Students argue before Roberts

BY JESSICA MARTIN

Four finalists in the School of Law’s Wiley Rutledge Moot Court Competition experienced what most lawyers only dream of: arguing before Chief Justice of the United States John G. Roberts Jr.

"To be able to argue in front of one of the sharpest legal minds in the country was an experience I will never forget," said Samir Kaushik, a second-year law student who argued the case with teammate and fellow second-year student Renee Waters at the Feb. 6 competition in the Bryan Cave Moot Courtroom of Anheuser-Busch Hall.

"It was an incredible honor to argue before Roberts," Waters said.

"There is no jurist for whom I have greater respect than the chief justice. It was an honor to be in his presence and to engage in dialogue with him and the four other justices."

Roberts, who presided over the competition, was joined on the panel byU.S. Circuit Court Judge Catherine D. Perry, judge on the U.S. District Court, Eastern District of Missouri; David R. Herndon, judge on the U.S. District Court, Southern District of Illinois; and Richard J. Lazarus, professor at the Georgetown University Law Center.

After making what was described as a very difficult decision, the panel announced that Waters and Kaushik won the competition Feb. 6. The pair successfully argued their case before Chief Justice of the United States John G. Roberts Jr. (back center).

Samir Kaushik (front left) stands victorious beside fellow School of Law student Renee Waters after winning the Wiley Rutledge Moot Court Competition Feb. 6. The pair successfully argued their case before Chief Justice of the United States John G. Roberts Jr. (back center).

Turner elected member of prestigious National Academy of Engineering

Jonathan S. Turner, Ph.D., the Barbara J. and Jerome R. Cox Professor of Computer Science in the School of Engineering & Applied Science, has been elected to the National Academy of Engineering (NAE).

Election to the NAE is among the highest professional distinctions accorded to an engineer. Turner was recognized for his contributions to the design and analysis of high-performance communication networks and was among 64 new members elected in February, bringing the total U.S. peer-elected membership to 2,217 of the world’s most accomplished engineers.

"Joining the NAE is one of the highest honors a professional can achieve," said Turner, Professor of Computer Science at the University of Florida.

Interrupting nerve signals halts disorders

BY JIM DRYDEN

Interrupting nerve signals to the liver can prevent diabetes and hypertension in mice, according to School of Medicine scientists.

"At least in mice, we’ve shown we can prevent the development of diabetes and hypertension by interrupting vagal nerve signals," said senior investigator Clay F. Semenkovich, M.D., professor of medicine and of cell biology and physiology. "We don’t know whether the same will hold true for humans, but we think somehow altering vagal nerve activity could provide a way to treat diabetes and hypertension in people as well."

February issue of Cell Metabolism

"In the mouse model, we showed the intervention prevented the onset of diabetes in mice that were genetically programmed to develop diabetes due to insulin resistance," said senior investigator Michael H. Kastner, M.D., professor of medicine and of pediatrics.

"It’s not clear how changes in gut bacteria might help this," Kastner said. "But this study shows one potentially promising direction for future research."

Nutritional intervention also prevented changes in the gastrointestinal tract associated with diabetes and hypertension. The study appears in the Feb. 22 issue of the Proceedings of the National Academy of Sciences.

Do we have multiple biological clocks?

BY TONY FITZPATRICK

Biologists have discovered a large biological clock in the smelling center of mice brains and have revealed that the sense of smell for mice is stronger at night, peaking in the nighttime hours and waning during day-light hours. The study is the first to show that mice have multiple biological clocks, opening the possibility that other mammals — including humans — could, as well.

A team led by Erik Herzig, Ph.D., associate professor of biology in Arts & Sciences, discovered the clock in the olfactory bulb, the brain center that aids the mouse in detecting odors. Results were published in a recent issue of The Journal of Neuroscience.

The olfactory biological clock, located in the front of the brain directly behind the nose, is hundreds of times larger than the known biological clock called the suprachiasmatic nucleus (SCN), located at the base of the brain. Cells in both the SCN and the olfactory bulb keep 24-hour time and are normally synchronized with each other and with environmental cycles of day-night.

