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Record

July 13, 2001

Volume 25 No. 33



Washington University in St. Louis



Key legislation Timothy J. Eberlein, M.D. (left), director of the Siteman Cancer Center at the School of Medicine and Barnes-Jewish Hospital, shakes hands with Missouri Gov. Bob Holden (right) as Ronald G. Evens, M.D., president of Barnes-Jewish Hospital, looks on. Holden was at the Siteman Cancer Center last month to sign the Women's Health Services Bill, which improves treatment access for women. "This law is wonderful for the health of Missouri women," Eberlein said. "It goes hand-in-hand with our mission to improve the health of the people we serve."

Bipolar disorder in children worse than in adults

BY JIM DRYDEN

Child psychiatry researchers from the School of Medicine report that bipolar disorder — formerly called manic-depressive illness — can occur in children as young as 7 years old and that the illness in young bipolar children resembles the most severe form of bipolar disorder in adults.

The findings were presented recently at the Fourth International Conference on Bipolar Disorder. The conference, held in Pittsburgh every other year, is the only venue in the world devoted exclusively to highlighting new research into bipolar disorder.

"Typically, adults with bipolar disorder have episodes of either mania or depression that last a few months and have relatively normal functioning between episodes," said Barbara Geller, M.D., professor of child psychiatry and the study's principal investigator. "But in manic children we have found a more

severe, chronic course of illness. Many children will be both manic and depressed at the same time,



Geller: Studies bipolar disorder

will often stay ill for years without intervening well periods and will frequently have multiple daily cycles of highs and lows. These findings are counterintuitive to the

common notion that children would be less ill than their adult counterparts."

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

"In particular, we want to distinguish between children with

bipolar disorder and ADHD because many parents, teachers and health-care providers might confuse the overlapping symptoms of the two problems and think that these are just hyperactive kids," Geller said.

The confusion arises because both mania and ADHD have hyperactivity, irritability and distractibility as symptoms. But only bipolar disorder includes elated mood, such as giggling inappropriately at getting failing grades; grandiosity, such as telling the teacher what to teach in the classroom; flight of ideas, which is jumping illogically from topic to topic; racing thoughts, such as feeling like an "Energizer bunny" is controlling their thoughts; and a decreased need for sleep. In fact, some children may stay up rearranging furniture most of the night.

This work was developed to diagnose bipolar disorder in children as young as 7 or 8 years

See **Bipolar**, Page 4

Extensive Olin Library expansion under way

BY JESSICA N. ROBERTS

The John M. Olin Library is now well into Stage I of a comprehensive renovation to repair, expand and enhance the building to meet the needs and expectations of students, faculty and visiting scholars for many years to come.

The renovation process began in May and is expected to take approximately 30 months. Because Olin is the University's main library — attracting some 3,000 visitors a day — it will remain open throughout the renovation process.

The renovation will make Olin Library a more high-tech, user-friendly facility; add 12,000 square feet to the main level; create a cybercafé and 24-hour study space; reconfigure interior spaces for increased conveniences and efficiency; move the main entrance to the south side of the building; and upgrade the electrical, plumbing, heating and cooling systems, all while preserving the architectural integrity of the award-winning building.

"We are brimming with excitement about the quality of the renovation plans," said Shirley K. Baker, vice chancellor for information technology and dean of University Libraries. "Users of Olin Library will find transformed facilities, with the best of traditional libraries combined with new technologies."

Inside

Timeline for Olin Library expansion project, **Page 6**.

Stage I of the renovation began with the closing of Level One of Olin Library. All books from Level One were removed, and most materials were transported to West Campus Library, where they will remain until renovations at Olin are complete. In addition, four units (database management, order, original and adaptive cataloging, and preservation) comprising slightly more than 20 employees, moved to newly created offices within the West Campus Library, where they will be housed permanently.

Students and faculty, as well as others with borrowing privileges, can obtain books from the West Campus Library by going there in person or by submitting an online request form to have books delivered to Olin or one of the other libraries in the Olin Library system.

In most cases, individuals receive requested materials within 24 hours on business days. There are no deliveries on weekends and holidays.

There is also a form available on the Web at www.library.wustl.edu/forms/westcampus.html.

All physical spaces on Level

See **Olin**, Page 6



Level One of Olin Library is in the early stages of renovation and will be completely redone. During the rest of the project, Level One will be used to store volumes from other levels while they are renovated.

Loui: Artificial intelligence could change legal profession

BY TONY FITZPATRICK

In the past decade, computers have crept into the legal profession, facilitating the use of artificial intelligence (AI) — computation used for intelligent decision-making. Lawyers encounter AI systems in fairly mundane applications such as information retrieval, expert systems and the management of complex documents.

Thus far, AI has neither "killed all the lawyers" nor automated the death penalty appeals process. But

Ronald P. Loui, Ph.D., associate professor of computer science, says it is on the brink of changing the legal profession; the introduction of a "new math" into AI incorporates the ability to argue into computer programs.

Loui has written the definitive article on the modeling of argument, consolidating the research results from the mid-

"The AI community is hammering out logics now for modeling competing arguments, and the result should be software that can actually perform a bit of legal reasoning."

RONALD P. LOUI

1980s to the present in his paper, "Logical Models of Argument," in ACM Computing Surveys.

According to Loui, AI argument systems permit a new kind of reasoning to be embedded in

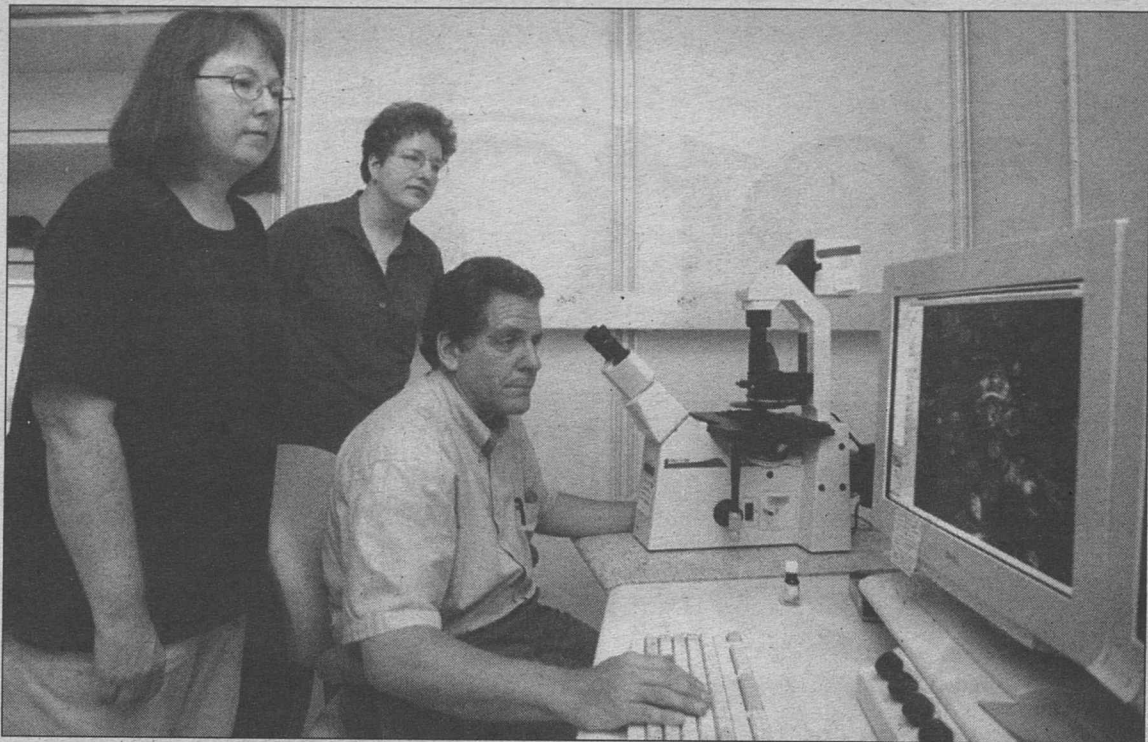
complex programs. He says the reasoning is much more natural, more human, more social, even more fair.

"There are researchers who want to build software for lawyers to improve information retrieval, dispose of routine tasks more efficiently, sift through evidence and build a convincing argument to present

before a judge and jury," said Loui, an expert in AI, legal reasoning and the philosophy of computing and law. "You have the modern versions of boilerplate contracts that build and manage expert systems and routinely adapt prior work for new clients, and two large retrieval systems, Westlaw and Lexis, that are now subject to pressures to improve their technology. All of this is based partly on AI."

"Things are definitely changing. The saying is, 'Old lawyers

See **AI**, Page 6



(From left) Patricia Collin-Osdoby, Ph.D., research associate professor of biology, Linda Rothe, University research associate, and Philip A. Osdoby, Ph.D., professor of biology, both in Arts & Sciences, and Linda Rothe, University research associate, have shown that blood vessels at inflamed sites create signals that lead to eventual bone destruction.

Blood vessels found to signal chain in bone loss

By TONY FITZPATRICK

University biologists have discovered a mechanism in blood vessels that opens the door for bone loss in such diseases as rheumatoid arthritis, periodontal disease, osteoporosis, tumor-associated bone loss, or artificial implant loosening.

Patricia Collin-Osdoby, Ph.D., research associate professor of biology, and Philip A. Osdoby, Ph.D., professor of biology, both in Arts & Sciences, and Linda Rothe, University research associate, have for the first time shown that blood vessels at inflamed sites where bone loss is occurring create signals that set into motion a cascade of events leading to local bone destruction.

