Mouse model mimics natural development of epilepsy

BY GILA Z. RECKESS

School of Medicine researchers have developed a mouse model of the genetic disorder tuberous sclerosis complex (TSC). The mice develop epilepsy within the first few months of life, mimicking one of the most devastating complications of TSC in children.

This research represents one of the first animal models of epilepsy that does not reflect the injurious effects of toxins, trauma, or injury and results from a single gene defect. The study appears online in Annals of Neurology and will be published in the journal's September issue.

"What's enormously exciting about this study is the potential to employ this mouse model as a pre-clinical model for TSC-related epilepsy," said David H. Gutmann, M.D., Ph.D., the Donald O. Schnuck Family Professor of Neurology and Neurosurgery. "This research will provide a unique opportunity to study the natural history of TSC-related epilepsy, and to test hypotheses in a translational setting that may ultimately lead to improved therapies for patients with TSC and individuals with related conditions."

Gutmann led the study in conjunction with Kevin Yamada, M.D., associate professor of neurology and pediatrics. TSC is a genetic disorder that affects about 50,000 Americans, more than half of whom experience frequent debilitating epileptic seizures. TSC also causes tumors to form in various organs, including the brain. Physicians cannot cure the disease nor can they predict which individuals will experience severe symptoms.

Scientists have identified two genes responsible for TSC — TSC1 and TSC2. Because affected individuals often develop tumors, Gutmann's team hypothesized that TSC1 may play a clue into tumor development. Because mice that completely lack TSC1 die early in development, the researchers engineered a strain of animals that are missing the TSC1 gene in only one type of brain cell: astrocytes. Surprisingly, the mice did not develop tumors.

In a recent issue of Autopsy Journal Letters, Katharina Lodders, a senior research scientist in the University's Planetary Chemistry Lab in the earth and planetary sciences department in Arts & Sciences — along with researchers from the University of California, Los Angeles, NASA and other institutions — reported the first evidence for the existence of changing weather patterns on brown dwarfs. They are the first non-planetary objects to exhibit such phenomena.

Lodders' role was to model what compounds may exist under the temperatures and pressures in brown dwarf atmospheres. "The thermodynamic modeling tells us that liquid iron is settling into clouds," Lodders said. There are lots of Earth-like analogies to suggest what the 'weather' is like. The appearance might be described as a sort of fog there might be described as a sort of fog, therefore shed light on the nature of the 'weather up there?" was a question for pilots, NASA stars and friendly giants.

Today, however, you might also ask a dwarf. A brown dwarf, that is.

Brown dwarfs, which have been described as "failed stars," are celestial bodies more massive than planets like Jupiter but not large enough to sustain the thermonuclear reactions that make a star shine.

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Welfare use more common than many think

By Jessica N. Roberts

Many Americans believe that welfare use is on the rise and that welfare users are routinely vilified and portrayed as members of marginalized groups, in fact, most Americans will encounter the welfare system at some point during their adult years," said Mark R. Rank, Ph.D., professor in the Geography and Regional Development Institute and first author of the study, "Contrary to much of the popular rhetoric, the use of the United States social safety net is widespread and common." The study also looked at the length of welfare use, and its results go against the current perception that those on welfare will languish in assistance programs for five or more years at a time. In fact, the study indicates that "the use of welfare across the adult years tends to occur over fairly short intervals of time."

Researcher seeks ways to prevent protein misfolding

By Tony Fitzpatrick

A University biomedical engineer is unlocking the riddles Mother Nature abuses in knowing "when to hold 'em or fold 'em." He's not dealing with cards, rather, with proteins — products that carry out the plans of our genes. The biological function of proteins is directly determined by their folded shape in three dimensions. The folding process is a thermodynamically driven reaction modulated by exchange mechanisms in environmental parameters such as temperature, solvent conditions, protein concentration as well as by mutations in amino acid (the building blocks of proteins) sequence.

"Clearly there are universal principles that underlie the misfolding process. I am using simple peptide systems with well-defined folded states to understand these universal physical principles," Rohit Pappu, Ph.D., assistant professor of biomedical engineering, is developing computational models for understanding the formation of misfolded proteins and amyloid fibrils, banded substances that are associated with several diseases. Changes in any of these parameters can lead to errors in the folding process. These misfolded proteins lead to irreversible protein aggregation and subsequent disease. Protein misfolding is associated with the onset of Alzheimer's disease, borine spongiform encephalopathy or "mad cow disease," Cruetzfeldt—Jakob disease, cystic fibrosis, emphysema, Huntington's disease, Parkinson's disease, type 1 diabetes and some types of spinocerebellar ataxia, as well as several other diseases.

