the Study of Ethics & Human Values.** Ethics Night on Campus

"Eating Green: What is Best for the Earth and for Us?" Women's Bldg. Formal Lounge. 935-9358.

#### Thursday, Feb. 21

**8 a.m.-5 p.m. School of Medicine Guze Symposium on Alcoholism.** "Alcohol, Suicide and Suicidality." Cost: \$100; free for WUSTL faculty, staff, post-docs and students. Eric P. Newman Education Center. 286-2244.

**Noon. Genetics Seminar.** "Cytosine Methylation: Control and Variation." Eric J. Richards, prof. of biology. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

**4 p.m. Chemistry Seminar.** "Applications for Ultra-thin Polymer Films Assembled on Flexible Substrates." Adam Nolte, post-doctoral researcher, National Inst. of Standards & Technology. McMillen Lab., Rm. 311. 935-6530.

**4 p.m. Vision Science Seminar Series.** "Apoptosis and Tolerance: The Role of Caspase-Induced Mitochondrial Disruption." Hiroataka Kazama, staff scientist, ophthalmology & visual science. Maternity Bldg., Rm. 725. 362-3315.

**4:15 p.m. Earth & Planetary Sciences Colloquium.** "The Formation of Gany-mede's Grooved Terrain." Michael Bland, graduate research assoc. of lunar & planetary lab., The U. of Ariz. Earth & Planetary Sciences Bldg., Rm. 203. 935-5610.

#### Friday, Feb. 22

**9:15 a.m. Pediatric Grand Rounds.** "Brain Machine Interfaces: Tapping Into Different Levels of Cortical Activity." Daniel W. Moran, asst. prof. of biomedical engineering. Clifton Aud., 4950 Children's Place. 454-6006.

**11 a.m. Energy, Environmental & Chemical Engineering Seminar Series.** "Novel Nanomaterials from Fast Laser-Induced Self-Organization: Applications to Solar Harvesting and Magnetism." Ramki Kalyanaraman, asst. prof. of physics. Lopata Hall, Rm. 101. 935-5548.

**Noon. Cell Biology & Physiology Seminar.** "Myosin VI In Vivo: What Properties are Important for its Function?" Kathryn G. Miller, prof. of biology. McDonnell Medical Sciences Bldg., Rm. 426. 362-6630.

**3 p.m. Association of Women Faculty Colloquium.** "The Science and Law of Climate Change." Barbara Schall, prof. of biology and Maxine Lipeles, dir. of the Interdisciplinary Environmental Clinic. Brown Hall Lounge. 935-6160.



## WUSTL to present Japanese Film Festival Feb. 15 and 16

By LIAM OTTEN

Washington University will host free screenings of two recent Japanese films Friday, Feb. 15, and Saturday, Feb. 16, in Brown Hall, Room 100.

"Hanging Garden" (2005), beginning at 7:30 p.m. Feb. 15, explores the quirky soul of a dysfunctional clan struggling to survive amidst the pressures of the modern age.

It is directed by Toshiaki Toyoda, whose previous works include "Pornostar" (1998), "Blue Spring" (2001) and "9 Souls" (2003).

"Hanging Garden" follows Eriko Kyobashi (Kyoko Koizumi), a middle-class mother who establishes an unconventional family policy of complete truthfulness and transparency. Yet secrets nevertheless remain: Eriko's teenage daughter stages trysts at the love hotel where she was conceived, while her husband and son each conduct affairs with the son's tutor. Through it all, Eriko struggles to keep her own depression hidden from the others.

"Linda Linda Linda" (2005),

beginning at 7:30 p.m. Feb. 16, traces the trials and triumphs of an all-girl band on the cusp of adulthood. Set in a high school on the outskirts of Tokyo, the story follows a group of friends who decide to perform at an upcoming school festival. Two days before the concert, their guitarist and lead singer quit the band. To avoid canceling, the remaining members enlist a Korean foreign exchange student, Son (Bae Doo-na), who leads the band despite not being fluent in Japanese.

Directed by Nobuhiro Yamashita, "Linda Linda Linda" features original music by James Iha of The Smashing Pumpkins as well as songs by Japanese punk band The Blue Hearts and a cameo appearance by The Ramones.

The screenings are sponsored by the programs in Film & Media Studies, International and Area Studies, and East Asian Studies, all in Arts & Sciences, with assistance from the Japan Foundation.

For more information, call the Film & Media Studies Program at 935-4056.

### Saturday, Feb. 23

**7:30 a.m.-12:40 p.m. Cardiovascular Disease CME Course.** "10th Annual Update in Cardiovascular Diseases and Hypertension." Cost: \$75. St. Louis Marriott West, 660 Maryville Centre Drive. To register: 362-6891.

**11 a.m. MLA Saturday Seminar Series.** "The Politics of Reproductive Rights and Motherhood." Susan Frelich Appleton, prof. of law. McDonnell Hall, Goldfarb Aud. 935-6700.

### Monday, Feb. 25

**8 a.m.-5 p.m. St. Louis STD/HIV Prevention Training Center Course.** "STD Intensive." (Continues 8 a.m.-5 p.m. Feb. 26 & 27.) Cost: \$125. For location and to register: 747-1522.

**10 a.m. School of Law Lecture.** "U.N. War Crimes Tribunals: Do They Help or Hinder Achieving Peace and Justice?" Larry Johnson, asst. secretary-general. Anheuser-Busch Hall, Rm. 309. 935-7988.