The research was published in the June issue of the *Journal of Biological Chemistry*. The research was supported by the National Institutes of Health. When an area of tissue in or near bone becomes inflamed, key molecules called cytokines are locally produced and increase in the bloodstream. Studying human tissue and cell samples, the Osdobys have shown that two key inflammatory cytokines — interleukin-1 (IL-1) and tumor necrosis factor (TNF) — signal the endothelial cells of blood vessels and capillaries to make and display on their cell surface a molecule called RANKL. RANKL is the critical signal that tells the body to make and activate bone-degrading cells called osteoclasts. After osteoclasts take bone away, osteoblasts go back in and add new bone.

Normally, this bone remodeling, which is associated with a blood vessel or capillary at such sites, is a carefully balanced process.

However, in persons with inflammatory bone disease, osteoclasts outnumber and outwork the bone-

forming osteoblasts, leading to weakened bone matrix, bone loss and an increased risk of fracture. The Osdobys believe that inflamed blood vessels beckon cells to the region, and then initiate their development into highly active bone-degrading osteoclasts.

The researchers also found that in this biochemical chain of events, the blood vessels themselves make an antagonist molecule, osteoprotegerin (OPG), which neutralizes RANKL activity. Although OPG is made in this process, it peaks early and

RANKL gets the upper hand. This is aided by the fact that RANKL is tethered on the cell surface while OPG is a soluble molecule that can be carried away by the circulation.

Drug-chemical companies are interested in RANKL as a target and OPG as a possible therapeutic or preventative molecule to eliminate excessive osteoclast formation and activity. It is the progressive and irreversible loss of bone and cartilage that is the most difficult to control and treat in rheumatoid arthritis, periodontal disease or cancer. Current anti-inflammatory or chemotherapeutic treatments are inadequate for this purpose. However, OPG injection prevents such bone and cartilage loss without interfering with normal bone remodeling.

More significantly, the discovery that blood vessel cells themselves are initiators of this elaborate process could make drug delivery easier or more efficient. Rather than receiving a local injection, patients may be able to take an oral or systemic dose that goes directly into the bloodstream and allows the drug to work immediately in the early stages of RANKL activity. This could prevent new areas of bone degradation from getting started and slow down those that have already begun.

"People in the past few years have been looking at the expression of RANKL and OPG in bone marrow stromal cells, osteoblasts and T cells, but nobody had looked in blood vessels," Collin-Osdoby said. "There is a growing appreciation that blood vessels do much more in the body than simply provide a physical barrier

deactivate the osteoclasts, or neutralize the RANKL expressed," Osdoby said. "It's the osteoclasts that are directly responsible for the loss of bone, even though many other cell types, signals and enzyme activities are produced and play a role. So, the most obvious approach to prevent such bone loss is to directly interfere with the formation of bone-degrading osteoclasts."

Such popular arthritis drugs as Vioxx, Celebrex and Enbrel work on the principle of interrupting the work of the cytokines to ease inflammation. Vioxx and Celebrex interrupt a similar cascade of events by preventing IL-1 from generating prostaglandins at inflammatory sites. Enbrel suppresses the work of TNF. However, something more is needed to avoid bone and cartilage destruction.

Collin-Osdoby said the balance between the levels of RANKL and OPG produced is critical for determining the amount of osteoclast formation and bone breakdown that occurs. Previous studies have shown that the absence of RANKL in mice leads to too much bone formation (osteopetrosis) because osteoclasts are not formed, whereas the absence of OPG in mice leads to severe bone loss and osteoporosis. Interestingly, mice lacking the OPG gene also have calcified arteries, leading to diseased blood vessels.

"We've shown that the endothelial cells of blood vessels make their own OPG and may represent a major source for the levels of this factor found circulating in serum," Collin-Osdoby said. "In the case we've studied, the amount of OPG that endothelial cells make is regulated by inflammatory cytokines."

The finding that RANKL and OPG are produced by vascular endothelial cells also has broader implications for the role of blood vessels in organ development and immune regulation. This is because RANKL also is critical for the formation of lymph nodes, lymphocytes and immune cell interactions, while OPG counteracts cell death signals (by TRAIL molecules) to which cancer cells are particularly sensitive.

In addition to further RANKL studies, the Osdobys also will be looking closely at OPG production in response to key regulators of endothelial cells because this molecule seems to provide some survival benefits for the endothelial cells themselves.

Student illustrators help market Ralston Purina's new dog food

By LIAM OTTEN

Collaborations between the private sector and higher education are commonplace in the sciences. Corporations often enlist the aid of faculty and students to conduct basic research in biology, chemistry, physics and other fields.

But in the arts?

Last spring, CheckMark Communications, the creative communications wing of St. Louis-based pet food giant Ralston Purina, enlisted a group of 16 junior illustration majors from the School of Art to help launch its new Beneful brand dog food, which recently began arriving in stores.

Though a major media rollout is planned for the fall, the company is currently generating buzz through a grassroots-style "e-campaign." Central to that initiative are a series of multimedia e-mail packages — conceived and developed by the art students — known as Flash animations.

These spots, which might be described as short, self-opening cartoons, range from Rachel Mason's "Dancing Dog," a cuddly pooch who tangoes, waltzes and disco dances, to Melanie Reinert and Loren Lee's "Schnibblers," a precocious terrier who lobbies for a better class of gastronomical offering.

The complete set of animations can be viewed on the Web at <http://www.samthedog.com/beneful/viewer.html>.

"We really wanted to try a fresh approach," said Purina's Christi Maginn, group director for the Beneful launch. "We didn't want to just go with a professional agency that would give us polished solutions. We wanted something fun and new, a little on the irreverent side; the students really delivered that."

D.B. Dowd, associate professor of art and a well-known illustrator, noted that these types of "interactive experiences" represent a new frontier in visual communications.

"If you just make something that feels like a typical 30-second commercial, no one will forward it," Dowd said. "In a way, you're asking the viewer to collaborate with you in the marketing, and they'll only do that if it's fun."

You have to address the viewer on their terms, not just stuff a message down their throat."

Maginn and her creative team from CheckMark first met with the students in April to discuss the

product, the brand architecture, marketing strategies and target consumers. She explained that Beneful fills a gap in Purina's dog food portfolio, and indeed in the marketplace, offering pet owners a way to indulge their four-legged companions with great taste and variety while also meeting complex nutritional requirements.

"They were a pretty laid-back group — it wasn't like we were talking to a bunch of suits," said Bob Flynn, whose interactive game "Choose a Dog" features lovable mutts cannon-balling through the air before landing in a large, comfy bowl of food. "We brainstormed ideas for about a week, made preliminary sketches and storyboards. I think they were pretty impressed with what we did, which made the whole atmosphere really nice."

A few weeks later, Maginn and other CheckMark representatives returned to campus for a series of presentations. After some deliberation, they selected five proposals for final development.

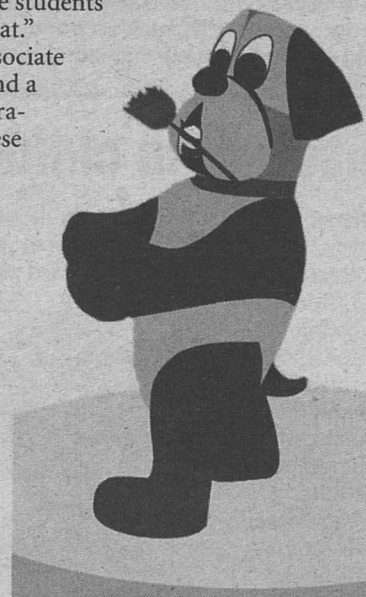
"Putting the final projects together was real crash-and-burn," said adjunct professor Tim McCandles, who served as technical adviser. "Most of the students hadn't done multimedia pieces before, and they only had about three weeks to get everything finished."

Still, deadlines were met, and by the end of the semester Purina had launched an initial trial run, e-mailing each piece to a test sample of about 300 households. "Dancing-Dog" emerged as the most popular spot and soon was sent on to an additional 64,000 homes, where it garnered a stellar response rate (i.e., was viewed and/or forwarded by pet owners).

"Our intent here was to generate word-of-mouth and to spread interest through people's networks of family and friends," Maginn said. "It was a stretch project for the students, but the end result was a tremendously successful campaign."

Dowd said, "This kind of approach has real implications for the profession. Advertising used to mean

just broadcast or print media. The idea that you can go to a small team of students and with a relatively small budget design an effective piece — well, that's rather remarkable."



Rachel Mason's "Dancing Dog" was one of the School of Art's student contributions to a project for CheckMark Communications, the creative communications wing of Ralston Purina.

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Editor Kevin M. Kiley

Assistant Editor Jessica N. Roberts

Assistant Editor Neil Schoenherr

Associate Vice Chancellor Judith Jasper Leicht

Executive Editor Susan Killenberg McGinn

Medical News Editor Anne Enright Shepherd

Production Carl Jacobs

News & Comments

(314) 935-6603

Campus Box 1070

kevin_kiley@alumni.wustl.edu

Medical News

(314) 286-0119

Campus Box 8508

shepherd@msnotes.wustl.edu

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Washington University in St. Louis

Medical School Update

New scale better predicts stroke in heart patients

BY GILA Z. RECKESS

School of Medicine researchers have developed a formula to predict the risk of stroke in patients with an irregular heart rhythm called atrial fibrillation.

"Our hope is that this new classification scheme will help physicians select the appropriate course of treatment for patients with atrial fibrillation," said study leader Brian F. Gage, M.D., assistant professor of medicine at the medical school and medical director of Barnes-Jewish Hospital's blood thinner clinic.

The results were published recently in the *Journal of the*

American Medical Association.

Patients with atrial fibrillation, an irregular, uncoordinated contraction of heart muscles, are estimated to have a fivefold increased risk of stroke. A blood thinner called warfarin sodium (sold as Coumadin and others) often is used to reduce this risk, but the drug itself can cause hemorrhage and other side effects. It also is more expensive and more difficult to administer and monitor than the alternative treatment, aspirin.

