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Mouse model mimics natural development of epilepsy

By Gila Z. R Becius

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 result from injection of toxins 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. Schnick Family Professor of Neurology and Pediatrics. "In addition, we discovered a gene for TSC in one of the brain’s support cells, called astrocytes, instead of in the brain’s main communication cells, neurons. Our results therefore shed light on the contribution of cells other than neurons to the development of seizures and epilepsy.”

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 seizures, Gutmann’s team hypothesized that TSC1 may provide the clue into tumour 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.

See Epilepsy, Page 6

Shuttle bus system rolls out more efficient routes

By Andy Clandemnor

After a yearlong study, counts of surveys and a lot of input from various students, faculty and staff groups, the University shuttle bus system has adapted new routes.

"We targeted areas such as travel habits, times of travel and what people are looking for in the service,” said Lisa Underwood, manager of parking and transportation services. “It took us a year to do it, and our goal when we went into it was to take our existing resources and use them more efficiently — do more with the same resources.”

"What we ended up with basically is more service available to the community.”

Two of the bigger changes to the shuttle routes include:

- Increased service for students living near the Lewis Center, Galleria and Brentwood Square.
- New routes can be found on the Web at transportation.wustl.edu线路.html.

Related story: University renovates two apartment buildings near the Hilltop Campus; ready for students this fall. Page 2
Welfare use more common than many think

By Jessica N. Roberts

Many Americans believe that welfare use happens to someone else, to people outside of their own community, but a study recently published in a recent issue of Social Work costs considerable doubt on that notion, finding that two-thirds of all Americans between 20 and 65 will at some point turn to public assistance program.

Researchers use are routinely vitiated 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, a professor in the Goodnow Warren Brown School of Social Work 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.”

Contrary to much of the popular rhetoric, the use of the United States social safety net is widespread and common.

Mark R. Rank

"While 65 percent of the population will encounter at least one year of welfare use, only 16 percent of the population will use public assistance for five consecutive years," said Rank, who co-authored the study with Thomas A. Hirsch, a professor at Cornell University.

After Americans use an assistance program for the first time, however, they are likely to do so again. According to the study, the 65 percent of people using a welfare program, 90 percent will do so more than once, making the total number of people that welfare is used across the life cycle sizeable.

The findings in this study reveal that "Although the U.S. welfare state may be minimalistic in terms of the scope and the level of benefits it offers to impoverished people, it is far from minimalistic in the extent to which it is eventually relied on by the general population."

The study is based on a unique analysis of a series of life tables constructed from the Panel Study of Income Dynamics (PSID). The PSID is a nationally representative longitudinal sample of households and families interviewed annually since 1968. Welfare in the United States consists of in-kind programs such as food stamps and Medicaid, or cash programs such as Temporary Assistance for Needy Families or Supplemental Security Income.

University renovates two nearby apartment buildings

By Andy Clendenen

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 need in 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 is at the corner of Garden and Melville avenues, just 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.

Justin X. Carroll, assistant vice chancellor for student affairs and dean of students, said "Some students like that — the bill goes right to Mom and Dad. And we will have resident advisers scattered in the apartment areas, and they will have several roles. One is that they’ll need to be a communication source between the students and the University — some students who have lived off-campus have missed out on some important campus events because they haven’t known about them, so the RAs will be communication.

And they also help the students make the transition to being more independent, being aware of their surroundings and being good neighbors."

The renovation took place just in the spring semester, and, Rackers said that before the work even began, the students had already signed up for all the available living spaces.

The work done was to respond to demand, Carroll said.

"We’ve had an increase in the number of upperclass students who have desired to remain in University housing," he said. "And we’ve also seen a greater demand for some apartment-style housing for the upperclassmen, where they can have their own kitchen, living room and live more independently."

Prior to this, we only really had Millbrook Square, so this is twice the capacity by about 300 beds."

Rosedale Apartments, above, also received a face-lift this summer. Steve Rackers, manager of capital projects and records in facilities, said tongue-in-cheek of both buildings, "Students might be a little upset that the floors are now level and the doors close tightly."

Researchers see ways to keep protein misfolding

By Tony Fitzpatrick

A University biomedical engineer is unlocking the rules Mother Nature abides by 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 changes 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.