**Noon. Work, Families and Public Policy Brown Bag Seminar Series.** "People, Property and Patriarchy: The Evolution of Rights Over Human Capital." Nancy Folbre, prof. of economics, U. of Mass. Amherst. Eliot Hall, Rm. 300. 935-4918.

**3 p.m. School of Law Guest Lecture.** "U.N. War Crimes Tribunals: Do They Help or Hinder Achieving Peace and Justice?" Larry Johnson, asst. secretary-general. Anheuser-Busch Hall, Rm. 403. 935-7988.

**4 p.m. Eighteenth-Century Interdisciplinary Salon Lecture.** "Rethinking the Enlightenment: Nature and Culture in the High and Late Enlightenment." Peter Reill, prof. history, UCLA. (Reception follows.) Women's Bldg. Formal Lounge. 935-5175.

**4 p.m. Immunology Research Seminar Series.** Jonathan Green, assoc. prof. of medicine. Farrell Learning & Teaching Center, Connor Aud. 362-2763.

**5:30 p.m. Cardiac Bioelectricity & Arrhythmia Center Seminar.** "Heterogeneity of Cellular Ca<sup>2+</sup> Cycling in Intact Failing Rat." J. Andrew Wasserstrom, assoc. prof. of medicine, Northwestern U. (5 p.m. reception.) Whitaker Hall, Rm. 218. 935-7887.

**6:30 p.m. Architecture Lecture Series.** Kostas Terzidis, assoc. prof. of architecture, Harvard Graduate School of Design. (6 p.m. reception, Givens Hall.) Steinberg Aud. 935-9300.

### Tuesday, Feb. 26

**8 a.m.-4:30 p.m. Center for the Application of Information Technology Workshop.** "Project Management Simulation." (Continues 8 a.m.-4:30 p.m. Feb. 27 & 28.) Cost: \$1,560, reduced fees available for CAIT member organizations. CAIT, 5 N. Jackson Ave. 935-4444.

**Noon-4:30 p.m. Annual Postdoc Scientific Symposium.** Günter Wagner, prof. of ecology & evolutionary biology, Yale U. (Reception follows.) Eric P. Newman Education Center. To register: 362-2591.

**Noon. Molecular Microbiology & Microbial Pathogenesis Seminar Series.** "Protein Misfolding Done Right: The Biogenesis of Bacterial Amyloid Fibers." Matt Chapman, prof. of microbiology, U. of Mich. Cori Aud., 4565 McKinley Ave. 362-6772.

## Music

### Thursday, Feb. 14

**8 p.m. Jazz at Holmes.** Danny Sher's Idiosyncrasies. Ridgley Hall, Holmes Lounge. 935-5566.

### Sunday, Feb. 17

**3 p.m. Symphony Orchestra.** E. Desmond Lee Concert Hall, 560 Trinity Ave. 935-4841.

### Thursday, Feb. 21

**8 p.m. Jazz at Holmes.** Jan Shapiro, vocalist, and Bill Lenihan, guitar. Ridgley Hall, Holmes Lounge. 935-5566.

### Friday, Feb. 22

**6 p.m. Kemper Presents Concert Series.** Mmmelt. Kemper Art Museum. 935-4448.

**8 p.m. Opera Production.** Lizzie Borden, vocalist. (Also 8 p.m. Feb. 23.) Edison Theatre. 935-6543.

### Saturday, Feb. 23

**8 p.m. Kingsbury Ensemble.** Ridgley Hall, Holmes Lounge. 935-5566.

### Wednesday, Feb. 27

**8 p.m. Jazz Band.** Ridgley Hall, Holmes Lounge. 935-5566.

## On Stage

### Thursday, Feb. 14

**7 p.m. Israeli-Palestinian Comedy Tour.** Brown Hall, Rm. 100. 935-9040.

### Friday, Feb. 15

**8 p.m. OVATIONS! Series.** "Sacred Funk." Cost: \$30, \$25 for seniors, WUSTL faculty & staff, \$18 for students & children. Edison Theatre. 935-6543.

### Saturday, Feb. 16

**11 a.m. OVATIONS! for young people Series.** The Campbell Brothers. Cost: \$8. Edison Theatre. 935-6543.

### Friday, Feb. 22

**8 p.m. Performing Arts Dept. Presentation.** "She Stoops to Conquer." (Also 8 p.m. Feb. 23, 29 & March 1; 2 p.m. Feb. 24 & March 2.) A.E. Hotchner Studio Theatre. 935-6543.

## Sports

### Friday, Feb. 22

**6 p.m. Women's Basketball vs. Brandeis U.** Athletic Complex. 935-4705.

**8 p.m. Men's Basketball vs. Brandeis U.** Athletic Complex. 935-4705.

### Sunday, Feb. 24

**Noon. Men's Basketball vs. New York U.** Athletic Complex. 935-4705.

**2 p.m. Women's Basketball vs. New York U.** Athletic Complex. 935-4705.

## 'Kemper Presents' music series starts Feb. 22

Friday concerts to highlight St. Louis musicians

By LIAM OTTEN

From Scott Joplin and Chuck Berry to Tina Turner, Nelly and Wilco, St. Louis has long boasted a rich and widely influential musical scene.

This spring, the Mildred Lane Kemper Art Museum will launch a new concert series designed to highlight the talents and diversity of contemporary St. Louis musicians. The free Friday evening concerts — titled "Kemper Presents" — will feature at the museum close to a dozen local artists working in a variety of genres, from ambient jazz and electronica to experimental rock and American roots music.