These diseases, referred to as amyloidoses, are characterized by the deposition of insoluble protein aggregates or amyloid fibrils resulting from misfolded proteins. This misfolding leads to irreversible protein aggregation.

A vast number of amino acid sequences give rise to discrete lengths form amyloid fibrils. "Clearly there are universal principles that underlie the misfolding process," Pappu said. "I am using simple peptide systems with well-defined folded states to understand these universal physical principles." His work recently published in the Proceedings of the National Academy of Sciences: "We found that the system of single chains of polypeptides as well as interactions among many chains".

University renovates two nearby apartment buildings

By Andy Cleshenen

For many college is all about independence. And now, several University students will have the opportunity to assert that independence while still remaining part of the campus community. The University has renovated Rosedale Apartments and also half of Greenway Apartments, and has handed the running of the two buildings to Residential Life. Both buildings previously had been owned by the University but had been managed by Parkview Properties. They were old and in pretty poor shape, said Steve Rackers, manager of capital projects and facilities, "and the idea was to bring them back up to comparable quality of what we do on campus."

"It's an extension of our housing. They are providing basically the same services that Residential Life does. They are as close to the campus as South 40 is, so we thought, 'Why can't Residential Life manage another building in another area that close to campus?'' Rosedale is located at the corner of Waterman and Rosedale avenues just south of Delmar Boulevard, and has about 34 beds. Greenway, at the corner of Waterman and Melville avenues, sits south of the University City Loop, and is approximately twice the size of Rosedale.

Several changes are in store for the residents of the two buildings. The students will be living with a University housing contract rather than having a month-to-month lease, and the billing will be done through student billing services, which is similar to our other housing. Rackers said that the students will also have their own kitchen, living room and live more independently. Prior to this, we only really had Millbrook Square, so this adds to our housing capacity by about 300 beds."
Mice provide insight into bone metabolism disorders

F. Patrick Ross

"These findings provide valuable insights into the molecular basis for how bone is degraded, a process important for several serious bone diseases."

"This current study supports that theory. Without SHIP, macrophages became hypersensitive to M-CSF and RANKL.

Mice lacking a protein called SHIP (Src homology 2-containing inositol-5-phosphatase) have twice as many macrophages as those lacking the gene for SHIP. The mice have abnormally high numbers of macrophages, a type of immune cell. Because macrophages can develop into osteoclasts, the Washington University team hypothesized that the mice lacking SHIP may eventually develop symptoms similar to JPD. They were right. The mice had twice as many osteoclasts as normal mice, and the cells were much larger than normal, with about 100 nuclei. Since each macrophage has just one nucleus, the researchers conclude that each enlarged osteoclast represents about 100 fused cells. In other words, they looked exactly like osteoclasts from a person with JPD.

When the team examined cell samples in petri dishes, macrophages from mice lacking SHIP not only produced more osteoclasts than normal, the osteoclasts also lived longer. Moreover, they broke down bone much faster than normal osteoclasts.

The researchers also determined how a deficiency in SHIP leads to an excess of enlarged osteoclasts. In addition to having too many nuclei, the cells also were hypersensitive to two proteins — macrophage colony stimulating factor (M-CSF) and receptor activator of nuclear factor-κB ligand (RANKL) — which stimulate macrophages to become osteoclasts.

Researchers believe that SHIP normally dampens the message sent from M-CSF and RANKL, keeping those signals at a reasonable level. This current study supports that theory. Without SHIP, macrophages became hypersensitive to M-CSF and RANKL.

With too many enlarged osteoclasts, the mice had shorter, thinner bones, lost about 22 percent of their bone-mineral density and were far more susceptible to bone fractures, all hallmarks of JPD.

"These findings provide valuable insights into the molecular basis for how bone is degraded, a process important for several serious bone diseases," Ross said.

"We hope the results also may lead to effective new treatments for such diseases in the future."


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Local retirement community focus of study

The University's Center for Aging is collaborating with the Jewish Federation of St. Louis to investigate naturally occurring retirement communities, or NRCs.

The Jewish Federation received a $3.1 million from the Department of Health and Human Services for the pilot project, the largest of five grants awarded nationally for this type of research.

The program's mission is to find ways to help aging Americans spend their senior years in their own homes with the help of support services that provide transportation, health and human services and home modifications.

Many apartment buildings and neighborhoods have naturally evolved into retirement communities, including an area of Creve Coeur that includes 1,500 residents older than 65. The Jewish Federation and the Center for Aging plan to use the grant for pilot research projects and to improve outreach services to this community.