To help predict when the benefits of warfarin outweigh the risks, two earlier studies completed by two other research

groups determined independent factors that significantly increase the risk of stroke. However, the studies reached somewhat different conclusions: The Atrial Fibrillation Investigators (AFI) found that stroke risk correlated with prior stroke, advanced age, hypertension and diabetes; the Stroke Prevention and Atrial Fibrillation (SPAF) team found that prior stroke, blood pressure, recent heart failure and the combination of being over 75 years old and female increased the risk of stroke.

"The two predictor models were helpful, but discrepancies between them sometimes led to confusion," Gage said. "We needed a simple, uniform system to help select warfarin for patients

at moderate or high risk of stroke, while avoiding this potentially dangerous blood thinner in low-risk patients."

So Gage and his colleagues combined the factors from both models and developed a points system called CHADS2, an acronym for the five factors: congestive heart failure, hypertension, age, diabetes and stroke. Since both AFI and SPAF found that a history of stroke is the best predictive factor, it was given a value of two points, delineated by the "2" at the end of the mnemonic. The other factors each are allocated one point. Patients therefore are assigned a score ranging from 0 to 6. In general, the researchers suggest prescribing warfarin to

patients with a CHADS2 rating of one or greater, depending on the patient's preferences and risk of hemorrhage.

In collaboration with Peer Review Organizations representing seven states, the team obtained data from 1,733 Medicare beneficiaries aged 65 to 95 years. They followed each patient for an average of 1.2 years and assembled a National Registry of Atrial Fibrillation. They then compared the predictive value of each of the three models — CHADS2, AFI and SPAF.

The AFI and SPAF schemes both predicted stroke better than chance, but CHADS2 yielded significantly more accurate results than either of these models.

Copper aids prenatal growth

BY ANNE ENRIGHT SHEPHERD

Researchers have discovered that a protein that escorts copper through cells is essential for the proper formation of organs and tissues. Mice lacking this protein are at high risk for birth defects or infant death.

Copper, a nutrient that people take in every day, is essential for processing oxygen. Because it also can do a lot of damage, cells must handle it with kid gloves. The copper-transporting protein, Atox1, escorts the nutrient to its proper place within cells, according to a recent study in the *Proceedings of the National Academy of Sciences*.

"But to our surprise, we found that Atox1 is critical not only for copper delivery but also for the proper development of organs and tissues," Jonathan D. Gitlin, M.D., said. "That has never been shown previously."

Gitlin, the Helene B. Roberson Professor of Pediatrics at the School of Medicine, led the study. He also is a professor of pathology and immunology at the school and a staff physician at St. Louis Children's Hospital. The paper's first author was Iqbal Hamza, Ph.D., postdoctoral fellow in pediatrics.

Hamza and Gitlin worked with collaborators in Germany to genetically alter mice. The animals' offspring were unable to make functional Atox1 protein. Nearly half died before weaning, and the survivors grew only slowly, had low body temperature and were abnormally pigmented. These symptoms develop when mice lack copper.

Then came an unexpected observation. The mice that lived were fertile, producing offspring that also were deficient in Atox1. The babies were extremely short

of copper, and many of them had birth defects.

Copper from food eventually enters cells. But moving it around inside cells is no simple task because it can be very toxic.

"Like a giant station with many trains running in and out, the cell has to know exactly how to get copper to the right spot," Gitlin said. "It can't have it running all over the station. We now know that Atox1 performs a critical function in delivering copper to the right place."

Several years ago, University researchers and others isolated and characterized two human genes that code for intracellular copper-transporting proteins. Defects in these genes result in copper-related diseases. In Wilson disease, copper excretion is disrupted, and patients can die from accumulation of copper in the liver or brain. In Menkes disease, patients suffer from copper deficiency and often die in childhood.

These experiments led to the discovery of a whole class of proteins termed copper chaperones. The current study is the first to identify Atox1 as a copper chaperone in cells of mammals.

"Just like chaperones at a prom, these proteins escort copper within the cell," Gitlin said. "By getting it to the right place, they make sure nothing bad happens on the way. They don't go on dates themselves, however. Once they deliver the copper, they turn around, find more copper and go back."

The current findings could lead to insights on Wilson disease, which results from just one defective gene but produces symptoms ranging from schizophrenia to liver disease.

"One could imagine that variations in Atox1 could account for that," Gitlin said.



It's a hit St. Louis Mayor Francis Slay (front row left) and St. Louis Cardinals center fielder Jim Edmonds (front row right) listen as William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine, speaks at the June 18 dedication of a new baseball field in the Forest Park Southeast neighborhood. Jim Edmonds Field is part of a neighborhood revitalization master plan developed by the University, neighborhood residents and other area organizations.

Potential Alzheimer's drugs may be dangerous

BY GILA Z. RECKESS

Scientists have discovered that gamma-secretase inhibitors, the most promising drugs under development for Alzheimer's disease, also prevent certain immune cells from being produced. These drugs are in the early stages of human testing.

"Our paper suggests that these drugs could have significant side effects," Raphael Kopan, Ph.D., said. "By using basic scientific methods such as

the one we have developed, we hope to improve the ability of the scientific community to evaluate any Alzheimer drugs for their potential to cause life-threatening complications. Our system would also help identify drug dosages that might be safe in clinical trials." Kopan is associate professor of medicine and of molecular biology and pharmacology at the School of Medicine.

Kopan led the study, which was described recently in the *Proceedings of the National Academy of Sciences*. The first author was Brandon K. Hadland, an M.D./Ph.D. student at the medical school.

Alzheimer's disease affects an estimated 4 million people in the United States alone. Researchers recently identified three genes that, when faulty, predispose individuals to this devastating neurological disorder. Two of them, *presenilin-1* and *presenilin-2*, code for parts of a protein complex called gamma-secretase. In Alzheimer's disease, this complex generates a protein fragment that accumulates as plaque in the brain. Using drugs, scientists hope to interfere with gamma-secretase production, thereby preventing plaque buildup.

Other parts of the body need gamma-secretase, however. Kopan and his colleagues previously found that the complex is required for Notch, a receptor protein, to signal.

Notch is needed for production of many cell types in our body, including blood cells such as T cells — immune cells made and housed in blood.

The researchers feared that administering a drug that interferes with gamma-secretase production also would alter Notch function, hampering cell production in various tissues. As a model, the researchers focused on the immune system. They therefore determined the effects of a gamma-secretase inhibitor called compound no. 11 on cells from fetal mouse thymus, the organ where T cells develop. To simulate the continual drug therapy that would be required in humans, they treated cultured thymus lobes with a small dose of inhibitor every 12 hours.

After three days, the treated lobes had produced significantly fewer T cells than untreated ones. These results mimic previous observations of thymus cells lacking the appropriate Notch protein. The researchers therefore concluded that inhibiting gamma-secretase prevents T cells from maturing properly.

"We don't want to scare the public about these exciting therapeutic advances," Kopan said. "Quite the contrary — we're offering a way to evaluate potential Alzheimer drugs for toxicity before human testing. Doses that reduce gamma-secretase activity without eliminating it might be the safest."

Jost named head of radiology, director of Mallinckrodt Institute

R Gilbert Jost, M.D., professor of radiology, has been named head of the Department of Radiology and director of the Mallinckrodt Institute of Radiology (MIR) at the School of Medicine.

In making the announcement, William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine, said, "Gil Jost's outstanding talents as an academic physician and a manager are well documented. We were fortunate that, after our extensive search, we selected Dr. Jost to lead the top-notch Mallinckrodt Institute of Radiology to even greater scientific achievement."

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

Jost has been chief of diagnostic radiology at the School of Medicine since 1985. In that position, he has overseen diagnostic radiology



Jost: Professor of radiology

services at Barnes-Jewish Hospital and several other hospitals and health centers throughout metropolitan St. Louis. Jost also is an affiliate professor of computer science. He is the author of more than 115 scientific articles, many dealing with the use of information technology in the practice of diagnostic radiology.

Jost is a member of numerous medical societies, including the

American College of Radiology, the Association of University Radiologists and the Society for Computer Applications in Radiology. He also serves on the board of directors of the Radiological Society of North America, radiology's largest professional organization. He is scheduled to chair that board in 2005, and he will serve as the organization's president in 2007.

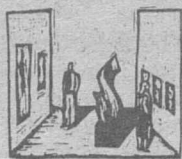
Jost earned a bachelor's degree from Harvard University in 1964 and a medical degree from Yale University in 1969. After an internship at Cleveland Metropolitan General Hospital and two years as a research associate in the Laboratory of Neural Control at the National Institutes of Health, he came to Mallinckrodt Institute of Radiology for a residency in 1972 and joined the faculty as an instructor in radiology in 1975.

University Events

Architectonic Fixations • Sleep Apnea Syndrome • World's Fair Concert

"University Events" lists a portion of the activities taking place at Washington University July 13-Aug. 15. Visit the Web for expanded calendars for the School of Medicine (medschool.wustl.edu/events/) and the Hilltop Campus (cf6000.wustl.edu/calendar/events/).

Aug. 31. Glaser Gallery, The Bernard Becker Medical Library, 660 S. Euclid Ave. 362-4235.



Analysis of cDNAs During Development of *Dictyostelium discoideum*. Hideko Urushihara, prof. of biological sciences, U. of Tsukuba, Japan. Room 322 Rebstock Hall. 935-6812.

Friday, July 27

9:15 a.m. **Pediatric Grand Rounds.** "Anti-TNF Therapy and Juvenile Rheumatoid Arthritis." Andrew J. White, instructor in pediatrics, assoc. dir. of pediatric residence program and of pediatric rheumatology training program. Clopton Aud., 4950 Children's Place. 454-6006.

Friday, Aug. 10

9:15 a.m. **Pediatric Grand Rounds.** "Obstructive Sleep Apnea Syndrome in Children." Elizabeth Chan Uong, instructor in pediatrics, allergy and pulmonary medicine div. Clopton Aud., 4950 Children's Place. 454-6006.