"The Kemper Presents series allows us to reach out to the local community in a new way while also supporting the St. Louis music scene," said series organizer Kimberly Singer, the museum's manager of marketing, visitor services and events.

"We tried to enlist a real variety of musicians, genres and styles, so that there's something for everyone," Singer said.

"Hopefully it will help both regular and new visitors start their weekend with a unique confluence of culture and entertainment."

Concerts begins Feb. 22 with Mmmelt, which fuses ambient, punk, world beat, jazz, electronics, avant-garde and spoken word into an eclectic sonic landscape. The series continues Feb. 29 with Zimbabwe Nkenya, whose jazz stylings incorporate African, Cuban and European influences.

Indie singer-songwriters Tonya Gilmore and John McClellan will perform March 7, followed on March 14 by acoustic trio Rough Shop, winners of the Critics Choice for best Americana artist in the 2006 St. Louis Music Award.

National touring artist Teddy Presberg is joined by the Red Note Revivalists for an evening of improvisational acid-jazz March 21. The hypnotic jazz trio Learn, Artist! performs March 28.

The series continues April 4 with experimental rock four-piece psychotronics, followed by 'rock'n'jazzabluesabilly' trio Brotha' D. & the WOO-Daddies April 11.

### Schedule

**Feb. 22:** Mmmelt

**Feb. 29:** Zimbabwe Nkenya

**March 7:** Tonya Gilmore with special guest John McClellan

**March 14:** Rough Shop

**March 21:** Teddy Presberg with the Red Note Revivalists

**March 28:** Learn, Artist!

**April 4:** psychotronics

**April 11:** Brotha' D. & the WOO-Daddies

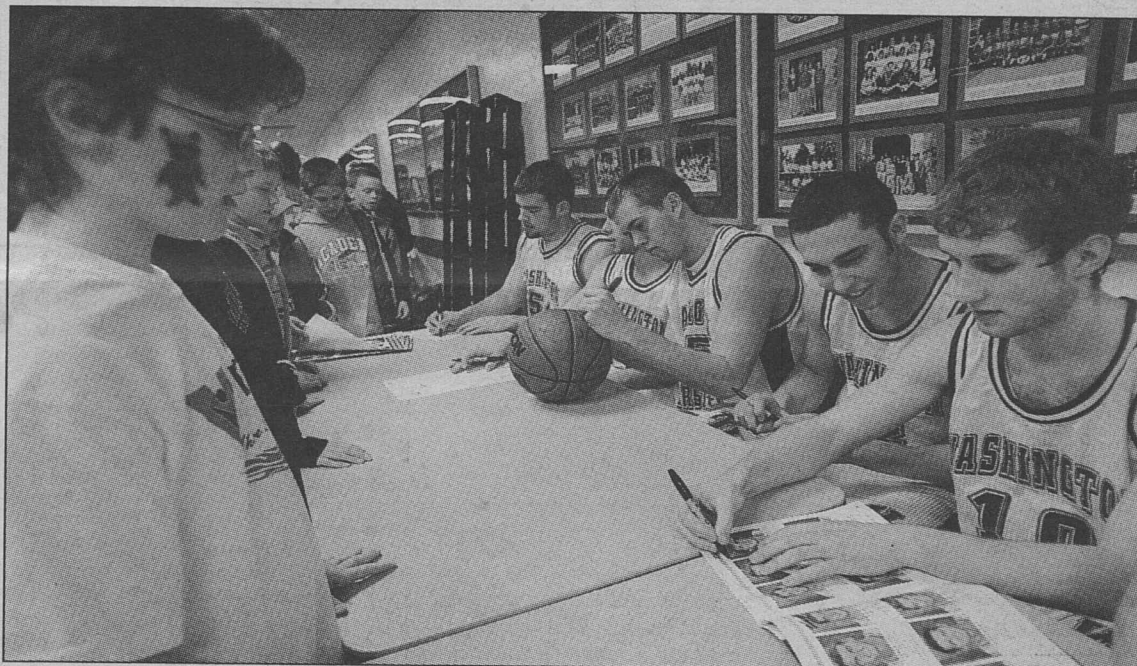
**April 18:** Final Veil

Final Veil will conclude the series April 18 with a concert combining experimental, Middle Eastern-influenced electronic music with live bellydancing.

The Kemper Presents series is made possible with support from KDHX 88.1 FM, Riverfront Times and Sauce Magazine.

All concerts are free and open to the public and begin at 6 p.m. Refreshments will be served. For more information, call 935-5490 or visit kemperartmuseum.wustl.edu.

## Sports



Austin Henry, 10, of Fenton, Mo., waits for an autograph from WUSTL basketball player Ross Kelley following the Bears' Feb. 10 victory against the University of Rochester. The event was part of Youth Day at the Field House, which included giveaways, face painting and an appearance by NCAA mascot JJ Jumper. Besides Kelley, WUSTL players giving autographs were (from far left) Tom Blount, Brett Sapp, Tyler Gordon and John Wolf.

### WUSTL adds women's golf team for 2008-09

Director of Athletics John Schael announced women's golf will be added to the intercollegiate athletics program and begin play for the 2008-09 season.

Director of Intramurals and Club Sports Sean Curtis, who has coached the team as a club the past two seasons, will lead the squad.

With the addition of women's golf, WUSTL boasts 19 intercollegiate athletic teams, including 10 varsity women's programs. Women's golf is the first new sport since softball made its debut in 2000.

### Men's basketball moves into first place

The No. 9 men's basketball team won two conference games at home last weekend to move into sole possession of first place in the University Athletic Association (UAA).