Rohit Pappu, Ph.D., assistant professor of biomedical engineering, is developing computational models for understanding the misfolding of proteins. This misfolding leads to irreversible protein aggregation and subsequent disease.

Protein misfolding is associated with the onset of Alzheimer’s disease, borine encephalitis, prions, cystic fibrosis, emphysema, Huntington’s disease, Parkinson’s disease, type II diabetes and some types of spinocerebellar ataxia, as well as several other diseases.

These diseases, referred to as amyloidosis, 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, especially key repetitive regions in amyloid fibrils. Pappu said: "I am using simple peptide systems with well-defined folded states to understand these universal physical principles."

His recent work on the organizing principles for structure in mixed amyloid peptides will serve as bedrock for further research in the misfolding of single chains of polypeptides as well as interactions among many chains.
Mice provide insight into bone metabolism disorders

Mice lacking a protein called SHIP (SHP-1 phosphatase and PTPLase A homolog) have twice as many cells that break down bone as normal mice, according to a study led by School of Medicine researchers. Consequently, the mice lose a significant amount of bone density and thickness.

Bone loss is often a side effect of some disorders, but mouse models have not only provided insight into diseases of bone metabolism, but also revealed that the mouse strain used in the study also mimics a rare model of a genetic disease known as JPD.

``These findings provide valuable insights into the molecular basis for how bone is degraded, a process important for several serious bone diseases.'' - F. Patrick Ross, Ph.D.

The study's goal was to identify the molecular basis for how bone is degraded, a process important for several serious bone diseases. "Our newly created strain of mice lacking SHIP may eventually develop symptoms similar to JPD."

This current study supports that theory. Without SHIP, macrophages become hyperphosphatasia or hyperostosis deformed juvenilis, is a painful genetic disease deformity that is caused by abnormal fast formation and lack of bone growth throughout the body, leading to debilitating fractures and deformities beginning soon after birth.

In healthy individuals, there is a careful balance between the number of osteoclasts, cells that break bone, and osteoblast cells that build bone. But research suggests that people with JPD may have too many osteoclasts that are larger than normal, creating a dangerous imbalance in bone turnover.

Researchers in Vancouver, British Columbia, recently engineered a strain of mice 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 Vancouver researchers 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 had 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 had rapidly created more osteoclasts than normal, the researchers said. Moreover, the mice broke down bone much faster than normal osteoclasts.

The researchers also determined how a deficiency in SHIP leads to an excess number of 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-kB 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 hyperphosphatasia to M-CSF and RANKL.

As a result, too many macrophages developed into osteoclasts, and they did so at a dangerously fast pace.

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 insight 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 team is excited about this opportunity to collaborate with the Jewish Federation to identify and accommodate the needs of St. Louis' elderly. "The new Center for Aging exists to explore strategies that enable older adults to live longer, more productive lives," Morris said. "By partnering in this project, we can begin to understand what elders themselves perceive as important opportunities to remain productive in their community, which will help us plan larger, long-term studies to address these issues."

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**Diabetes walkathon scheduled for Sept. 29**

The School of Medicine is sponsoring the Juvenile Diabetes Research Foundation's 2002 Walk to Cure Diabetes, set for Sept. 29 in Forest Park. Funds raised will help the School to find a cure for diabetes and its complications, including type 1 diabetes research projects at the University. William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine, will kick off the program this year's walk. The medical school is seeking 1,500 participants and team captains. For more information, call 314-362-8853.

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**Language skills study needs children**

Healthy children are needed for a School of Medicine study on developing language skills. Seven- and 8-year-old boys and girls will be asked to perform language tasks while researchers take pictures of their brain activity using magnetic resonance imaging. Volunteers must be right-handed and native English speakers. Participants will be paid for their time and will receive a free meal and screening at the end. For more information, call 314-454-8853.
Janson's legacy honored in Gallery of Art exhibition

By LIAM OTTEN

In the mid-1940s, H.W. Janson, author of the influential textbook History of Art, served as a curator at the University, where he built up what he proudly called "the finest collection of contemporary art assembled by any American college." 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. The exhibition features 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, Joan Miró, Pablo Picasso, Jackson Pollock and Yaacov Agam.

"Janson was the instrumental force in selecting and acquiring modern art for the University," said Sabine M. Eckmann, Ph.D., curator for the Gallery of Art, who organized the exhibition.