Exhibitions

"Architectonic Fixations: Photographs From the Collection of Russell Sturgis."

Through July 31. Special Collections dept., Olin Library. 935-5495.



"Muses and the Healing Art." Through

Lectures

Friday, July 13

9:15 a.m. **Pediatric Grand Rounds.** "Lipodystrophy Syndromes: Understanding Fat As an Endocrine Organ." Paul W. Hruz, instructor in pediatrics, endocrinology and metabolism div. Clopton Aud., 4950 Children's Place. 454-6006.

Friday, July 20

4 p.m. **Biology seminar.** "Comprehensive

Music

Sunday, July 15

7:30 p.m. **Gateway Festival Orchestra Concert Series.** "Re-creation of a 1904 World's Fair Concert," featuring "William Tell Overture," Mozart's "Jupiter" Symphony and music from "Meet Me in St. Louis." William Schatzkamer, dir. Brookings Quadrangle. 569-0371.

Thursday, July 19

8:30-10:30 p.m. **Holmes Jazz Series.** Farhid Soltanshahi and Tom Byrne, guitarists. Herman Semidey, percussionist. Holmes Lounge, Ridgley Hall. 935-5581.

Sunday, July 22

7:30 p.m. **Gateway Festival Orchestra**

Concert Series. "20th Century American Music," featuring Gershwin's "An American in Paris" and music of Hanson and Grofé. William Schatzkamer, dir. Brookings Quadrangle. 569-0371.

Thursday, July 26

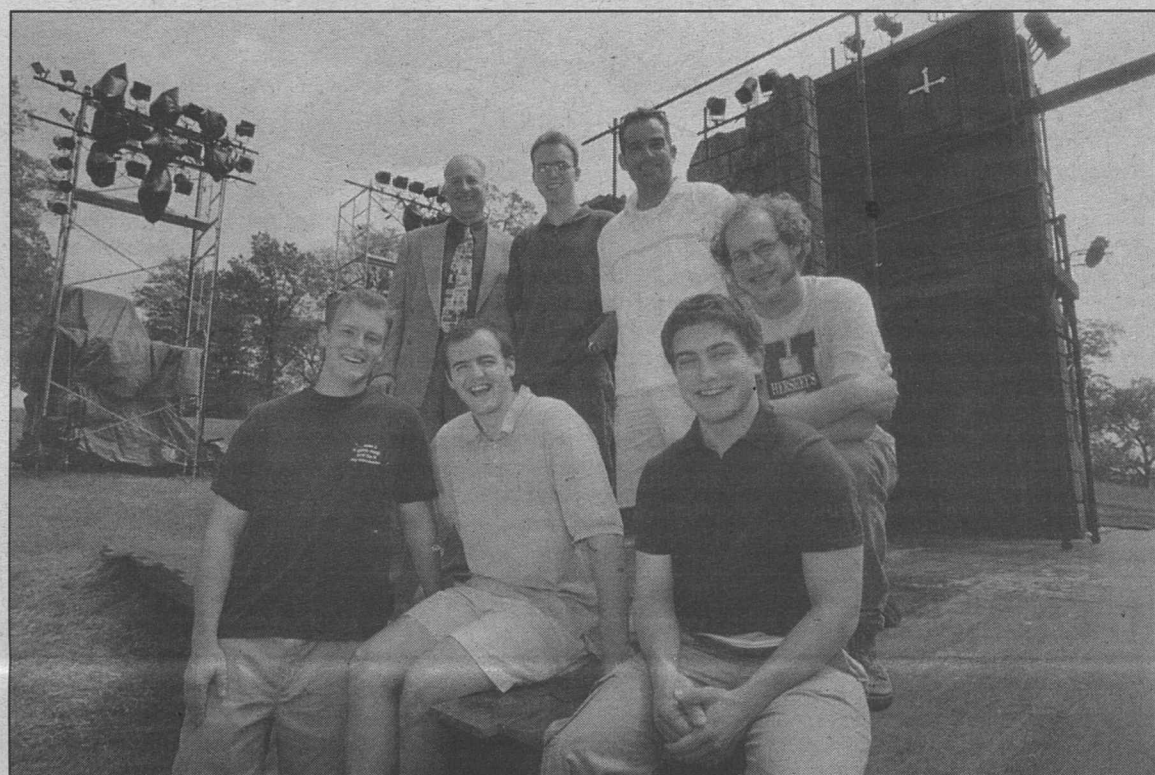
8:30-10:30 p.m. **Holmes Jazz Series.** Dave Black, guitarist. Holmes Lounge, Ridgley Hall. 935-5581.

Sunday, July 29

7:30 p.m. **Gateway Festival Orchestra Concert Series.** "Italian Night at the Gateway Concerts," featuring Tchaikovsky's "Capriccio Italian," overture by Rossini, Italian opera arias and music from "La bohème." William Schatzkamer, dir. Brookings Quadrangle. 569-0371.

Thursday, Aug. 2

8:30-10:30 p.m. **Holmes Jazz Series.** Tom Byrne Trio. Holmes Lounge, Ridgley Hall. 935-5581.



The University was well-represented at the recent Shakespeare Festival of St. Louis in Forest Park, both on stage and behind the scenes. Seated (left to right) are actors Mike Markham, Eddie Kurtz and Jonathan Reitzes. Behind them (left to right) are festival board member Henry Schvey, prop manager Justin Barisonek, scenic designer Christopher Pickart and set crew member Sam O'Connell.

Shakespeare Festival gets WU boost

By LIAM OTTEN

Hey, even the greats can't do it alone.

Last month, a dedicated group of University faculty, staff and students joined other local arts advocates and a stellar cast of nationally known theater professionals in launching the new Shakespeare Festival of St. Louis.

"Romeo and Juliet," the festival's inaugural production, played for two weeks to packed houses — or in this case, hillsides — in Forest Park. Directed by PJ Paparelli, resident assistant director of The Shakespeare Theatre in Washington, D.C., the play earned widespread praise from audiences and critics alike. Organizers hope to make the festival an annual event, and planning for next year's run is already under way.

"This event has come a very long way in a very short time, but there is a significant audience in St. Louis that is used to coming out in the evenings and seeing theater," said Henry I. Schvey, Ph.D., professor and chair of the Performing Arts Department in Arts & Sciences.

Schvey worked behind the scenes in several capacities, serving as artistic adviser and — along with Larry Kahn, past chair of the

University's Lifelong Learning Institute — as a member of the festival's board of directors.

Schvey added that, for organizers, "the bottom line was having a production that not only was entertaining, but was also of the highest artistic quality. And I think that we've shown St. Louis can deliver the goods and that people will support it."

Scenic designer Christopher Pickart, artist in residence in the PAD, noted that, though "Romeo and Juliet" is traditionally set in the Renaissance, Paparelli had the insight to use a slightly earlier historical period — specifically, the transitional period between the Renaissance and the Middle Ages.

"It's like setting it in the

1960s, a time when children were ready to move on but their parents were still clinging to established society," Pickart said.

Still, finding the right scenic tone took some work, and

Pickart spent about five months testing different ideas and approaches. In the end, he settled on an elegant castle-like construction — complete with ramps, turrets and elevated walkways — that opened up in the center, providing a magnifi-

cent view of the park receding into the distance.

"This was a really, really hard one," Pickart said with a smile. "It ended up being a much bigger project than we had envisioned, but I think everyone was pretty excited by the direction we found."

To help stay on budget, Pickart borrowed some props and other stage elements from the PAD stockroom.

"Those are the Washington University flats," he said, pointing to the wood-frame-and-plywood walls that serve as backdrop. "It's very helpful to be able to have that sort of cooperation."

That esprit de corps also extended to the student body. Senior Sam O'Connell worked behind the scenes helping to build the set, while senior Justin Barisonek served backstage as prop manager. On stage, May graduates Eddie Kurtz, Mike Markham and Jonathan Reitzes joined in the chorus, with Reitzes pulling additional duty in the role of Gregory.

"We did a lot of fighting," Kurtz said with a laugh. "Scene changes, crowd scenes, things like that." His voice dropped into a low, theatrical growl, right hand gripping for an imaginary sword. "Draw your weapon if you be a man!"

Markham said, "The coolest thing is just getting to see the professional actors come out here and perform every night. It's a great experience just to be able to watch them."

Bipolar

Average children's age in study just over 10

— from Page 1

old, something rarely previously attempted. Whereas physicians and relatives might suspect bipolar disorder in an adult with behavioral problems such as "maxing out" credit cards, getting married four or more times, or continually starting new, unrealistic business ventures, Geller's group needed to establish how these behaviors would appear in children.

"A bipolar adult with symptoms of grandiosity might call the president or the governor to tell him how to run things," Geller said. "In this study, we have investigated children who have repeatedly called the principal or other officials at school to tell them to fire a teacher or do something else to make the school run more effectively in the eyes of that child." These children were not just playing teacher after school but were acting as if they were in charge of the principal's office.

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

Geller's group now has validated the mania diagnosis in

these young children by showing that the symptoms are stable at follow-up over a one-year period. This helps dispel the notion that manic children were just children with ADHD who were having a bad day.

The study participants were evaluated diagnostically in the research unit but were treated by their own practitioners in the community. Only about 50 percent of the bipolar children in the study were receiving medications that are prescribed to control mood swings in bipolar adults — drugs such as lithium, neuroleptics or anticonvulsants.

Geller believes this low use of anti-manic medications may be because gatekeeper physicians are not yet aware that children can have manic-depressive illness.

Only about one-third of these children had recovered from their mania at the end of one year. Geller plans to continue following these children over time to see if their chronic, rapid cycling illness continues or if they will develop the episodic pattern with relatively well periods that is seen most commonly in adults.