On Feb. 9, the Bears defeated Carnegie Mellon, 79-68, behind a career-high 25 points from senior Danny O'Boyle. O'Boyle was one of three Bears to score at least 20 points; junior Tyler Nading and senior Troy Ruths both netted

20 points.

On Feb. 10, WUSTL picked up a hard-fought 54-53 victory against No. 3 Rochester. The win was the Bears' 26th consecutive in the WUSTL Field House.

Ruths finished with a game-high 18 points, and he moved past Chris Jeffries (1999-2003) into second-place on the WUSTL all-time scoring list (1,530).

The Bears (16-4, 7-2 UAA) return to action Friday, Feb. 15, at Case Western Reserve University in Cleveland.

### Women's hoops tied for league lead

The No. 22 women's basketball team picked up two wins last weekend in University Athletic Association (UAA) action and moved into a tie for first place in the conference.

The Bears defeated Carnegie Mellon, 64-37, Feb. 8 and were led by sophomore Zoe Unruh, who scored 12 points.

WUSTL completed the weekend sweep by topping No. 7 University of Rochester, 63-61, in overtime Feb. 10. Freshman Alex Hoover drove the lane and made a layup as time expired in overtime to give the Bears a two-point victory. Rochester began the

weekend 7-0 in the UAA but lost two games and left St. Louis tied with WUSTL for first place. The two schools have split two meetings this year. The WUSTL women will be back in action Friday, Feb. 15, at Case Western Reserve University.

### Track team competes at Keck Invitational

The men's and women's track and field teams competed at the Bob Keck Invitational in Bloomington, Ill., Feb. 9.

The women's team took third at the event with 76 points, and the men's squad picked up 62.5 points to grab sixth place.

Freshman Ben Harmon won the long jump with an NCAA provisional distance of 6.99 meters, and senior Jesse McDaniel took first in the mile run with a time of 4:19.91.

For the women, junior Danielle Wadlington set an NCAA mark in the triple jump, winning the event with a distance of 11.29 meters. Senior Angela Hartman was the runner-up in the 800-meter run, finishing in 2:18.08.

Both teams return to action Saturday, Feb. 16, at the University of Wisconsin-Platteville Open.





**Actualizing Martin Luther King's vision** Sheba Wadley (left), a student at the George Warren Brown School of Social Work and co-chair of the Society of Black Student Social Workers (SBSSW), greets Bessie House-Soremekun, Ph.D., founder and CEO of the National Center for Entrepreneurship Inc. (NCE), in Goldfarb Hall Commons Feb. 2. The NCE is an international collaborative of business centers whose main objective is to promote entrepreneurial efficacy and economic growth across the country. House-Soremekun gave a keynote address to kick off the second annual "Financial Freedom Seminar: Achieving Economic Independence Through Education," an SBSSW-sponsored event held in honor of Martin Luther King Jr.

## Campus Watch

The following incidents were reported to University Police Jan. 30-Feb. 6. Readers with information that could assist in investigating these incidents are urged to call 935-5555. This information is provided as a public service to promote safety awareness and is available on the University Police Web site at [police.wustl.edu](http://police.wustl.edu).

### Jan. 31

4:55 p.m. — A person reported that money was stolen from a purse in Brown Hall.

### Feb. 1

2:41 p.m. — A student reported her laptop was lost between Rutledge House and Mallinckrodt Student Center.

### Feb. 3

12:41 p.m. — A student re-

ported she lost her red Palm Treo while at the Bear's Den.

### Feb. 4

9:36 p.m. — A student reported the theft of a bicycle outside of Mudd House.

### Feb. 5

5:57 a.m. — Two students were arrested on the South 40 for distributing drugs on campus.

### Feb. 6

9:07 a.m. — A student was arrested off-campus for possession of drugs.

*Additionally, University police also responded to one accidental injury, one auto accident, one pedestrian check, one report of a suspicious person, one report of harassment and one sick case.*

## Bacterium

**Genetic map of a unique organism**  
— from Page 1

### Future applications

Harvesting solar power through plants or other organisms that would be genetically altered with the chlorophyll d gene could make them solar-power factories that generate and store solar energy.

Consider a seven-foot corn plant genetically tailored with the chlorophyll d gene to be expressed at the base of the stalk. While the rest of the plant synthesized chlorophyll a, absorbing short-wave light, the base is absorbing "red edge" light in the 710-nanometer range.

Energy could be stored in the base without competing with any other part of the plant for photo-

synthesis, as the rest only makes chlorophyll a. Also, the altered corn using the chlorophyll d gene could become a "super plant" because of its enhanced ability to harness energy from the sun.

That model is similar to how *Acaryochloris marina* actually operates in the South Pacific, specifically Australia's Great Barrier Reef. Discovered just 11 years ago, the cyanobacterium lives in a symbiotic relationship with a sponge-like marine animal popularly called a sea squirt. The *Acaryochloris marina* lives beneath the sea squirt, which is a marine animal that attaches to rocks just below the surface of the water. The cyanobacterium absorbs "red edge" light through the tissues of its pal, the sea squirt.

### Fat and happy

The genome, said Blankenship, is "fat and happy. *Acaryochloris marina* lies down there using that far red light that no one else can use. The organism has never been

under very strong selection pressure to be lean and mean like other bacteria are. It's kind of in a sweet spot. Living in this environment is what allowed it to have such dramatic genome expansion."