According to John C. Morris, M.D., director of the Center for Aging and the Harvey A. and Dorisanne Hacker Friedman Professor of Neurology, the University's Center for Aging is excited to explore strategies that enable older adults to live longer, more productive lives.

"By partnering in this project, we can begin to understand what elderly persons perceive as important opportunities to remain productive in their community, which will help us plan larger, long-term studies to address these issues."

Sen. Jean Carnahan supported the grant's proposal and will be in St. Louis to kick off the program in late September.
Janson’s legacy honored in Gallery of Art exhibition

BY LIAM OTTEN

I n the mid-1940s, H.W. Janson, author of the influential textbook *History of Art*, served as a curator at the University, where he built what he proudly called “the finest collection of contemporary art assembled by any American museum.” In the 1950s and ‘60s, successive curators — along with a handful of prominent St. Louis collectors — continued to strengthen the great scholar’s curatorial foundations, thus establishing one of the nation’s finest university collections of modern art.

Starting Aug. 30, the Gallery of Art will honor that distinguished historian with *H.W. Janson and the Legacy of Modern Art at Washington University in St. Louis*, an exhibition of more than 20 masterworks from the University’s collection.

The show — which debuted in a slightly different form at New York’s Salander-O’Reilly Galleries in March — features works by many of the 20th century’s foremost European and American modernists. The exhibit is free and open to the public.

Artists include: Georges Braque, Alexander Calder, Willem de Kooning, Theo van Doesburg, Jean Dubuffet, Max Ernst, Arshile Gorky, Philip Guston, Juan Gris, Ferdinand Leger, Jacques Lipchitz, Mark Rothko, Marsden Hartley, Paul Klee, Jean Dubuffet, Max Ernst, Arshile Gorky, Philip Guston, Juan Gris, Ferdinand Leger, Jacques Lipchitz, Mark Rothko, Marsden Hartley, Paul Klee, Louis Leakey, and others worked with prominent collectors such as Joseph Pulitzer Jr., Mr. and Mrs. Richard K. Well — to round out Janson’s early modern, cubist and expressionist projects.

Highlights from this period include Matisses’s *Still Life With Flowers* (1899); Picassos’s *Sleeping Fumetti* (1913); Picassos’s *Woman of Algiers, Variation N* (1955); and *Dancing the Modern* (1956).

The accompanying catalog features Eckmann’s essay “Taste, Vision,” a consideration of Janson’s emigre, of his connections with prominent New York-based dealers and of the influence both would exert on his views about contemporary art.

The book also reproduces a previously unpublished lecture from 1961, in which Janson recalls his years at the University and building the modern collection.

The Gallery of Art is located in Steinberg Hall. Hours are 9 a.m.-4:30 p.m. Tuesday—Thursday; 9 a.m.-5 p.m. Fridays and 9:30 a.m.-4:30 p.m. weekends. The gallery is closed Mondays. For more information, call 935-4523.

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Dance Close-Up • Nuclear Spin Relaxation and Diffusion

*University Events*. A list of the activities taking place at Washington University Aug. 29-Sept. 5. Visit the Web for expanded calendars for the entire month of September (for expanded calendars, visit the School of Medicine’s web site at www.ims.wustl.edu).

Exhibitions

Friday, Aug. 30


Lectures

Friday, Aug. 23

9:15 a.m. Pediatric Grand Rounds. "Children with Advances. From the Department is the latest entry in Pondle's "Children of the World."" By Sabine M. Smith. Part of the "University of St. Louis" exhibition. 925-4523.

Monday, Aug. 26

New Mexico's 19th and 20th Century Sculpture Symposium. "Character in Sculpture." Hours: 10 a.m.-4:30 p.m. For expanded calendar, visit the School of Medicine's web site at www.ims.wustl.edu.

Wednesday, Sept. 4

7:30 p.m. Visiting Artist Lecture Series. "Video artist Jankowski's display Targets at gallery Aug. 30-Dec. 8.

By Liam Otten

Christian Jankowski is perhaps the most charmingly democratic of his generation, a profoundly conceptual artist who collaborates with children and astrophysicists, ministers and astrologers, stringing customs officials and plain-old pedestrians out on installations that blur distinctions between the real and the staged.

This fall, the Gallery of Art will present Jankowski, an exhibition of three of Jankowski’s playful yet sometimes disconcerting projects. The show opens with an exhibition that is a collaboration with children and artists, and it will remain on display through Dec. 8. The exhibit is free and open to the public.

Jankowski’s conceptual artwork, look familiar precisely because they don’t resemble art but instead look like TV shows or feature films,” said Sabine M. Eckmann, Ph.D., curator of the Gallery of Art. “The viewer is startled and motivated to sort out mediated reality vs. art vs. fiction.”