"It’s been a question for some time whether the SCN functions as the only biological clock," Herzig said. "One wouldn’t think that the ability to smell would cycle, but that’s what we show.

"I think now that the SCN is like the atomic clock — important for keeping central time — and then there are all of these peripheral clocks for timing in the Wake, vigilance, digestion, olfaction, breathing, touch and vision; though not all yet found. It may be that the peripheral clocks are the individual wristwatches that we must periodically reset."

Perhaps most surprising is the observation that the olfactory bulb clock can run independent of daily rhythms in sleep-wake or the SCN, making it the Big Ben of the mammalian circadian rhythm world.

"It seems to be one of those biological clocks that can keep running indepdently for a long time, even without the SCN," Herzig said.

The gene CLIC6 is a marker for cells that are activated by the stimulus; we recorded the expression of that gene.

Poetic construction

Bruce Lindsey (right), dean of the College of Architecture and Graduate School of Architecture & Urban Design in the Sam Fox School of Design & Visual Arts, leads a group of students in a Renga building workshop Jan. 27-28 in Given Hall. The workshop was an exercise in collaborative building based on Renga, a Japanese poetic form in which 100 people collectively write a poem with one person writing each stanza in succession. Applied to building, student teams had 30 minutes to build something with two-by-fours. Each successive team added to what was built. Ten teams of two students built the structure using only one guideline: the structure had to be able to be inhabited.
Ida Early named secretary to the Board of Trustees

By ANDY CLENDENIN

Ida H. Early has been named secretary to the Board of Trustees, announced Chancellor Mark S. Wrighton.

"Ida is very familiar with the Board, Early will serve as secretary to the Board for more than 26 years, working with two chancellors (Wrighton and Chancellor Emeritus William H. Danforth), seven chairmen of the Board of Trustees, and many members of the Women’s Society (WSWU).”

"Ida is a tremendous asset to our Board, Early will serve as secretary to the Board of Trustees,” Wrighton added. "She will be deeply missed in our community and University, is a person of enormous ability, sensitivity and integrity who I am confident will be successful as the next secretary to the Board of Trustees."

Early is the senior assistant director in Alumni & Development Programs, and director of development for the Danforth Circle (2004) and Patrons (2006) volunteer leadership-giving levels that account for 18 percent of the Annual Fund.

"I am thrilled to assume this new role,” Early said. “In our 25 years with the University, Early said, "I have seen a great deal of progress for our Board of Trustees, our University experience to her new position as chancellor." During her seven-year tenure, she was credited with transitioning Maryville from a traditional Catholic women’s college to an independent, co-ed educational institution.

"Lindbergh Blvd.

JOIN THE ULTIMATE TV EXPERIENCE

The higher education cable station HEC-TV is sponsoring a series of interactive, participatory programs in The Big Read, a University-sponsored initiative of the National Endowment for the Arts designed to foster reading among the American culture.

The station is looking to include literary experts and political and social scientists from around the world for 2006. The programs will air live in the St. Louis region on HEC-TV and will be available via video conferencing.

"It’s an honor and a privilege to be named to this new role,” Early said. "I have a great deal of respect for the Board of Trustees, and I am confident that I will be successful in this role."
Although Americans are bombarded with anti-smoking messages, at least 65 million continue to light up. Genetic factors play an important role in the continued addiction to cigarettes, School of Medicine scientists suggest.

In two studies in the January 2007 issue of Human Molecular Genetics, the researchers show that certain genetic variations can influence smoking behavior, and how an individual's nicotine dependence.

The smoking-related genes identified facilitate communication between nerve cells in the brain. One gene, in particular, the alpha-5 nicotinic cholinergic receptor (CHRNA5) gene, was a strong indicator of risk for nicotine dependence. Individuals with a specific variant of CHRNA5 seemed to have a two-fold increase of developing nicotine dependence once exposed to cigarette smoking. CHRNA5 is a class of receptors that control major neural pathways in the brain, which are linked to the pleasurable experience of smoking.

The researchers also identified genes related to gamma-aminobutyric acid (GABA) receptors, another class of genes involved in the cell function. Both GABA and nicotinic receptors had been suspected of involvement in nicotine addiction. Now these researchers have strengthened those suspicions.