Her group also is conducting molecular genetic and neuroimaging studies to learn whether the genetic factors involved in the disorder are similar for children and adults and whether the brains of children with bipolar disorder differ from the brains of normal children.



Coming at you! Junior Natalie Case tosses a Frisbee in Brookings Quadrangle during a break in the hot weather.

Public interest work part of law students' summer

By ANN NICHOLSON

From whistleblowing cases to criminal defense for indigent clients to environmental advocacy, an increasing number of students at the School of Law are opting for summer work experiences in public interest fields.

The law school's growing summer stipend program is helping make possible the vast majority of these internships by contributing to basic living costs for students pursuing otherwise unpaid positions. In large part due to the success of a multiyear matching grant program, 58 students were awarded stipends this summer. That represents 16 more stipends over last year and more than double those offered in 1999.

"The School of Law believes strongly in the public interest obligation of lawyers and is committed to offering increased opportunities for students in this area," said Joel Seligman, J.D., dean of the School of Law and the Ethan A.H. Shepley University Professor. "The summer stipend program is a terrific opportunity for students to immerse themselves in legal issues they feel passionate about while providing valuable legal services to low-income clients, community organizations and nonprofit agencies."

Internships range from positions with the Missouri State Public Defender (MSPD) Office to the Foundation for Sustainable Development, the National Whistleblower Center and the International Institute for Human



Law students (seated from left) Reid Kajikawa, Michael Hely and Jennifer Behm and (standing from left) Javad Khazaeli and Michelle Murphy participate in an intensive, two-day workshop for summer interns with the Missouri State Public Defender System. Patrick Brayer, assistant public defender and intern coordinator (right) and Peter Joy, J.D., professor of law and director of the law school's Criminal Justice Clinic, brainstorm with the students.

Rights in Nepal. Law students also are working for the Immigration and Naturalization Service (INS), U.S. Attorney's Office, American Civil Liberties Union, Legal Aid Societies in various states, Missouri Coalition Against Domestic Violence and the law school's Interdisciplinary Environmental Clinic.

Law student Carrie Johnson, who is interning with the INS office in Denver, has been assisting at a variety of hearings for people applying for asylum, refugee status or other means of remaining in the United States. She also has been learning firsthand about

the plight of aliens through interviews at a detention center.

"My experience has thrown me into immigration law and international law," Johnson said. "I have assisted the lawyers in researching areas of the case and first-chaired three cases so far. I also speak freely with the immigration judges about issues and hear their viewpoints everyday. The INS attorneys and judges truly care. The goal is not to deport everyone, but to give everyone at least a chance."

SanJay Sola is interning with the nonprofit National Whistleblower Center in Wash-

ington, D.C., which focuses on both whistleblowing cases and related public policy issues.

"My internship has exposed me to fascinating legal issues and been a tremendous learning experience," Sola said. "One of my most challenging projects has been writing a 60-page appellate brief for a major whistleblowing case. I've learned a lot about the power of advocacy and how a good whistleblowing case can provide for significant social and environmental changes in organizations such as the FBI and the industries involved."

Through his internship with

the MSPD's juvenile division, Lynne Perkins hopes to be able to help turn the youths' lives around.

"Children make mistakes," Perkins said. "I grew up in the same south St. Louis neighborhood and see myself in many of these kids. It is all about life choices. I hope to help them with their legal problems, but also to be a positive role model for them."

Javad Khazaeli is interning with the MSPD for the exposure to trial work.

"It's hands-on court experience," Khazaeli said. "I'm learning what it really means to be a lawyer. I'm working with real clients, not just on cases I read about in a book — and law firms love to see that experience on a resume."

Perkins and Khazaeli are among 23 University students, including two undergraduates, who have summer positions with MSPD. While some of these positions, such as Perkins', are paid directly through MSPD, the majority are supported through the law school's stipend program.

Marty Robinson, director of the MSPD, said the students not only provide quality legal work for the department, but also gain insight into the need for and rewards of public interest work.

"The interns are getting exposure to indigent clients who do not otherwise have access to an attorney — and the students are learning to become powerful advocates for the indigent," Robinson said. "It is very exciting and fulfilling work. The experience will make them more-rounded individuals and better attorneys."

New fellowship provides international students a chance to see America

By NEIL SCHOENHERR

Two University international students are traveling the United States this summer as part of a new fellowship program.

Designed specifically for University international students, the Fischlowitz Travel Fellowship Program provides \$5,000 to each of two qualifying students, one undergraduate and one graduate. Merle Fischlowitz is a University alumnus.

The terms of the fellowship specify that students must travel for at least two weeks, travel to two distinct sections of the United States and spend time in a rural

area. The students must complete a project, such as studying a piece of American culture related to their education, and make a public presentation upon their return to campus.

Kathleen Muldoon, first-year graduate student in anthropology in Arts & Sciences, is on two paleontology digs in the western United States and will attend an international paleontology conference. The digs are in South Pass, Wyo., and northeastern Utah. She will also be traveling to Yellowstone and Grand Teton national parks.

Jane Rhyu, undergraduate drama major in Arts & Sciences

from South Korea, is taking a cross-country bus tour from New York to San Francisco and back. Rhyu is interested in looking at Asian and Asian-American theater and art institutions. She will also volunteer at the Blackfoot Native American Reservation in Montana to explore how that culture can contribute to her art.

Mary Laurita, Ph.D., assistant dean in Arts & Sciences, has been active in helping plan and organize the program. She said the vision of the fellowship lies in that many international students come to the University and spend four years on campus, yet never get the chance to venture past St. Louis to see much

of the United States.

"Mr. Fischlowitz wanted these students to have an opportunity to see the country and get a better flavor for American culture," Laurita said.

"During his time here, Mr. Fischlowitz had many friends who were international students," she added. "They really enriched his experience here at the University, and he wanted to give something back."

Kathy Steiner-Lang, director of the Office of International Students and Scholars, said, "This fellowship is a wonderful opportunity for international students. It will give them an opportunity

to see parts of United States they might not normally be able to see. We're really excited about it and eager to see the student's reactions once they get back."

Laurita said six applications for the fellowship were received this year. The winners were chosen based on their itinerary, how necessary the travel was to their project and how realistic the project was to complete.

"We are very excited about this fellowship," Laurita said. "We hope that many international students can take advantage of this program and add to their positive experience at Washington University."

Balloonist Fossett set for renewed attempt

By DONNA KETTENBACH

University trustee and alumnus Steve Fossett will be ready to fly his balloon, Solo Spirit, again July 25.

While initiating an attempt June 17 to complete the First Solo Balloon Flight Round The World, a freak gust of wind ripped the adventurer's balloon envelope during the inflation process in Kalgoorlie, Australia.

An expert balloon repair team was flown to Kalgoorlie shortly after the aborted launch. It was repaired on site and is now awaiting a new supply of helium, which had to be ordered from Singapore. The helium tanks are expected to arrive in Western Australia next week and will be transported to Kalgoorlie.

"With the team's expertise, we've been successful in repairing the balloon, eliminating time to ship it back to its manufacturer, Cameron Balloons Ltd. of Bristol, England, thus making possible another launch this season," Fossett said.

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STEVE FOSSETT

Follow the flight

Steve Fossett's solo balloon flight will be tracked on the Web at solospirit.wustl.edu. The site also features registration for a mission listserv and background information on ballooning, Fossett and his other record-breaking adventures.

Ballooning season in the Southern Hemisphere typically ends in late August, when the risk of thunderstorms increases rapidly.

"I would try to launch sooner if we weren't waiting for helium," Fossett said.

Fossett will have many of the same team members from his June attempt assisting him again later this month, including Project Manager Tim Cole, Chief Meteorologist Bob Rice and Mission Control Director Joe Ritchie.

"The University is pleased to continue our role as Mission Control for Steve Fossett's attempt to make the first First Solo Balloon Flight Round The World," Chancellor Mark S. Wrighton said.

Fossett earned an MBA from John M. Olin School of Business. His daring nonstop flight over the oceans of the Southern Hemisphere may take 15-18 days.



Steve Fossett sits in the gondola of Solo Spirit, in which he will attempt to complete the First Solo Balloon Flight Round The World.

"All the students and staff participating in this project were so disappointed when Steve's balloon was torn during the inflation process last month," Wrighton said. "We are very happy that Solo Spirit could be repaired in time to give it a go still

this ballooning season. This continues to be a wonderful learning experience for our students, not only in an academic and scientific sense, but it is also a great example of what patience and perseverance can accomplish."

AI

'New math' could change legal profession

— from Page 1

don't type.' Well, new lawyers come to class with their laptops. There is a cultural shift. The legal profession realizes it is in the information business, not just the people business."

Loui said since the mid-1980s, the expert-systems community actively explored problems and questioned the prevailing theory that systems had to be built upon induction and deduction, the two logics that were built to serve science.

"Too many people are taught that deductive reasoning is the model for reasoning, that logic consists of mathematical logic and nothing else," Loui said. "Mathematicians love deductive and inductive forms because the former is logic, the latter probability. But they haven't liked argumentation because that's taught by English professors. Well, guess what? Now it's mathematics. We have a mathematics that permits these new systems to take a proof and offer a counterproof.

"We raised the philosophical

ante and said, 'It's not just expert rules that come into conflict, it's a whole way of thinking where there are arguments that come into conflict — proof and counterproof.' We never had a mathematics for this and wanted to have one, because if you try to program deductive logic and put it into a computer, nothing comes out as output that wasn't in as input. Deduction is nonampliative — it never goes beyond its premises."

Loui stakes the future of AI argumentation on defeasible reasoning, which recognizes that a rule supporting a conclusion can be defeated. The conclusion is what AI specialists call an argument instead of a proof.