Blankenship said that once the gene that causes the late-step chemical transformation is found and inserted successfully into other plants or organisms, it could potentially represent a 5 percent increase in available light for organisms.

"We now have genetic information on a unique organism that makes this type of pigment that no other organism does," Blankenship said.

"We don't know what all the genes do by any means. But we've just begun the analysis. When we find the chlorophyll d enzyme and then look into transferring it into other organisms, we'll be working to extend the range of potentially useful photosynthesis radiation," he said.

Mice lacking FcRn had difficulty clearing antibody from the kidney.

When researchers studied the mice lacking FcRn for longer periods of time, they saw evidence that antibodies were accumulating in the kidney.

In another experiment, researchers gave the mice injections of large quantities of protein to saturate the clearance system. They followed those injections with what would normally have been a harmlessly small dose of an antibody potentially toxic to the kidney. The mice developed

kidney damage as a result. Researchers believe this was because they couldn't clear the toxic antibody from the GBM quickly enough.

"This is the first clear demonstration that the filter system in the kidney isn't just a passive mechanical filter; it's actually involved in its own maintenance," Akilesh said.

"It also provides us with a nice mechanism for explaining how the normal function of this filter may be breaking down in ways that leads to kidney disease and damage," Akilesh said.

## Bioethicists' personal cancer experiences to be studied

**M**otivated by her own experiences living with a life-threatening illness, Rebecca Dresser, J.D., the Daniel Noyes Kirby Professor at the School of Law and Professor of Ethics at the School of Medicine, has convened a nationally renowned group of bioethicists to study the topic "Bioethics and Cancer: When the Professional Becomes Personal."

Dresser received a \$79,983 grant from the Greenwall Foundation to conduct groundbreaking research and prepare materials based on the unique perspective of bioethicists who all have a personal experience with cancer. Of the seven group members, five have had cancer themselves, and three have cared for spouses with cancer. Dresser was diagnosed with and treated for cancer in 2006.

"In this project, a group of individuals who teach and write about bioethics will examine what can be learned through personal experience with cancer and how this can inform bioethical analysis," said Dresser, an expert on the legal and ethical dimensions of a variety of medical, biomedical and health-related topics.

"Group members will describe ways of coping with cancer and how we were affected by medical and social responses to the disease. We also will discuss whether our experiences were consistent with the bioethics material we had previously read, taught and written," she said.

A member of the President's Council on Bioethics, Dresser noted that cancer is an illness that raises many ethical issues, ranging from medical decision-making to the patient-physician relationship, clinical trials and access to health care.

Due to its pervasiveness, it is also an illness that touches virtually every family in the United States. Cancer is the cause of one of every four deaths in this country. Men in the United States have about a one-in-two chance and women have a one-in-three chance of having cancer.

While bioethics teachers and scholars spend considerable time examining issues related to serious illness such as cancer, few have themselves experienced such illness, Dresser said.

"Though personal experience is not essential to thoughtful analysis, living with a life-threatening illness adds a new dimension to a person's understanding of many bioethical concerns," she said.

**"Though personal experience is not essential to thoughtful analysis, living with a life-threatening illness adds a new dimension to a person's understanding of many bioethical concerns."**



REBECCA DRESSER

After examining the personal dimensions of life-threatening illnesses and the professional vantage point they bring to the experience, research group members will develop recommendations for revising clinical practice, ethical analysis and health policy.

"We will seek to capture elements of 'cancer ethics' that have not yet been recognized in the clinical or bioethics literature," Dresser said.

"We will then design publications and presentations to enrich and challenge current thinking about the ethics of cancer patient care, social attitudes toward people with cancer and their caregivers and policies affecting cancer care and research," she said.

In addition to Dresser, other members of the project group are:

Dan W. Brock, Ph.D., the Frances Glessner Lee Professor of Medical Ethics at Harvard Medical School; Norman Fost, M.D., professor of pediatrics and director of the program in medical ethics at the University of Wisconsin-Madison Medical School; Arthur W. Frank, Ph.D., professor of sociology at the University of Calgary; Leon Kass, M.D., Ph.D., the Addie Clark Harding Professor in the Committee of Social Thought at the University of Chicago; Patricia A. Marshall, Ph.D., professor of bioethics and anthropology at Case Western Reserve University; and John A. Robertson, J.D., the Vinson & Elkins chair at the University of Texas Law School.

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### News & Comments

(314) 935-5293  
Campus Box 1070  
[record@wustl.edu](mailto:record@wustl.edu)

### Medical News

(314) 286-0119  
Campus Box 8508  
[millerbe@wustl.edu](mailto:millerbe@wustl.edu)

### Calendar Submissions

Fax: (314) 935-4259  
Campus Box 1070  
[recordcalendar@wustl.edu](mailto:recordcalendar@wustl.edu)

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Washington University in St. Louis

## Kidney

**Filter system involved in own maintenance**  
— from Page 1

binds to both IgG and albumin and is present in human podocytes. After confirming that the FcRn protein also is made in mouse podocytes, scientists measured the retention of a radioactive tracer in the kidneys of normal mice and in mice where the gene for FcRn had been disabled.



## Notables

# Two business startups collect \$75,000 in seed funding

Student entries dominate the Olin Cup field in the 10th annual contest

BY SHULA NEUMAN

Two early-stage companies received commitments for funding at the annual Olin Cup awards ceremony Feb. 7 at the Olin Business School.

The top award of \$50,000 went to Is That One Good? (ITOG), a Web site (itog.com) that allows users to generate relevant, accurate product recommendations, hold meaningful discussion about the products and discover new items based on the individual's preferences. ITOG differentiates itself by creating internal synergy so that book-lovers will have an opportunity to discover new magazines or restaurants without switching Web sites.