The studies also identified a gene not previously known to be involved with nicotine dependence. Called the Neurexin gene, it helps regulate the balance between excitatory and inhibitory activity in the brain. An imbalance between these two activities can increase communication between nerve cells — and inhibit behavior such as smoking.

"The Neurexin gene we identified is really a key factor in the balance between inhibitory and excitatory activity in neurons," Bierut said.

Bierut said he suspects many genes are involved in nicotine dependence and said understanding how they work may one day allow the possibility to develop new treatments to help people quit smoking.

The research team analyzed data from almost 2,000 participants in two ongoing studies. One, the Collaborative Genetic Study of Nicotine Dependence, is a U.S.-based sample that includes both addicted smokers and "social" smokers from St. Louis, Minneapolis and Detroit. The other is an Australian study of smokers of European ancestry called the Nicotine Addiction Genetics study. The scientists combined two approaches for analyzing genetic information. One approach scanned the entire human genome for suspicious areas of DNA, while the second approach closely examined specific target genes.

"These two approaches of these two analyses represent the most powerful and extensive study on nicotine dependence to date and is an important step in a large-scale, genetic examination of nicotine dependence," said Elisa A. Zerhouni, M.D., director of the National Institutes of Health, who supported the studies. "As more genomic variations are discovered that are associated with substances, we can better understand addiction disorders."

The researchers identified an area of DNA variation that seems to alter the activity of a nicotine receptor protein. That small variation makes a big difference in risk for nicotine addiction.

Current drug treatments for nicotine dependence are only minimally successful, and Bierut said using information about genetic traits to tailor medications to individuals could make them significantly more effective. "The type of variation seen at this particular receptor — the alpha-5 nicotinic receptor — may actually predict whether or not you will do well on nicotine-replacement therapy," she said.

Bierut said it's important to find genetic factors related to nicotine dependence because so much of the population continues to smoke, in spite of the overwhelming evidence that it's harmful. And she said she believes some of the genes her research team has identified will help scientists develop therapies for smokers who just can't seem to quit with existing treatments.

"An imbalance between excitatory and inhibitory activity in the brain may predispose people to addiction, such as alcoholism, drug dependence or nicotine dependence. The Neurexin gene we've identified is really a key factor in the balance between inhibition and excitatory activity in neurons." LAURA JEAN BIERUT

Memorial service to be held for Karls

Michael M. Karl, M.D., and Irene M. Karl, Ph.D., were pioneers in their field of medicine, mentors to generations of physicians and scientists, and among the most influential couples at the School of Medicine.

Their impact on the medical community, a memorial service will be held at 4:30 p.m. Feb. 23 in Coonour Auditorium at the Farrell Learning and Teaching Center. Michael Karl, widely recognized as one of the country's outstanding general internists, died Nov. 22, 2006, at age 81.

Irene Karl, a pioneer in the cause and treatment of anorexia and a trailblazer among women in science, died July 7, 2006, at age 90.

Older adults needed for memory study

School of Medicine researchers are conducting a study to investigate factors related to memory in older adults. They are seeking healthy volunteers between 70 and 75 years of age who have siblings also willing to participate.

Study participants will undergo a magnetic resonance imaging scan to determine the structure of the brain and a positron emission tomography scan to analyze amyloid levels in the brain. Amyloid is a protein related to memory and Alzheimer's disease.

The research team is led by Al Ignacio M. Coque, Ph.D., the Samuel and Neta S. Schaffer assistant professor of radiology, and the study is supported by the American Parkinson Disease Association, examining the effects of tango on walking and balance in people with Parkinson's disease and those without the disease.

The improvements in the Parkinson's patients who took the summer tango lessons were so extraordinary that the disease association, examining the effects of tango on walking and balance in people with Parkinson's disease and those without the disease.

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"An imbalance between excitatory and inhibitory activity in the brain may predispose people to addiction, such as alcoholism, drug dependence or nicotine dependence. The Neurexin gene we've identified is really a key factor in the balance between inhibition and excitatory activity in neurons." LAURA JEAN BIERUT
View full listing:  https://www.wustl.edu/calendar
*Collective Practice* topic of Lindsey's talk for Architecture Lecture Series

Architect Bruce Lindsey — who received his degree in architecture at the University of North Carolina, will discuss his recent projects on Feb. 15 in the Mathewson-IGM Center.