For example, The Holy Artwork (2001) — created in collaboration with painter Peter Spencer of the Tremont Street Ministries and the Harvest Fellowship Church — was filmed and broadcast as part of Spencer’s weekly television show. (More recently, it was included in the Whitney Biennial.) The piece begins with the 34-year-old artist reading from his expanded calendar for the Hilltop Community and recognized student organizations. It usually covers a 1-1/2-hour time period, but today it will last from the Friday publication date to a week after the next Wednesday.

On Stage Thursday, Sept. 5

6:30 p.m. Performing arts dept. performance. "Children of the World." For expanded calendar, visit the School of Medicine’s web site at www.ims.wustl.edu.

And more...

Tuesday, Sept. 4

8 a.m.-5 p.m. Toastmasters event. Washington University Toastmasters club, sponsored by the School of Medicine. 4445 Guardian Ave., St. Louis, Mo. 63110.

Video artist Jankowski’s display Targets at gallery Aug. 30-Dec. 8.

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Orientation provides opportunities for new students

By NEIL SCHWIMMER

The class of 2006 has arrived on campus, and we look to the group in a host of new opportunities and exciting experiences.

In the University of St. Louis, Aug. 22-27, is designed to show students and parents what the University has to offer, and Bill Woodard, director of orientation.

"The goal of orientation is to help students meet each other, engage in some fun activities and introduce them to the campus community," Woodard said. "We also want to show parents the support system we have in place.

Orientation events Aug. 22 included campus tours and meal preview review sessions, as well as Convocation — Chancellor Mark S. Wrighton's opportunity to welcome all new students and parents to campus.

An array of departmental open houses is scheduled for today. The open houses give students an opportunity to meet with representatives, get a feel for the faculty and staff to learn more about the curricula.

Various placement exams, financial aid meetings and campus mini tours will also kick off today.

The welcome event will be the Club 40 Dance in the South 40 place today.

"Bears, BBQ and Fun" dinner from 4:30-6 p.m. Students and their families can enjoy great barbecue food while cheering on the football Bears in an intraquad scrimmage.

Dean's meetings and residential college receptions will also be held Aug. 24. Dean's meetings provide students with an introduction to academic life at the University and offer ideas and information about planning a program of study.

The residential college receptions allow students and parents to meet staff members and fellow students.

Highlighting the evening is "Choices 101 — An Introduction to the First Year Experience," presented by upperclassmen. A discussion will follow. The presentations will start at 7 p.m. and again at 8:30 p.m. in Edison Theatre in Mallinckrodt Student Center.

"Choices" returns for Orientation 2002. Aug. 22 opens with worship opportunities. The day consists of Dean's meetings, barbecues, picnics and receptions. Featured that evening will be "Faculty Perspectives," a program aimed at giving each new student an opportunity to meet faculty members and engage in an active dialog.

An outdoor movie will be show at the South 40 Swamp from 9 p.m. to midnight.

Additionally, students will be included in a future issue of "Washington University Record." Readers with information that could assist in investigating these incidents are urged to call 935-0825. This information is provided in a pledge to protect campus safety awareness and is available at the University Police Web site at police.wustl.edu.

Background checks on all-University athletic personnel were done in a future issue of the Record.

Monsanto establishes scholarship in recognition of Nobel laureate

By BARBARA REA

Monsanto Co. has established a endowed scholarship fund for Arts & Sciences in recognition of Nobel laureate and retired Monsanto research scientist William S. Knowles.

The $50,000 gift will support undergraduate majors in the life sciences. The first recipients will be named in the fall.

"Washington University is honored to receive this scholar- ship grant from Monsanto Co. in Dr. Knowles' honor," said Chancellor Mark S. Wrighton. "The gift recognizes a great researcher while helping future generations of scientists. Monsanto has supported us for many years in advancing scientific discoveries, and we are grateful for their continued support."

Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences, said, "A great university needs exceptional students, and scholarships such as this one enables us to compete with other top schools to recruit the best and the brightest without regard to financial ability."

The scholarship's namesake is the 2001 recipient of the Nobel Prize in chemistry, which Knowles shared with Rojai Noyori of Nagoya University in Nagoya, Japan, and K. Barry Sharpless of the Scripps Research Institute in La Jolla, Calif.

"The award was for their development of catalytic asymmetric synthesis," Knowles discovered that it was possible to use transition metals to make chiral catalysts for an important type of reaction called hydrogenation, thereby obtaining the desired mirror image form as the final product.

His research led to a medicinal product in the treatment of Parkinson's disease.