In addition to collecting the grand prize, ITOG's founder, Richard Feldman, M.B.A. 2008, won the \$5,000 student cash prize.

The recipient of the \$20,000 award is MedExceed, a medical device company that facilitates the recovery process for people affected by temporomandibular

(jaw) joint injury. MedExceed's inventor and CEO is Arash Sabet, M.B.A. 2009.

The keynote speaker at the awards ceremony was Arnold W. Donald, former chairman of Merisant and current president and chief executive officer of the Juvenile Diabetes Research Foundation International, the largest charitable funder of diabetes research in the world. Donald has a

long history with the University. He graduated from WUSTL with a degree in mechanical engineering before receiving an M.B.A. from the University

of Chicago. Donald has served as an executive-in-residence at the Olin Business School for the past two years and has spoken on the topic of "Intrapreneurial and Entrepreneurial Lessons."

Ken Harrington, managing director of the Skandalis Center, said, "The number of student submissions increased this year, and four of the five finalist teams were founded by students. Programs like IdeaBounce and Coffee with the Experts seem to be really helping the region's idea-



Richard Feldman (center), founder of Is That One Good?, celebrates with his team — Thomas Mooney (left) and Paul Bender — after winning the Olin Cup.

stage entrepreneurs, including our students. We appreciate the support from our sponsors and the community in helping to grow the entrepreneurial environment in the region."

The Olin Cup competition was founded in 1988 as part of The Hatchery entrepreneurship course at the Olin Business School.

The competition began award-

ing up to \$70,000 in seed funding in 2001 with the support of the Skandalis family. In 2005, the competition began awarding the best student teams \$5,000.

To date, the competition has resulted in the formation of more than 50 new businesses by business students and alumni.

In 2003, the Kauffman Foundation selected WUSTL as one of

eight U.S. universities to share \$25 million in grants through a program designed to make entrepreneurship education available across campuses and transform the way entrepreneurship is viewed, taught and experienced. WUSTL received a \$3 million grant and now has 37 course offerings spanning all degree types and levels.



## For the Record

### Of note

**Jacques Baenziger**, M.D., Ph.D., professor of pathology and immunology and of cell biology & physiology, received a one-year, \$500,000 National Institutes of Health Director's Bridge Award for research titled "Oligosaccharide Structure and Function in Recognition." ...

**W. Robert Binns**, Ph.D., research professor of physics in Arts & Sciences, has received a three-year, \$916,503 grant from the National Aeronautics and Space Administration for research titled "ANITA: Antarctic Impulsive Transient Antenna." ...

**Robert Blankenship**, Ph.D., the Lucille P. Markey Distinguished Professor of Arts & Sciences, has received a three-year,

\$600,000 grant from the U.S. Department of Energy for research titled "Mechanism of Energy Storage by Chlorosome Antennas of Green Photosynthetic Bacteria." ...

**Ken Cadwell**, Ph.D., a post-doctoral research scholar, with his sponsor, **Herbert W. "Skip" Virgin IV**, M.D., Ph.D., the Mallinckrodt Professor and head of pathology and immunology, was among 17 post-doctoral scientists nationwide named a Damon Runyon Fellow in November 2007 by the Damon Runyon Cancer Research Foundation. The fellowship is intended to encourage the nation's most promising young investigators to pursue careers in cancer research by providing them with independent funding to work on innovative projects. ...

**Tao Ju**, Ph.D., assistant professor of computer science and engineering, has received a three-year, \$300,000 grant from the National Science Foundation for research titled "Geometric Modeling for Spatial Analysis of Bio-Medical Data." ...

**Garland Marshall**, Ph.D., professor of biochemistry and molecular biophysics, was recently inducted into the Medicinal Chemistry Hall of Fame's inaugural class. The Hall of Fame recognizes medicinal chemists who have made overall outstanding contributions to medicinal chemistry through research, teaching and service. ...

**Barbara Schaal**, Ph.D., the Spencer T. Olin Professor in Arts & Sciences, along with researchers at New York and Cornell universities, received a four-

### Have you done something noteworthy?

Have you presented a paper? Won an award? Received a grant? Been elected an officer in a professional organization? The Record will help spread the good news. Contributions regarding faculty and staff scholarly or professional activities to the Notables section are gladly accepted and encouraged.

Please send a brief note with your full name, highest-earned degree, current title and department and a description of your noteworthy activity to Jessica Daves at Jessica\_Daves@wustl.edu or fax to 935-4259.

year, \$4,402,973 grant from the National Science Foundation for research titled "The Evolutionary Genomics of Rice Domestication." ...

**Robert E. Schmidt**, M.D., Ph.D., professor of pathology and immunology and chief of the Division of Neuropathology, received a five-year, \$1,276,648 grant from the National Institutes of Health for research titled "Experimental Diabetic Autonomic Neuropathy." ...

**Viatcheslav Solomatov**, Ph.D., associate professor of Earth and planetary sciences in Arts & Sciences, has received a three-year, \$232,975 grant from the National Aeronautics and Space Administration for research titled "Martian Evolution: From Magma Oceans to Present-Day Mantle Dynamics." ...

**Rebecca Treiman**, Ph.D., the Burke and Elizabeth High Baker Professor of Child Development Psychology, and **Brett Kessler**, Ph.D., assistant professor of psychology and of philosophy-neuroscience-psychology, both in Arts & Sciences, have received a five-year, \$1,453,500 grant from the National Institutes of Health for research titled "Children's Early

Knowledge of Letters and Spelling Across Languages." ...