Defeasible reasoning draws upon patterns of reasoning outside of mathematical logic, such as ones found in law, political science, rhetoric and ethics. Defeasible reasoning is based on rules that don't always hold if there are good reasons for there to be an exception. It also permits rules to be more or less relevant to a situation. In this sense it is like analogy: One analogy might be good, but a different one might be better.

A classical AI argument is: Opus is a penguin; therefore, he should not fly. The counterargument: Opus is a bird; all

birds fly, so Opus should fly.

Loui offers this classical counterpart in law: A contract exists because there was offer, acceptance, memorandum and consideration. The counterargument: But one of the parties to the contract is incompetent, so there is no contract. AI is incorporating this capability into systems, providing the legal profession more options for analysis and information processing.

Taking the legal concept of "time, place and manner" as an example, Loui cites a famous case, *Gilleo vs. Ladue*, where a suburban St. Louis woman was charged with violating a city ordinance against signs when she posted one in support of a peaceful solution to the Gulf War. Her lawyer said such a law violates the constitutional right of free speech. The case ended up in the Supreme Court.

"This is a great case because it's not obvious that there is a right answer to be found in the rules," Loui said. "It's interesting because you can create great competing arguments. Two people can view time, place and manner in a different way. You can't say there is a clear rule on free speech to follow, or a clear rule on laws that restrict suburban sign clutter."

Such adversarial positions fostering argumentation don't appear that frequently in daily law, where there is an overwhelming amount of mundane decision-making, such as traffic tickets, contracts and tax code.

"AI and automation already are helpful in low-stakes practice," Loui said. "But a logic for

the rationales for rules is undone. A logic for theory formation in law is undone. Weighing competing arguments is a start to the logic for rules. The AI community is hammering out logics now for modeling competing arguments, and the result should be software that can actually perform a bit of legal reasoning."

Olin

30-month improvement process has begun

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One will be redone. More graduate study areas will be added, and sprinklers will be installed. Compact shelving will replace more traditional fixed shelves to greatly increase storage. Once completed, Level One will provide crucial "surge space," so that other areas in the library can be cleared out for renovations.

On Level Two, both faculty and graduate study areas will be renovated and updated to include the latest in network technology. The second level will also house an expanded media center that will include a combination of both old and new electronic technology. Space will be available for faculty to bring students for digital project work.

The most dramatic changes will be on Level Three, the library's ground level. The entire level will be expanded outward to the exterior column line all the way around the building.

A cybercafé and 24-hour study space will occupy an atrium wrapping around the southeast corner of the ground level, thereby fulfilling students' long-held desire for a convenient, quiet study space that is available around the clock. The atrium will stretch up through two more floors to create an expansive feel and allow natural light into the space. In addition to providing some food services, the cybercafé will house a number of public-access computer workstations and comfortable study areas.

Late-night entry to this

space will require visitors to have a valid University identification card. A University Police substation with a view into the 24-hour space will be added.

The cybercafé is just the beginning of the changes on the third level. The library entrance will be moved to the south side of the building. Facing the entrance will be a large curved service desk that brings together the library's main services — circulation, reference, reserves, interlibrary loan and shelving — in one convenient location, rather than having them in various parts of the library, as they currently are. The periodicals area will be expanded, and a large reading room will be on the east side of the building.

Special Collections — currently located on Level Five — will relocate to Level Three as

early as spring of 2002, increasing visibility for many of the library's treasures and allowing visitors to view exhibits even when that department is closed.

The fourth and fifth levels will house group study areas for faculty members and graduate students. Additional windows will be added on these levels and the old study carrels will be removed, bringing in more natural light during daylight hours as well as affording more seats with views of the areas surrounding the library.

The library maintains a renovation Web site — www.library.wustl.edu/renovation — that includes general information, floor plans for the renovated space, FAQs, a timeline and photographs of the progress to date, as well as a means of submitting questions or comments about the renovation.

Olin Library renovation timeline

Please note that all dates are tentative and subject to change.

Summer 2001

- Construction barriers erected
- Exterior demolition begins

- Administration office moves to temporary Level Three space

Fall term 2001

- Installation of new exterior ground-level walls
- Construction begins on Level Three Special Collections area

Spring term 2002

- Level Five stacks close
- Level Five books and Harris collection move to Level One

- Renovated Level One re-opens with temporary collections

- Library entrance moves from east side to south side of building

- Circulation desk and interlibrary loan move to temporary cybercafé space

- Special Collections moves to renovated Level Three space

- Construction begins for Level Four staff areas

Summer 2002

- AV/reserves and circulation staff move to temporary cybercafé space

- Webmaster's office moves to renovated Level Five space
- Administration office moves to renovated Level Five space

- Level Four stacks close
- Level Four books move to Level One

- Construction begins for Level Two multimedia center

Spring term 2003

- New multimedia center opens

- Current periodicals, popular literature and reference move to Level Four

- Level Two stacks close
- Call numbers A, B, L, Z move to Level Five

- Near East collection, government documents move to Level Four

Summer 2003

- Circulation, reserves, interlibrary loan and shelving move to Level Three renovated offices

- Current periodicals, popular literature and reference move to Level Three

- New book display opens on Level Three

- Construction begins on cybercafé

Fall term 2003/Early 2004

- New cybercafé /24-hour study area opens

- Collections shifted from temporary spaces to permanent locations



Feed — and decorate — the meter "The Parking Meter Project" by Mary K. Galofré, a senior in the School of Art and daughter of Nancy K. Galofré, special events coordinator for the University House, is attached to parking meters in the 6600 block of Delmar Boulevard. The piece, inspired by the mysterious "crop circle" phenomenon, was one of 10 student projects developed for the School of Art's 16th annual University City Sculpture Series.

Employment

Use the World Wide Web to obtain complete job descriptions. Go to <https://hr.wustl.edu/> (Hilltop) or <http://medicine.wustl.edu/wumshr> (Medical).

Hilltop Campus

Information regarding positions may be obtained in the Office of Human Resources, Room 130, West Campus. If you are not a WU staff member, call 935-9836. Staff members call 935-5906.

Research Technician

000256

General Services Assistant

000377

Research Assistant

010023

Administrative Secretary

010032

Senior Medical Sciences Writer

010108

Catalog Librarian

010166

Career Development Specialist

010187

Associate Director, Annual Giving Programs

010231

Senior Prospect Researcher

010236

Reference/Subject Librarian (Psychology)

010241

Reference/Subject Librarian (German)

010242

Research Technician

010250

Receptionist

010256

Student Union Business Manager

010269

Deputized Police Officer

010273

Admissions Officer

010274

Director III

010276

Site Operator/Technician

010279

Associate Vice Chancellor

010280

Special Media Collections Archivist

010297

Retention and Academic Advisor

010309

Manager, Business Development

010311

Regional Director of Development

010314

Department Secretary (part time)

010317

Assistant Director of MBA Admissions

010318

Office Manager

010326

Financial Analyst

010334

Lab Technician

010344

Custodian and Maintenance Assistant (part time)

010349

Associate Director and Director in Training

010350

Sales Associate (part time)

010354

Information Technology Assistant

010357

Administrative Assistant (part time)

010358

General Chemistry Laboratory Supervisor

010359

Biology Library Assistant

010363

Associate Director of Alumni Relations

010364

Library Technical Assistant

010365

Administrative Assistant (part time)

010366

Office Assistant

010367

Undergraduate Career Advisor

010371

Manager, MBA Advising

010372

Data Entry Assistant (part time)

010373

Marketing Manager/Development Assistant

010374

Associate Director, BSBA Advising and Student Services

010375

BSBA Registrar

010376

Administrative Assistant of International Writers Center

010379

Assistant Director, International Writers Center

010380

Shelving Assistant

010382

Research Assistant

010383

Associate Director of Capital Projects

010385

Administrative Aide

010386

Reference/Subject Librarian

010387

Manager of Employer Relations

010388

Assistant Technical Director

010391

Data Manager and Analyst

010397

Assistant Director Corporate/Foundation Prospect Management Systems

010398

Event Coordinator

010399

Office Assistant

010400

Department Secretary

010401

Administrative Assistant

010402

Assistant Director, Alumni and Parents Admission Programs

010405

Programmer Trainee

010406

Director, Engineering Undergraduate Recruiting

010407

Customer Service Representative

010408

Unix Systems Manager

010409

Financial Analyst — Undergraduate Admissions

010410

Department Secretary

010412

Associate Director of Alumni Relations

010413

Accountant

010416

Medical Campus

This is a partial list of positions at the School of Medicine.

Employees: Contact the medical school's Office of Human Resources at 362-7196. External candidates: Submit resumes to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, MO 63110, or call 362-7196.

Research Patient Coordinator

010883

Medical Secretary II (part time)

011275

Systems Manager

011753

Medical Secretary II

011767

Library Assistant

011824

Research Patient Assistant

011885

Secretary (part time)

011887

Facilities Technician

011917

Olin fire call

The Clayton Fire Department was called to the Hilltop Campus Monday in response to an electrical short in a junction box in a closet on Level One of Olin Library. The incident occurred in an area not currently in use by the general public, and there were no injuries or significant damage.

Notables

Speaking of

At the request of the Federal Trade Commission, **Michael M. Greenfield**, J.D., the Walter D. Coles Professor of Law, made a presentation on credit cards and other payment systems used for cross-border and Internet transactions at a roundtable of the Organization for Economic Cooperation and Development in Berlin. ...

John C. Morris, M.D., the Harvey A. & Dorismae Hacker Friedman Professor of Neurology and co-director of the Alzheimer's Disease Research Center at the School of Medicine, was a guest July 6 on National Public Radio's Talk of the Nation: Science Friday. Morris was interviewed by host Ira Flatow on the latest findings concerning the diagnosis and treatment of Alzheimer's disease. The program can be heard on the Talk of the Nation Web site at <http://www.npr.org/programs/scifri/>. ...