Knowles opened up a new field of research in which it is possible to synthesize molecules and material with new properties, leading to the development of pharmaceutical products such as antibiotics, anti-inflammatory drugs and heart medicine.

Knowles' distinction as a Nobel laureate is the latest in a long series of St. Louis scientists who have received the highest level of recognition.

"The remarkable number of Nobel laureates with a connection to St. Louis institutions speaks to the basic strength and quality of science conducted here," said Thomas A. Wisely, M.D., director of the division of experimental neurology and neurological surgery in the School of Medicine and president of The Academy of Science of St. Louis.

The academy recently honored Knowles for his contributions to science.

Twenty-one members of the Washington University faculty, beginning with Arthur Holly Compton in 1927, have received a Nobel Prize, predominantly in medicine.

Campus Watch

July 16
1:30 p.m. — Tools were stolen from a construction area outside Bldg. Hall. The suspect is described as an African-American male, 35-40 years old, about 6 feet tall, 170-180 pounds with a mustache and beard, and was last seen walking north on Skinker Boulevard.

Aug. 10
2:23 a.m. — A student reported that on April 29, she put several items in a fourth-floor storage area in Small Group Housing No. 10. When she returned, Aug. 9, several items were missing. The storage area was not a secure area. Total loss is estimated at $1,450.

Aug. 13
12:05 p.m. — An unknown person stole a carpet cleaner from the second floor of Phi Delta Theta fraternity house. Total loss is estimated at $2,490.

Aug. 19
3:31 p.m. — A faculty member stated that she left her laptop computer outside in front of the room and when she returned, Aug. 16, the computer was missing. Total loss is estimated at $1,600.

Additionally, University Police responded to 18 reports of larceny, six reports of trepassing, six auto accidents and one report each of damage from the rear, property damage, receiving stolen property, assault, judicial violation and false alarm.

Sports

Football, women's soccer, cross country previews

The football team returns 12 starters — eight on offense — and 63 letter-winners as it looks for back-to- back eight-win seasons for the first time in club history. The Bears are also looking for a second-straight University Athletic Association title. The defensive secondary, where seven starters return on defense, including two-time first team All-UAA middle linebacker Brandon Roberts. The biggest question for the team will be in the defensive secondary, where seven seniors and all four starters need to be replaced.

First-year coach Wendy Dillinger is looking to jump start a women's soccer team that finished 7-7-3 last year, the first time in seven seasons the Red and Green failed to finish above .500. She has plenty to work with, though, as seven starters return to a club with just one senior. That lone senior is Megan Driese, who tallied 11 points on four goals off one assist in six games before suffering a season-ending low back injury.

Both the men's and women's cross country teams return a strong contingent of runners for a third-straight season. The men are looking for an unprecedented fourth-straight UAA title and are led by senior Bryan Tilton and junior Max Hendricks. Both earned second-team All-UAA honors a season ago. Juniors Mindy Kah and Emma McTigue are looking to join the first-time All-UAA returnees, lead a women's team that finished third in the Missouri Valley Championships and advanced to the NCAA Championships for the second consecutive season.
Brown dwarf
Fueled stars' demonstrate changing weather patterns — from Page 1
amounts of egg, flour and sugar, then stir slowly what form under different conditions; essentially, thermodynamics tells you whether you're making cookies or cake and rules out lack of yeast.
First discovered in 1995, brown dwarfs are closer to the stars than anything else in the universe, with the nearest one Earth about 19 light years away. About 1,200,000 times the Sun's distance.
A specialized rating system describes how cool the coolest brown dwarfs are and how their spectra differ from stars of a similar age. Two elements present in brown dwarfs are iron hydride and bands in absorption spectrum confirmed.
Reappearing signals would have been a thing that puzzled the scientists. Equally cryptic was the observation that brown dwarfs, as they age, generally appear fainter, but there is a brief period during which they actually seem to brighten.

Employment
(Use the World Wide Web to simplify job descriptions. Go to http://www.wustl.edu/Hillary/Employment.html)

Epilepsy
— from Page 1

instead, they developed epilepsy. Mice without astrocyte TSC1 began to show abnormal movements and posture around six weeks after birth. In TSC2, iron hydride was beginning to condense in the cooler brown dwarfs, the iron hydride bands; that is believed to be responsible for the characteristic cooling band to become weaker, at say, an L5 dwarf to an L8 dwarf, would force iron hydride to condense into liquid iron, reducing its concentration in the gas. Correspondingly, they expected the iron hydride absorption band to become weaker, which is what they found.