**Washington University** received the 2007 Clayton Chamber of Commerce's Cornerstone Award Jan. 29 at a ceremony at the Ritz-Carlton in Clayton, Mo. The Cornerstone Award recognizes an individual or company whose contributions have had a major impact on the Clayton community. ...

**Weixiong Zhang**, Ph.D., associate professor of computer science and engineering, has received a two-year, \$100,000 grant from the Alzheimer's Association for research titled "Initial steps toward elucidating gene expression regulation of LOAD."

### In print

**Todd Braver**, Ph.D., **Ian Dobbins**, Ph.D., and **Kathleen McDermott**, Ph.D., all associate professors of psychology in Arts & Sciences, were featured as "Rising Stars" in the Association for Psychological Science's monthly magazine, the Observer. Braver was mentioned in the October 2007 issue and Dobbins and McDermott in the November 2007 issue. ...

**Carter C. Revard**, Ph.D., professor emeritus of English in Arts & Sciences, had several poems published in the December 2007 issue of Stand Magazine, a quarterly literary magazine. "Go To College," "Living in the Holy Land," "Songs of the Wine-Throated Hummingbird" and "Survivance: T-Rex Defeats Colonel Sanders" were published, along with part of a science-fiction novel in progress, titled "The Visitor's Other World." All the pieces were previously unpublished works except for "Songs of the Wine-Throated Hummingbird," which was reprinted from his "Winning the Dust Bowl."

## Obituaries

# Zaborszky, senior engineering professor, 93

John Zaborszky, D.Sc., senior professor of electrical and systems engineering, died Friday, Feb. 1. He was 93.

Zaborszky was born May 13, 1914, in Budapest, Hungary. After earning a doctor of science degree in 1943 from the Royal Hungarian Technological University, Zaborszky worked for the university as a docent and was the chief engineer for the Municipal Power System in Budapest.

After moving to the United States in 1947, Zaborszky worked for the University of Missouri-Rolla until he joined Washington University in 1954.

In 1974, Zaborszky became the founding chairman of the Department of Systems Science and Mathematics, a position he held

until 1989.

Zaborszky's research focused on power systems and their dynamics. He published two books and more than 200 technical papers. He was a member of the National Academy of Engineering and an honorary member of the Hungarian Academy of Science.

### Bauer, leader in baby-tooth study, 82

**Walter C. Bauer**, M.D., a retired professor of pathology at the School of Medicine, died Saturday, Feb. 2, at Barnes-Jewish Hospital after a brief illness. He was 82.

Bauer joined the School of Medicine faculty in 1958 as an instructor in surgical pathology and

The School of Engineering established the Zaborszky Distinguished Lecture Series in 1990 to honor Zaborszky for his distinguished career. Even after retiring, Zaborszky remained active at WUSTL as a senior professor.

A memorial service was held in Graham Chapel on Feb. 11.

pathology and retired in 1989.

In the 1950s and '60s, Bauer was a leader in the St. Louis Baby Tooth Survey, which studied nearly 300,000 baby teeth in a search for evidence of fallout from nuclear bomb tests. The results led to a ban on above-ground nuclear weapons testing.



## Washington People

Life in laboratory medicine strives for explicit and predictable plans of action: Test A leads either to Diagnosis B or C or to follow-up Test D.

When he looks back on his life so far, though, Jack Ladenson, Ph.D., the Oree M. Carroll and Lillian B. Ladenson Professor of Clinical Chemistry, often finds an entertaining lack of predictability. He laughs loudest when he remembers how long he originally thought he'd stay at Washington University: "no more than three to five years."

Ladenson came to the University more than three and a half decades ago.

A few years after his arrival, researchers developed the ability to make monoclonal antibodies. The immune system uses antibodies to seek out invaders and label them for attack and disposal. Monoclonal antibodies promised to put the abilities of these molecular bloodhounds at scien-

By MICHAEL C. PURDY

## A remarkable vision

Jack Ladenson brings hope to patients throughout the world

tists' disposal.

Around that time, rapid and reliable heart attack diagnosis was a high clinical priority. New treatments were in the pipeline for heart disease, a leading cause of mortality, but to maximize their effectiveness, physicians needed to know quickly if patients were really having a heart attack.

Ladenson and several colleagues found themselves ideally positioned to see if specific monoclonal antibodies could enable quick, accurate heart attack diagnosis.

"All at once, a number of people were anxious to give us research money to develop monoclonal antibodies," Ladenson says. "That was kind of extraordinary."

In the mid-1980s, Ladenson's lab developed a monoclonal antibody that bound to a form of an enzyme, creatine kinase (CK-MB), that was produced mainly in heart cells. Because they were working with several antibodies at the time, Ladenson asked research associate Vonnice Landt to give them names. Landt, an Arnold Schwarzenegger fan, named the CK-MB antibody Conan, after the Robert E. Howard sword-and-sorcery hero brought to the big screen by Schwarzenegger.

After the antibody was licensed to a number of companies and further developed, it became the standard of care applied in hospitals throughout the developed world. Later, Ladenson's lab developed monoclonal antibodies to Troponin I that provided even more specific heart attack diagnosis. Together, the tests



A medical evaluation team from St. Louis in Eritrea: (from left) Jason Goldfeder, M.D.; Jack Ladenson, Ph.D.; Debbie Witte; Cindy Merrins; Gaye Knutsen; David Windus, M.D.; and Ruth Ladenson.

have made the University significant sums of money, at one point providing a fifth of the University's annual technology licensing revenue.