Stephen Legomsky, J.D., D.Phil., the Nagel Professor of International Law and director of the Institute for Global Legal Studies, gave presentations in April and May at the Center for Migration Studies in Washington on the subject of dual nationality; at the annual conference of the International Studies Association in Chicago on the theory of deportation; at a workshop in Berlin for German Members of Parliament and others on European asylum policies, and at a workshop on international legal education in Istanbul. During this period he also gave alumni presentations in Atlanta and San Francisco. ...

Of note

Carlos A. Perez, M.D., professor of radiology and director of the Radiation Oncology Center at the School of Medicine, received The National Children's Cancer Society Legacy Award 2001 for his "significant and lasting contributions in the fight against cancer" and for his "exceptional and distinguished leadership in the field of radiology." The award was presented at the society's International Humanitarian Award Dinner 2001 in March. ...

Krista Moulder, Ph.D., received the 2001 Dr. Philip Needleman Pharmacology Prize from the Division of Biology and Biomedical Sciences (DBBS). The prize is given to a graduating student who has demonstrated

outstanding achievements in pharmacology. The DBBS also awarded the 2001 Jakschik Award to co-recipients **Janelle Jakubowski** and **Sacha Malin**. The Jakschik Award is presented to an outstanding female graduate student, in her final year of doctoral research, whose work has focused on the general area of metabolic regulation. ...

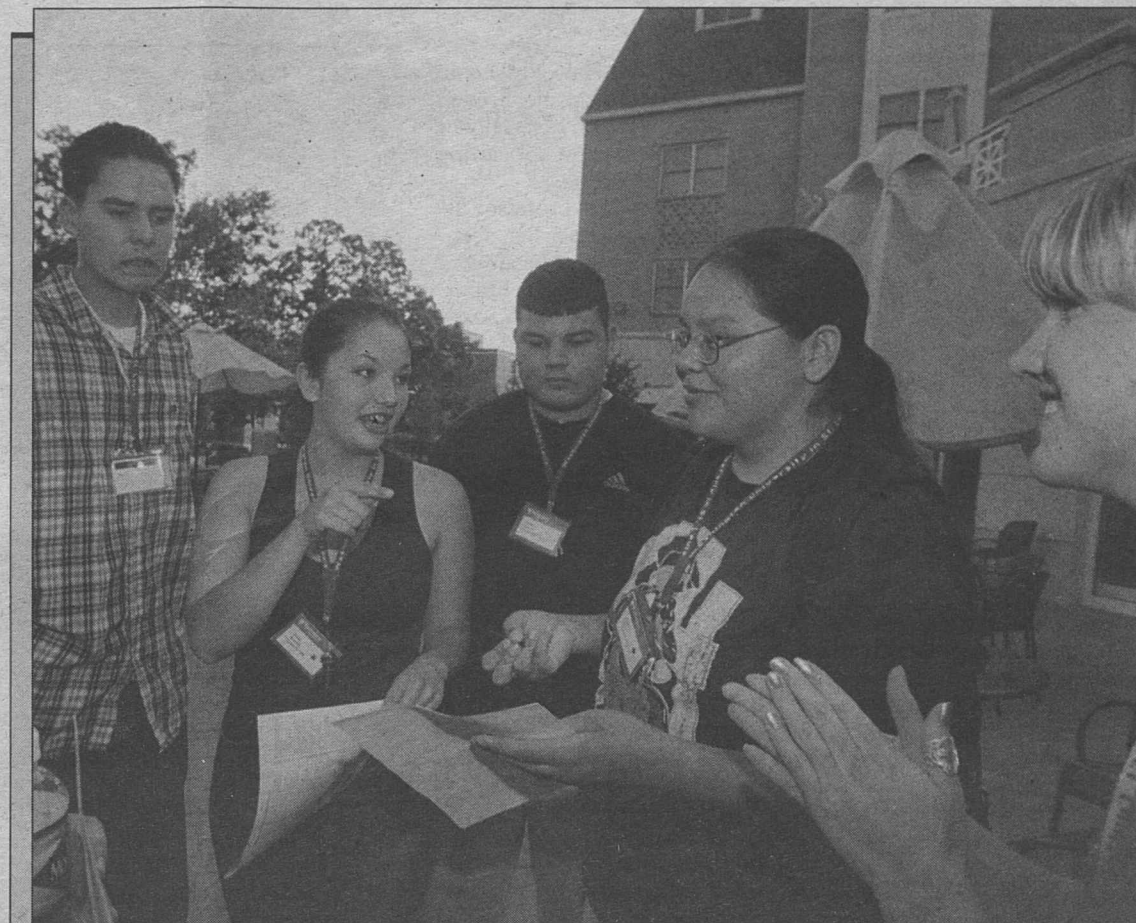
In recognition of his distinguished accomplishments in service and teaching, **Lawrence M. Kotner Jr.**, M.D., associate professor of radiology in the School of Medicine, was elected a fellow of the American College of Radiology (ACR). The induction ceremony will be in September during the ACR's 78th Annual Meeting in San Francisco. The ACR, comprised of more than 30,000 radiologists, radiation oncologists and medical physicists, supports programs focusing on the practice of radiology and the delivery of comprehensive radiological health services. Fellowship is one of the ACR's highest honors given to its members. ...

Perry W. Grigsby, M.D., professor of radiology in the School of Medicine, was selected as the 2000 Radiation Oncology Teacher of the Year, making him a three-time recipient of the award (1991, 1995). The radiation oncology residents select the award recipient by nominating and voting for the faculty member who makes a significant contribution to radiation oncology resident education during the academic year. ...

Michael J. Holtzman, M.D., was presented with a Recognition Award for Scientific Accomplishment from the American Thoracic Society (ATS) at the group's 97th International Conference in San Francisco in May. The award is given to individuals for distinguished scientific contributions to the understanding, prevention and treatment of lung disease. ...

Rudolph B. Husar, Ph.D., professor of mechanical engineering, has received a one-year, \$75,000 supplement to his current EPA award, "Ozone and particulate matter air quality analysis in support of public needs." ...

David A. Peters, Ph.D., the McDonnell Douglas Professor of Engineering and chair of mechanical engineering, will attend the First National Conference of the American Society of Mechanical Engineering/Greek Section on Engineering Sept. 17-20 at the University of Patras in Greece. The theme of the conference is recent advances in mechanical engineering, and it is a memorial confer-



Seek and find High school students participated in a scavenger hunt throughout the Hilltop Campus as part of the fourth annual College Horizons program held at the University last month. College Horizons, co-sponsored by the American Indian Science and Engineering Society, Winds of Change Magazine, St. John's College and Washington University, is a five-day course to help American Indians prepare for college. Fifty-six rising juniors and seniors from around the country met with admissions officers from more than 20 colleges and attended workshops on filling out winning college applications and writing college essays.

ence for the late **Andrew D. Dimarogonas**, formerly Palm Professor of Mechanical Engineering at Washington University and a native of Greece. ...

Da-Ren Chen, Ph.D., assistant professor of mechanical engineering, is co-principal investigator with a colleague at the University of Minnesota on filtration research. The research is funded by a Minnesota-based industrial consortium at nearly \$60,000 and will be funded until April 30, 2003. ...

Elliot L. Elson, Ph.D., professor of biochemistry and molecular biophysics, and **George I. Zahalak**, Ph.D., professor of mechanical engineering, have received a \$1.7 million grant from the National Institutes of Health for their project, "Reconstituted Tissue Mechanics." The project is expected to run until 2006. ...

The U.S. Senate recently confirmed President George W. Bush's nomination of University Trustee **Stephen F. Brauer** as U.S. ambassador to Belgium. Brauer, president of Hunter Engineering, has served as a trustee since 1991 and will continue in that role

during his ambassadorship. He presented his credentials to King Albert II June 12. University Life Trustee **Lee M. Liberman**, chairman emeritus of Laclede Gas, was recently elected president of Forest Park Forever. ...

Robert D. Schreiber, Ph.D., the Alumni Professor of Pathology and Immunology and professor of molecular microbiology at the School of Medicine, has received the 2001 William B. Coley Award for Distinguished Research in Basic and Tumor Immunology from the Cancer Research Institute. He was recognized for his work on the role of the immune system in tumor formation. ...

H. Mitchell Perry Jr., M.D., professor emeritus of medicine, has been named the 2001 winner of the COSEHC Lifetime Achievement Award, given by the Consor-

tium for Southeastern Hypertension Control to recognize a scientist whose work has resulted in major advances in the understanding of the cardiovascular system and high blood pressure.

Obituary

John Berry, 80

John W. Berry, M.D., assistant professor of clinical medicine at the School of Medicine from 1961-87, died of complications from Alzheimer's disease Friday, June 29, 2001, at Encore Senior Village in Green Acres, Fla. He was 80.

Campus Watch

The following incidents were reported to University Police **June 9-July 11**. 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 rescomp.wustl.edu/~wupd.

June 13

8:05 p.m. — An unknown person entered Crow Hall and stole a Toshiba laptop computer and a Koss portable compact disc player. The items were removed from the desk of a physics graduate student between 3 p.m.-8:05 p.m. Total loss is valued at \$1,350.

June 14

9:25 a.m. — The director of photographic services at the Alumni House reported that an unknown person attempted to pry off the face of the bolt lock on the door to Room 39 on the east end of the building's lower level. No entry to the room was gained.

June 15

7:54 p.m. — The director of the College Horizons program stated that two of her high school students were missing. The students were located at the Athletic Complex a short

time later and returned to their counselor.