"Having arrived in the United States in 1933 as an exile from Hitler's Germany, he recognized the need for the University to strengthen its collection of European and American art and was committed to cosmopolitan curatorial values," she added.

The show opens with a reception from 5-8 p.m. Aug. 30 and remains on view through Dec. 8.

The exhibition is divided into two sections: works acquired during Janson's directorship and works acquired in his curator-at-walke.

Janson's selections tend to emphasize international European movements, especially cubism and abstraction. Highlights include Picasso's early Collage with Bottle of Wine (1912), Giacometti's Still Life With Playing Cards (1916), and Braque's Still Life With Glass (1950).

American modernists are represented by Guston's I'll Be Not I and Calder's Bayoumen Musing a Flower (both 1945). Janson, who left Germany in 1935 to protest Nazi cultural policies, also focused on the work of surrealists-in-exile. Major acquisitions include Ernst's visionary landscape The Eye of Silence (1943-44), which conveys a bainted, war-ravaged Europe as well as a fantastical, primal American West and Tangiers' moody La Tour Maritime (Tower of the Sea) (1941), whose bright colors and large-scaled objects seem to reflect the artist's arrival in New York.

"The scope of Janson's undertaking was unusual, considering that the most progressive American museums had only begun collecting modern work in the late 1920s and 1930s," said Susan Kellerman, acting director of the American art world — including university museums — one could even call it bold.

Subsequent curators Frederick Hartt, William N. Friedländer Jr. and others worked with prominent collectors — such as Joseph Pulitzer Jr., Morton D. May, Vera Steinschchen, Sydney M. Sherman and Mr. and Mrs. Richard K. Well — to round out Janson's early modern, cubist and expressionist projects.

Highlights from this period include Matta's Still Life With Oranges (1989); Pollock's Sleeping Fetus (1931); Picasso's Women of Algiers, Variation "N" (1953); and de Kooning's Saturday Night (1956).

The accompanying catalog features Eckmann's essay "Janson's Legacy," a consideration of Janson's emigration, of his connections with prominent New York-based dealers and of the influence both would exert on his views about contemporary art.

The exhibit opens with video artist Jankowski's conceptual "Holy Artwork," a consideration of Janson's legacy in the context of Janson's emigration, of his connections with prominent New York-based dealers and of the influence both would exert on his views about contemporary art.

The exhibit is free and open to the public. The show opens with a reception for the artist from 5-8 p.m. Aug. 30 and remains on view through Dec. 8. The exhibit is open to the public.

The exhibit "H.W. Janson and the Legacy of Modern Art" at Washington University in St. Louis is supported in part by the University's Henry L. and Natalie B. Schechter Memorial Fund in Cancer Research, the University's Henry L. and Natalie B. Schechter Memorial Fund in Cancer Research, the University's Henry L. and Natalie B. Schechter Memorial Fund in Cancer Research. The exhibition is free and open to the public.

For more information, call 935-4259.

Exhibitions

Friday, Aug. 30

Targets. Christian Jankowski, video artist. Hours: 8:30 a.m.-5 p.m. through Sept. 9. Exhibition from the University collection.

Lectures

Friday, Aug. 23

5:10 p.m. Feldstein Great Room.

"Children with Artwork." Teen Art Department. "The Truthful Power." Sharon S. Smith, prof. of art, Washington University. Arts & Science Hall. 10 a.m.-4 p.m.

Monday, Aug. 26

Mun, Remembering and Investigating Surgery. Samuelson Research Seminar. "A.M. Observation of a Focus on Symptoms Aberration." Greg S. Kippen, professor of surgery, Washington University. Steinberg Hall. 10 a.m.-4:30 p.m.

Wednesday, Sept. 4


Thursday, Sept. 5

8 a.m. Cancer Research Lecture. Rena Schneider Memorial Lecture in Cancer Research. "Cancer Inflammation in Cancer." Charles S. Glass, prof. of medicine, UCLA, Steinberg Hall. 4:00 a.m.


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More...
Orientation provides opportunities for new students

By Neil Schoenmacher

The Class of 2006 has arrived on campus, and new students are taking the first steps in their college career.