Signal that would have been a thing that researchers continued to analyze the spectra through the transition from T to L. If iron hydride was beginning to condense in the later L dwarfs, then even more conden- sation would be expected in the cooler T dwarfs. With this in mind, the group might have predicted a steadily weaker signal that would eventually fade altogether. But they saw a signal that would not die.

"From the chemistry, we would not expect to find a way to get extra iron hydride back into the gas," Lodders said. "Once it goes cold enough it goes out. It's like wintertime in St. Louis — the air is very dry because the cold freezes all the moisture out.

"But interestingly enough, in the cooler brown dwarfs, the iron hydride bands become stronger again, in part because they never really disappear. So the question then was, 'How do we explain this?'" Reappearing signals weren't thing that puzzled the scientists. Equally cryptic was the observation that brown dwarfs, as they age, generally appear fainter, but there is a brief period during which they actually seem to brighten.

The researchers hypothesized that there was something in the brown dwarfs, as they age, generally appear fainter, but there is a brief period during which they actually seem to brighten.

Jankowski exhibit Targets, an exhibition of the work of internationally known video artist Christian Jankowski, will be on view in the Gallery of Art Aug. 30-Dec. 8, 6 p.m.-8 p.m. and Sat.-Sun., 1-6 p.m. at the Center for Art and Literature in the Midwest. The translation of the sign this woman is holding is, 'I am ashamed of being a German citizen.' The work is from Shame Box (1992), one of Jankowski's earliest works, a video and series of photographs in which random passers-by from the streets of Hamburg, Germany, sit in a store window and say 'I am ashamed of being a German citizen.'

Olin School launches knowledge, research Web site
by RICHARD BATTERSON A new Web site featuring the knowledge and research of the Olin School of Business has been launched, Dean Stuart L. Greenbaum, Ph.D. announced. "Discovery@Olin" is at olin.wustl.edu/discovery. Every six weeks, the site will be refreshed with new, early-stage research published by Olin School faculty, the latest business trends, and timely news and views from Olin School faculty and programs.

"The stories and images that you will encounter on Discovery@Olin reflect Olin's mission of linking and translating ideas that can be practical and useful in the real world," Greenbaum said. "I hope you'll join us to learn more about the latest research and the diverse trends along Olin's news and views." Discovery@Olin includes regular features, a searchable database of faculty working papers, links to programs and business school centers, and a newsletter for journalists, all updated on a complete update on current news and information at the Olin School.
Introducing new faculty members

Of note

Aaron DiAntonio, M.D., Ph.D., assistant professor of molecular biology and pharmacology in the School of Medicine, received a 2002 McKnight Scholar award in recognition of his research into the development of connections between nerve cells. The McKnight Scholars honor young scientists engaged in innovative research, bringing science closer to preventing, diagnosing and treating diseases in the brain.

Kevin Z. Truman, Ph.D., professor and chair of civil and environmental engineering, and Shirley J. Dyke, Ph.D., associate professor of civil and environmental engineering, have received a three-year, $1.8 million grant from the National Science Foundation for a study titled "Partnership for Math, Science and Engineering Education Through Computer Visualization.” The outreach program, which will fund 10 graduate students and 10 undergraduate teaching assistants, will involve sixth-graders from Webster Groves' Seger Eight Grade Center and eighth-graders from St. Louis' Gateau Middle School.

Maurizio Corbetta, Ph.D., was recently appointed associate chair of the stroke and brain injury rehabilitation service.

Ye-Shan Fan, Ph.D., assistant professor of biomedical engineering, has received a five-year, $1 million award from the National Heart, Lung, and Blood Institute for a project titled "Biomechanics of Neurophilology: The Tenet of Pekingology.”

Roger D. Chamberlain, D.Sc., associate professor of electrical engineering, has received the 2002 Big Fish Award from the Association of Graduating Engineering Students. The annual award recognizes teaching excellence and is based on graduate student votes.

Jia G. Lu, Ph.D., associate professor of electrical engineering, has been elected to the National Science Foundation Career Award Committee for a study titled "Single Spin Transistor Science, Application and Education.” The committee is responsible for selecting the recipients and will start June 1.

Michael Wyperision, Ph.D., associate professor in earth and planetary sciences, has received a five-year, $60,000 subcontract from the National Science Foundation for a study titled "Protein-Protein Interaction: Understanding the Role of Lipids in Protein Motility.”

Daniel W. Moran, Ph.D., assistant professor of biomedical engineering, has earned a three-year, $374,666 award from the National Science Foundation for a study titled "Single Spin Transistor Science, Application and Education.”

Timothy Meyer, Ph.D., assistant professor of radiology, has earned a one-year, $300,000 grant from the National Science Foundation for research titled "Response to Hormone Therapy: Effects on HIV-Infected People With Insulin Resistance.”