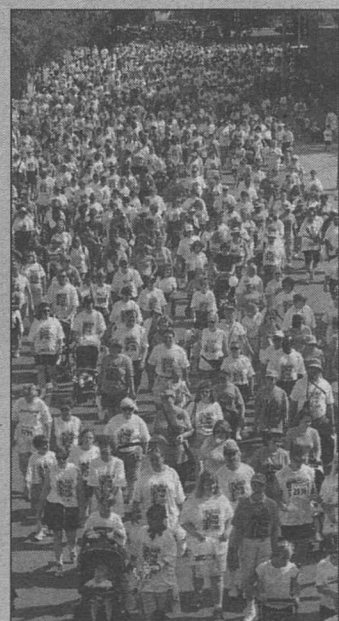
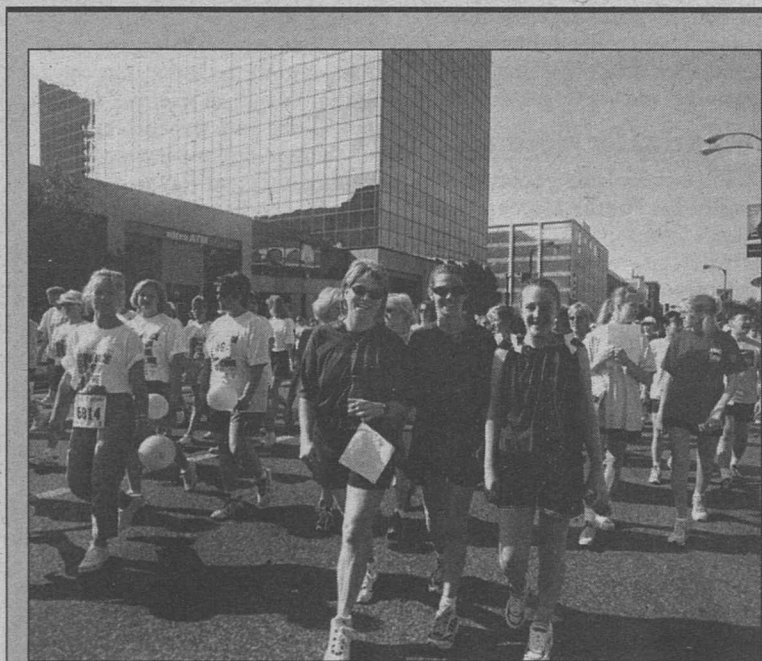
July 2

8:16 a.m. — A foreman for Laclair reported that an unknown person(s) gained entry into Alpha Epsilon Pi and Sigma Phi Epsilon fraternities and damaged various rooms that had just been remodeled. The damage appeared to be made by a shovel or similar object. No forced entry was found. The damage occurred between 3:30 p.m. June 29 and 7 a.m. July 2. No damage estimate was available.

July 3

3:58 p.m. — A suspicious subject trespassing in Simon Hall was arrested and taken to St. Louis County Jail.

Additionally, University Police responded to 13 reports of theft, two reports of automobile accidents and one report of harassing telephone calls.



Working toward the cure Above right, more than 31,000 people, including 1,100 on the Alvin J. Siteman Cancer Center team, flooded the streets of downtown St. Louis for last month's Komen St. Louis Race for the Cure. The Siteman Cancer Center was a platinum sponsor of the event, which raised more than \$910,000 to fight breast cancer. Above left, (from left) School of Medicine Department of Surgery employees Jamie L. Sauerburger, executive director, walks with Mary K. Amann, business director, and daughter Brittney K. Amann.

Washington People

Sandra Hale, Ph.D., can help make our lives a lot easier, especially since we're not getting any younger.

Hale, associate professor of psychology in Arts & Sciences, has contributed significantly to understanding how our brains process information and how this changes across the life span.

"Sandy's research is of fundamental importance in understanding how conscious mental activity is affected by the process of aging," said Henry L. Roediger, Ph.D., chair and James S. McDonnell Distinguished University Professor in the Department of Psychology.

Two aspects of normal everyday thinking are central to Hale's research: speed of processing — how quickly we process basic information from our environment; and working memory — the ability to retain information, such as the amount of a restaurant bill, for a brief time and to then manipulate this information, such as calculating the proper tip.

Speed-of-processing and working-memory investigations in Hale's lab have shown that differences between younger and older adults are a matter of degree.

"Older adults may take longer to process the same information and may make more errors, but we see no



Using tasks that require subjects to recall locations of X's in a grid, Sandra Hale, Ph.D., associate professor of psychology in Arts & Sciences, has found that age affects spatial working memory to a greater extent than verbal working memory.

with policy changes.

"I take my hat off to her for what she's done with the HHSC," said Martha Storandt, Ph.D., professor of psychology and director of the Aging and Development Program at the University. "She's done more to protect human subjects used in scientific research on the Hilltop Campus than anyone else. At the same time, she's made it much more efficient to conduct studies involving humans."

Since 1992, Hale also has been involved in the recruitment of new freshmen, answering general questions about psychology and discussing research opportunities for undergraduates in the social sciences. In addition to postdoctoral researchers and graduate students, she has two or three undergraduates working in her lab each year. Eighty percent of the undergraduates

working in Hale's lab have published their results in scientific journals.

"I think the chance to participate in research is one of Washington University's greatest strengths for undergraduates," Hale said.

In 1998, the New York Academy of Sciences recognized Hale as an outstanding mentor when her graduate student, Astrid Fry, won the prestigious James McKeen Cattell award for the year's outstanding dissertation in psychology. The dissertation focused on the role of processing speed and working memory in higher-reasoning abilities in children. The results provided evidence for a developmental cascade similar to the one observed in Hale's studies of older adults.

Hale has always assumed that getting bored is the worst thing that could happen to a person. So in addition to her research, teaching and University service, she's been making jewelry — bracelets, earrings and necklaces — in her spare time for the past seven years.

"I love my work, but you have to have some art to balance out all that analytical science," she said. "I like patterns and repeating themes, and my jewelry-making is a great way to express these."

that for the rest of their lives if they pick up The New York Times science section and see a story on the development of some aspect of human behavior, that they will be able to say, 'Oh, I know what this is about.' And then proceed to expand their knowledge."

Hale is an advocate for the use of technology in teaching. She has recently put her course content on the Web, providing students with relevant concepts and visual images to be covered in upcoming lectures. By making these materials available on the Web, she said, students are better able to grasp what's important.

"Students ask questions more easily, and they don't have to suffer while I draw lame pictures of experimental procedures on the board — many students could not discern a dog from a horse in my drawings," Hale said.

But she doesn't reproduce her course notes on the Web because she believes students remember material better when they encode it in different ways (seeing it, hearing it and writing it down).

Toward safer research

Since 1995, Hale has been chair of the Hilltop Human Studies Committee (HHSC), an institutional review board.

"We aim to educate people about how human participants should be treated in research," Hale said.

In addition to making research safer for both scientists and human volunteers, Hale has helped streamline the process by spearheading the development of a Web site, updating necessary forms and keeping up

Hale's findings have important implications for understanding what happens when we age and how to deal with those changes.

"Sandy's work on aging and cognition has many ramifications for psychology and for the daily lives of aging adults," Roediger said.

Hale is exploring the applied aspects of her research, including how speed of processing and working memory are affected by Alzheimer's disease. With her colleagues in psychology and the Central Institute for the Deaf, she is developing a method to examine the effectiveness of training programs in improving the conversational fluency of hearing-impaired older adults. She is also looking into the gambling behaviors of older adults in casinos to determine whether working memory has a role in risky decision-making.

About half of Hale's research collaborations are with her husband, Joel Myerson, Ph.D., research professor in the psychology department. "We were research collaborators before we were married partners," Hale said. "I was working in his lab as a computer programmer, and that's how we met." They were married in the fall of 1984.

Web as a teaching aid

Hale came to the University after earning a doctorate in 1988 from the University of Wisconsin-Milwaukee.

As a teacher, Hale's primary responsibility is a course in developmental psychology. In addition to an understanding of basic techniques and concepts, students complete the class with a firm grounding in how nature and nurture (i.e., genetic and environmental influences) interact.

This is becoming increasingly important as our understanding of the human genome advances. Hale said of her students, "I hope

evidence that older adults are doing things differently than younger adults," Hale said. "Our research suggests that normal aging does not result in qualitative changes in thinking, which is a finding that we hope people find reassuring."

Hale and her colleagues have also found that aging affects verbal cognition to a much lesser extent than spatial cognition. For speed of processing, Hale designed experiments to measure the amount of time needed to complete both verbal and spatial tasks. A verbal task involves decisions about words, such as determining whether two words are from the same category. Are shovel and rake both tools? Are carrot and milk both vegetables?

A spatial task involves decisions about shapes and/or locations. Examples include visual search tasks where subjects search for a red circle (the target) among a field of red squares and blue circles.

The results of these processing speed studies show that as we age, although there is both verbal and spatial slowing, spatial processing is affected to a much greater extent. Using working memory tasks that require subjects to either recall a list of letters or recall locations of X's in a grid, Hale has found that age also affects spatial working memory to a greater extent than verbal working memory.

There also seems to be a cascade of effects beginning with the general slowing of processing speed.

"As we get older, we get slower," Hale said. "Getting slower reduces our working memory capacity, and we tend to jumble things up more frequently. This, in turn, affects our higher-level reasoning and intellectual abilities, especially in the spatial domain."

The good news, Hale points out, is much of our daily life depends on processing verbal information, and this domain is the least affected by aging.

Shedding light on the aging process

By TRENT STOCKTON

Sandra Hale, Ph.D.

Born: Riverside, Calif.

Education: University of California, Riverside, B.A., 1979; master's, 1983; University of Wisconsin-Milwaukee, Ph.D., 1988

University position: Associate professor of psychology in Arts & Sciences and chair of the Hilltop Human Studies Committee

Family: Husband Joel Myerson, Ph.D., research professor, Department of Psychology; sons Jamie and Joshua; twin daughters Mariah and Leah; granddaughter Samantha



Hale holds her granddaughter, Samantha.