### Paying it forward

Ladenson has put the money from the heart attack tests to multiple good uses, including the endowment of three faculty chairs at the University: the Oree M. Carroll and Lillian B. Ladenson Professor of Clinical Chemistry, the Conan Professor of Laboratory Medicine and the Ladenson Professor of Pathology.

The funds also have sometimes proven helpful to a second major branch of his life's work that began in 1994. Ladenson still remembers the call he received that year from Heinz Hoenecke, M.D., founder of Pathologists Overseas Inc. When he retired from pathology, Hoenecke, whose parents had been missionaries, decided to cross-train as an internist and go to Africa to serve as a doctor. That trip led to two revelations for Hoenecke, according to Ladenson.

"The first was that he was a lousy internist," Ladenson says. "And he'll tell you that — it's just so easy to like this guy. But the second was that he had seen very, very poor pathology and diagnostic services, and there was a real opportunity for improvement in these areas."

Soon, Ladenson was taking the first of many overseas trips to countries like Eritrea, Kenya and Bhutan to see what he and others could do to help. Among his discoveries: The best way to learn what diagnostic services are most in need is to ask the country's own health-care professionals.

"All of us who guessed what

would be the most utilized tests in Eritrea guessed wrong," he says. "It was a very useful lesson: Do not presume you know more than the people in a country just because they happen to be poor and born in an underdeveloped place."

If a clinical test is needed in Eritrea and the test substance in the patient's sample can survive the logistical challenges imposed by transport from that country, Ladenson has worked out a system to have the test performed at Barnes-Jewish Hospital and interpreted by WUSTL faculty. As testing starts to be performed in the country, Ladenson has developed a network of corporate donors of diagnostic equipment.

"There are companies with hearts," he says. "They're out there. If some initially tell me no, I don't mind. I just keep trying."

In many ways, Ladenson has become an expert recruiter. He has learned how to find and develop relationships with foreign governmental officials who are most willing and able to help improve health care in their countries. And he regularly identifies young, established medical professionals interested in spending weeks or even years overseas.

David Windus, M.D., professor of medicine, has joined Ladenson on several trips to Eritrea and Bhutan. The trips started after a diabetes test became available in Eritrea that had been in use in the United States since the 1960s and '70s.

"They now had access to a test, hemoglobin A1C, which showed there was a problem in diabetes patient management, so what should they do about it?" Ladenson says. "I didn't feel comfortable just throwing my hands up, so I got together this small group that included two diabetes clinicians, diabetes nurses and diabetes educators."

Windus, Jason Goldfeder, M.D., assistant professor of medicine, and the rest of the team went to Eritrea to study how patient management could be improved. The group's efforts blossomed into clinical training courses for physicians and nurses and eventually led to the creation of Eritrea's first certified diabetes nurse practitioners.

"Jack has this remarkable vision for how a small group of dedicated people can advance health care in a developing country," Windus says. "He sees how so many different things fit together: the quality of equipment, the stocking of testing materials, the training of clinicians and the ability of physicians to use the information the labs produce, to name just a few examples."

Windus attributes Ladenson's dedication to a strong egalitarian

streak: equal access to good care.

Ladenson speaks with wonder of bringing life-saving tests to Third World nations that are taken for granted in the United States.

"When I first became involved in this work, it was frustrating because 'What can I do?' was the central question," he says. "But now I think we've kind of figured out a general way to approach some of these problems."

### New challenges

Ladenson is interim director of the Division of Laboratory and Genomic Medicine.

"Jack is a sophisticated clinical chemist who made a strong commitment to the growth and development of our laboratory and genomic medicine division, which is one of the very best," says Emil R. Unanue, M.D., the Paul and Ellen Lacy Professor and former head of pathology and immunology. "Jack's apparent laissez-faire attitude, which we all enjoy, is combined with effective and accomplished leadership."

Ladenson hopes to step down from the interim directorship soon. He's going to stay active in research and in Pathologists Overseas, but he and his wife, Ruth, recently purchased a house in Vermont where they want to spend some time with their family, friends and dogs.

Ladenson's personal hobbies include collecting old material related to sports and politics. He frequently has a table at national shows.

"I started this years ago as a communications device with my then-teenage son," he says. His son is now busy with other things, but Ladenson has continued it, finding it a great stress release.

His son, Jeff, a specialist in foreign disaster relief, now lives in Morocco with his wife, Lauren, a U.S. foreign service officer, and their three children. His daughter, Michele, a cultural anthropologist, lives in Texas with her husband, John, a pediatric anesthesiologist, and a newborn son.

"We try to stop by Morocco or Texas when we can," Ladenson says. "Ruth and I both enjoy visiting the children and grandchildren as often as possible."

### Jack Ladenson

**Born:** April 8, 1942

**Education:** B.S., Pennsylvania State University; Ph.D., University of Maryland at College Park

**Family:** Wife, Ruth; daughter, Michele, and son-in-law, John Zhong; son, Jeff, and daughter-in-law, Lauren; grandchildren Henry Zhong and Jonas, Elsa and Zella Ladenson.



The Ladenson family on a ski trip to Keystone, Colo.: (from left) Jack Ladenson; son, Jeff Ladenson; daughter-in-law, Lauren Ladenson; son-in-law, John Zhong; daughter, Michele Ladenson; and wife, Ruth Ladenson.