Kevin E. Yarasheski, Ph.D., associate professor of medicine, has received a one-year, $97,467 grant from the American Heart Association and the Bioengineering Institute for a study titled "Malignant Pericardial Effusion: A Study of Cytokine Signaling Protein Expression in People WithCongestive Heart Failure.”

Michael R. Debbas, M.D., associate professor of pediatrics, has received a three-year, $240,000 grant from The Susan G. Komen Breast Cancer Foundation for research titled "Predicting Response to Hormone Therapy of Breast Cancer.”

William Tate, Ph.D., was named professor and chair of the Department of Arts & Sciences July 1. Tate succeeds James V. Wertsch, Ph.D., who retired after 27 years on the faculty.

Tate is a co-author of an elementary mathematics text, "Rete," which has been translated into 11 languages and is served as an editor of the "Journal of Community College Educational Research Journal.”

Tate earned a doctorate in cardiology and instruction from the University of Maryland. He also holds a master's degree in mathematical sciences from the University of Texas at Dallas and a bachelor of science degree in economics from Northern Illinois University.

Tate named chair of education department

By Neil Schoenheimer

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Wieden, 85

H erbert G. Wieden died Tuesday, July 16, 2002, at Mercy St. Mary's Health Center in Richmond Heights, Mo., of complications from pneumo-

Bird's-eye view If you've noticed a hawk circling the Hilltop Campus recently, you aren't alone. The bird in question (above), suspected to be a red-tailed hawk, sat still long enough for Lisa Siddens to snap a quick photo. Siddens, assistant to Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences, took the photo from Macias' office in South Brookings Hall.

The following are among the new faculty members expected to join the School of Medicine in August.

Steven M. Devine, M.D., joins the School of Medicine as assistant professor of medicine in the Division of Oncology, Department of Medicine. His research interests include the use of stem cell transplantation for cancer and other diseases. He earned his medical degree from the University of Massachusetts in 1987 and completed his residency at the Michael Reese Medical Center in 1990. He pursued a fellowship in hematology-oncology at the University of California, San Francisco Medical Center in 1990. He presently is completing a three-year fellowship in pediatric hematology-oncology at the Central Hospital, Jiangxi, in China. Prior to coming to China, he managed a World Health Organization/World Bank schistosomiasis control program for the Jiangxi Provincial Department of Health in China.

Jeff Cole, Ph.D., joins the Department of Anthropology in Arts & Sciences as assistant professor. Cole has earned a doctorate from Indiana University and a bachelor's degree from the University of Colorado in 1987. He presently is completing a three-year Millard Post-Doctoral Fellowship in Anthropological Demography at the University of Texas at Dallas. His research interests are anthropological demography, historical demography, fertility, aging, and family systems. He works in Tibet and Nepal.

C. Warren, Ph.D., joins the School of Medicine faculty as associate research scientist in the Department of Genetics. He is director of the Mouse Expressor Core Facility at the Genome Sequencing Center. His research interests include gene expression, genome biology and bioinformatics. He earned a bachelor's degree from the University of Washington in 1984, a master's from Clemson University in 1989 and a doctorate from the University of California in 1990.

He comes to the School of Medicine from the Hudson Institute of Genomics, where he led a multidisciplinary group that specializes in genomic research services.

Notables

WASHINGTON UNIVERSITY IN ST. LOUIS

Aug. 23, 2002 7

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Obituaries

Jacobsen, 62

Thomas F. Jacobsen, former University trustee and former chairman of the Mercantile Bancorp Foundation, died June 29 of cancer at Barnes-Jewish Hospital. He was 62, a public school teacher who earned a PhD at 39:30 a.m. Sept. 28 in Graham Chapel.

Jehle, 88

Operator Simon Jehle died Tuesday, July 30, 2002, at St. Mary's Health Center in Richmond Heights, Mo., of complications from pneumo-

Wieden, 85

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St. Mary's Health Center in Richmond Heights, Mo., of complications from pneumonia. She was 83. Jehle taught fashion illustration in the associate degree in arts program for several years.

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Innovating transplantation techniques

Jeffrey A. Lowell, M.D., also builds public awareness of the need for organ donations

BY DANIEL SUGER

Jeffrey A. Lowell, M.D., associate professor of surgery and of pediatrics and associate director of abdominal transplantation, talks with patient Terry Staruch during a checkup after a kidney transplant. Lowell tries to increase public awareness of the need for new ways to improve the state of organ donation and transplantation.