The residential college orientation events Aug. 22 included campus tours and Meals. The day consisted of opportunities for 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 from the faculty and staff to learn more about the curriculum.

Various placement exams, financial aid meetings and campus mingling events will also be taking place today.

The opening event will be the 40th Dance in the South 40 Club with the South 40 Swamp from 9 p.m.-midnight.

Aug. 24 will feature the annual "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 upperclass students. 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.

Students enjoy "Choices 101 — An Introduction to the First Year Experience," part of last year's orientation, in Edison Theatre in Mallinckrodt Student Center. "Choices" returns for Orientation 2002 with shows at 7 p.m. and 8:30 p.m. Aug. 24 in Edison.

Monsanto establishes scholarship in recognition of Nobel laureate

By Barbara Rea

Monsanto Co. has established a scholarship endowed by the company's long-time support of the Department of Chemistry at Washington University.

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

"Washington University is honored to receive this generous scholarship gift from Monsanto Co. in Dr. Knowles' name," Chancellor Mark S. Wrighton said. "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 to support 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 enable us to compete with other top schools to recruit the best and the brightest without regard to financial ability."

The scholarship's namesake in the 2001 recipient of the Nobel Prize in chemistry, which Knowles shared with Roald Hoffmann of Cornell University and Richard R. Schrock of Massachusetts Institute of Technology for their work in the field of organo-transition metal chemistry.

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. Wosiyeh, 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, leading to the development of pharmaceutical products such as antibiotics, anti-inflammatory drugs and heart medicines.

The following incidents were reported to University Police July 16-Aug. 19. Readers with information that could assist in investigating these incidents are urged to call 935-6679. The information provided is provided as a public service to promote safety awareness and is available on the University Police Web site at police.wustl.edu.

• 1:02 p.m. — Tools were stolen from a construction area outside Ridgy Hall. The suspect was 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.

• 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 $2,400.

Aug. 19

3:31 p.m. — A faculty member stated that she left her laptop computer unattended in the library Aug. 18 and when she returned Aug. 16 the computer was missing. Total loss is estimated at $700.

Additionally, University Police responded to 6 reports of larceny, six reports of trespassing, six auto accidents and one report each of damaging the peaches, property damage, receiving stolen property, auto and judicial violation.

The violations were reported to University Police July 19-Aug. 19. Readers with information that could assist in investigating these incidents are urged to call 935-6679. The information provided is provided as a public service to promote safety awareness and is available on the University Police Web site at police.wustl.edu.

Sports

Football, women's soccer, cross country previews

By Bob Miller

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 UAA Athletic Association title. The entire offensive line returns, including all-UAA honorees Tim Cornwell, Josh Clark and Mike Lacko. Just four 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 Drews, who tallied 11 goals in her four-year career and was a force in six games before suffering a season-ending knee injury.

Both the men's and women's cross country teams return a strong contingent of runners for another strong season. Both teams are looking for an unprecedented fourth-straight UAA title and are led by senior Bryan Tilton and junior Madeline Lamb. Both earned second-team all-UAA honors a season ago. Juniors Mindy Kuhl and Emily Lamb return, with Lamb a first-team all-UAA returner, lead a women's team which has posted three of the last four NCAA Automatic Qualification Championships and advanced to the NCAA Championships for the second consecutive season.

The following incidents were reported to University Police July 16-Aug. 19. Readers with
Brown dwarf

Failed stars' demonstrate changing weather patterns

Time. Two elements present cooler T dwarfs, thus creating a

absorption spectra. Plotted

absorbed by particular chemical compounds. In essence,

also predicted that the significant increase in temperature decreases encoun-

tered the iron hydride absorp-

tion would be expected in the

dwarf, would force iron hydride

New addition to a "L" to "T" for
to actual stars but do emit a kind of light that is absorbed by the hydrogen.

You do not expect iron hydride to condense in cool dwarfs because it is contained in the iron liquid clouds. You also do not expect iron hydride to escape. It is this phenomenon that is believed to be responsible for the "disappearance" effect and for the strong iron band in the spectra of brown dwarfs. When you plot their energy levels to the test, they found it accurately describes the absorption of a very broad range of brown dwarf spectra.