It’s remarkable that Jeffrey A. Lowell, M.D., finds time to regularly watch his two daughters play soccer. Guided from being a renowned liver and kidney transplant surgeon, Lowell also works in the St. Louis mayor’s office, has trained with the St. Louis Police Department to help with hostage situations, practices karate and periodically writes for the St. Louis Post-Dispatch.

“I have a hard time saying no,” Lowell said. He tries to make a positive impact in all his endeavors, which include serving as associate professor of surgery and of pediatrics and associate director of abdominal transplantation in the School of Medicine and chief of pediatric transplantation at St. Louis Children’s Hospital.

“I really feel like I’ve been able to fulfill my need for Tzedakah, a Hebrew word which means good deed or charity,” he said. “My two daughters are my greatest legacy. When they look back on my life, I not only want them to recognize that I worked hard, but importantly, that I worked hard to help others.”

New techniques for new challenges

Lowell’s fast-paced lifestyle is well suited to the type of cutting-edge medicine he performs. For example, only about half of the organs Lowell transplants are from living donors. For the rest, he typically has to fly somewhere in the middle of the night to extract the organ from someone who recently passed away.

In addition to the excitement of these last-minute trips, the newness of the field allows organ transplantation experts to be innovative.

“This type of critical-care medicine allows a lot of room for brainstorming,” Lowell said. “Because of all the technical challenges involved, the action and pace of it really keep me on my toes.”

Room for experimentation has allowed Lowell and his colleagues to pioneer new techniques in transplantation. Increasing demand for organs coupled with consistently low organ supplies has led to a scarcity of donor organs. Lowell hopes to alleviate this shortage using new surgical approaches.

For example, Lowell was part of the first team in St. Louis to perform a double liver transplant, in which a donor liver was split between two recipients. He also performed one of the first surgeries in the region to transfer part of the liver from a healthy adult into an adult with liver failure.

Lowell also tries to increase public awareness of the need for new ways to improve the state of organ donation and transplantation. He already has appeared on several national news programs, including Today, NBC Nightly News, World News Tonight on ABC, and The Early Show on CBS.

Going for the win

Like his father, being a doctor always was in the cards for Lowell. But his chosen specialty is quite different from his father’s focus of pathology.

Unlike many other specialties, in which treatment often is long and arduous, liver and kidney transplantation seem more like magic than medicine.

“I went into surgery because I like fixing things,” Lowell said. “But I went into transplantation because I like the immediate gratification of it. We get people who are basically dead when they arrive here, but after a liver or kidney transplant, they are on the road to recovery and typically return home in about four or five days.”

Although the majority of transplants Lowell performs are on adults — more than 100 yearly — he admits that his pediatric patients are special to him.

“I really like taking care of kids and their families,” he said. “As a father, the emotional highs of ‘saving’ are magnified. Luckily, we win a lot — otherwise, I don’t know if I would like it.”

Lowell’s program has one of the highest success rates in the country for liver and kidney transplantation. Colleague Jerome Flance, M.D., special associate for community development and professor emeritus of medicine, said that Lowell has played a significant role in shaping the program in his nine years at the University.

“Dr. Lowell is a superb surgeon,” Flance said. “An author and co-author of numerous scientific writings in his field, he certainly represents the best tradition of his profession and of the School of Medicine and Barnes-Jewish Hospital, said, ‘Jeffrey Lowell is one of those rare individuals who is able to do everything extraordinarily well. All his pursuits are done both energetically and meticulously. Truly rare is few people like him at any institution.’

I. Jerome Flance

Dr. Lowell, your dedication to the medical field has caught the attention of several other local figures.

“I first met Dr. Lowell on a television show that I hosted,” said Greg Freeman, host of The Greg Freeman Show on KWMU radio and Post-Dispatch columnist. “For all the work he does, I found him to be very down to earth and without airs. Little did I know that five years later, he would be my own surgeon.”

Since receiving a kidney transplant, Freeman has written and inspired several articles in the Post-Dispatch about the importance of organ transplantation and the related return home in about four or five days.

Outside the hospital

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Jeffrey A. Lowell, M.D.

Academic title: Associate professor of surgery and of pediatrics and associate director of abdominal transplantation

Born and raised: New York

Family: Wife, Anne Kessen Lowell; daughters, Becca and Johanna. “My wife, for sure, is infinitely cooler,” he said. “She is the only person I know that does so much and still has everything turn right without even losing her cool. I thinkmaybe a little envious.”

Hobbies: Knitting, running, target-shooting, watching daughter’s soccer games or concerts.

“There’s nothing quite like being with your kids on a ski lift and being able to look at an entire valley below you,” Lowell said. “It’s one of the things that I enjoy most.”