The group then surmised that the condensing of the brown dwarfs leads to cloud-clearing caused by atmospheric weather patterns. This would allow one to see clouds above, allowing the bright infant dwarf to become visible to the eye. Is it a phenomenon that is believed to be responsible for the "disappearance" effect and for the iron band in the spectra of brown dwarfs. When you plot their energy levels to the test, they found it accurately describes the absorption of a very broad range of brown dwarf spectra.

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Introducing new faculty members

The following are among the new faculty members on campus. Others will be introduced periodically in this space.

Steven M. Devlin, M.D., joins the School of Medicine as an assistant professor of molecular biology and pharmacology in the Division of Oncology, Department of Medicine. His research interests include the use of stem cell therapy in cancer and other diseases. He earned a medical degree from the University of Massachusetts in 1987 and completed his residency at Massachusetts General Hospital. He pursued a fellowship in hematology-oncology at the University of California, San Francisco, and is currently a hematologist at Baptist Memorial Hospital and a hematologist/oncologist at Baptist Cancer Center.

Shaoqeng Zhang, M.D., joins the School of Medicine faculty as an associate professor of molecular oncology and a member of the faculty at the University of Tennessee College of Medicine. His research interests include the use of molecular biology to study the mechanisms of cancer and to develop new therapies for cancer patients.

Notables

Journal articles and book chapters focused on school mathematics, science, technology education, and urban schools

Biographies

Aaron D'Antonio, M.D., Ph.D., assistant professor of molecular biology and pharmacology in the Division of Oncology, Department of Medicine, was recently appointed section chief of the adult division of the Department of Oncology at the University of Michigan. He received his medical degree from the University of Southern California in 1987 and earned his medical degree from the University of California, San Francisco in 1990.

Kevin Z. Harris, M.D., Ph.D., associate professor of cell and molecular biology, and a member of the faculty at the University of California, San Francisco, was recently appointed chief of the division of clinical research at the National Cancer Institute. He earned his medical degree from the University of California, San Francisco in 1987 and earned his medical degree from the University of California, San Francisco in 1987.

Shaoqeng Zhang, M.D., joins the School of Medicine faculty as an associate professor of molecular oncology and a member of the faculty at the University of Tennessee College of Medicine. His research interests include the use of molecular biology to study the mechanisms of cancer and to develop new therapies for cancer patients.

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Bifidos-eye View

The bird in question (above), suspected to be a red-tailed hawk, sat still long enough for Lisa Jehle, 83, chancellor and dean of Arts & Sciences, to take the photo from Macias' office in South Brookings Hall. 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 Jehle, 83, chancellor and dean of Arts & Sciences, to take the photo from Macias' office in South Brookings Hall.
Jeffrey A. Lowell, M.D., also builds public awareness of the need for organ donations.

Jeffrey A. Lowell, M.D. (right), 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.

Innovating transplantation techniques

Jeffrey A. Lowell, M.D., finds time to regularly watch his two daughters play soccer. "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 Tzadokah, 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 steady decline in organ donations. 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 a liver transplant in which a donor liver was split from an adult with liver failure: "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.

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Since receiving a kidney transplant, Freeman has written and inspired several articles in the "Post-Dispatch" about the importance of organ transplantation and related research. Freeman's story has been followed closely by Lowell himself, who has contributed to the series.

One wall in his office is lined with articles he wrote on issues of organ donation and transplantation. His colleagues and friends think maybe he is a little envious.

"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."

Jeffrey A. Lowell, M.D., M.B.B.E., is associate professor of surgery and of pediatrics and associate director of abdominal transplantation at Washington University in St. Louis. Lowell has served as chief of pediatric transplantation medicine and pathology.

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"I went into transplantation because I like fixing things," Lowell said. "But my 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 'winning' are magnified. Luckily, we win a lot — otherwise, I don't know if I would like it."

The fact that he performs 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 of surgery and of pediatrics and of pathology, said, "Jeffrey Lowell is one of the rare individuals who can do everything extraordinary well. All his pursuits are done both energetically and meticulously. There truly are few people like him at any institution."

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, Anna Kessen Lowell; daughters, Johanna and Becca; and sons, Jeffrey and Colleen

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Hobbies: Karate, running, target-shooting, watching daughters' soccer games or concerts

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I. Jerome Flance

Outside the hospital

Lowell's dedication to the medical field has caught the attention of several other local figures.

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