Lindsey earned a master's degree in architecture from Yale University and his bachelor's degree from UNC. Since 1994, he has been associate head of Carnegie Mellon University's School of Architecture and is associate professor of art and architecture.

Lindsey served as chair of UNC's School of Architecture from 2001–06, during which time he helped unite those five degree programs — comprising 600 students and 40 faculty — through a series of interdisciplinary and joint-degree offerings.

Lindsey's research long has focused on applying digital tools to design and construction practice. In 1992, his work in digital fabricated and printed building was cited by Engineering News Record as one of the year's 10 most significant contributions to the construction industry.

A practicing architect, Lindsey recently worked with Davis + Gunn Architects to design the Pittsburgh Glass Center, which is under the U.S. Green Building Council's Leadership in Energy and Environmental Design guidelines.

He also received a Design Honor Award from the American Institute of Architects (AIA) and was chosen as one of 2007's Top 10 green buildings by the AIA Committee on the Environment.

For more information, call 935-9305 or visit arch.wustl.edu.

Law school 'Access to Justice' speaker series continues Feb. 21

By Jessica Martin

The New York Times’ Supreme Court correspondent is part of a spring lineup for the Law School’s Ninth annual Public Law and Policing Series. Titled “Access to Justice: The Social Responsibility of Lawyers,” the series brings to WUSTL outstanding academics and practitioners in areas such as international human rights, the citizenship of poor and vulnerable citizens, civil rights, racial justice, capital punishment, clinical legal education, and government and private public service.

The goals of the series are to provide a forum for the law school and the wider University community to engage in a discussion of the legal, social and ethical issues that bear upon access to justice; to highlight the professional responsibilities of law students and lawyers to provide access to justice; and to promote scholarship in this area.

The spring series kicked off Jan. 17 with a lecture by Sherrylyn H. Jill, J.D., titled “Twenty-First Century Challenges to Racial and Economic Justice.” The associate professor at the University of Maryland School of Law, was the Black Law Students Association’s Martin Luther King Jr. Commemorative Speaker.

The remaining presentations, listed below, will be held in WUSTL’s Great Court Meeting Room of Anheuser-Busch Hall and are free and open to the public.

- Feb. 21: Adrienne Davis, Law ’78, J.D., J.D., the Reef C. Ivey II Professor of Law at the University of North Carolina, will discuss “Reparations as Transitional Justice.”

Davis focuses her scholarship on the intersection of property and corporate priorities with race, gender and sexuality in the 19th century.

Drawing on legal, literary and historical sources, Davis’s work shows how property and contract law incorporate and influence social norms.

Davis is the Widener Society Annual Speaker and a University Distinguished Visitor Program speaker.

- Feb. 23: Linda Greenhouse, Supreme Court correspondent for The New York Times, will talk on “The Supreme Court: Ourselves and Ourselves” and “The Supreme Court’s 2006-07 Term.”

Greenhouse will be the annual Law of the Suprema Court Lecturer, beginning the Supreme Court Term on Feb. 5, 1978. She has served in that role ever since, except for the year in the mid-1980s when she covered the U.S. Congress.

Previously, she covered local and state government and politics for the New York Times and was chief of the newspaper’s legislative bureau in Albany. She has appeared as a panelist on the PBS public affairs program “Washington Week” since 1980.

- March 5: Robert A. Vollick, Ph.D., the Thomas Sullivan Professor of Law and American Indian Studies, and director of the Indigenous Lawyering Program at the University of Arizona, will present “Like a Hammer: The Role of the Tribal Court, Indian Rights and the Development of American Indian Law.”

Lindsey, a University Distinguished Visiting Professor, is the author of several books and articles on federal Indian law and indigenous peoples’ human rights.

An enrolled member of the Lumbee Indian Tribe of North Carolina, he is the judge pro tem for the Tohono O’odham Indian Nation. He is a member of the American Indian Law Students Association, a member of the American Board of Law and executive director of clinical education and alternative dispute resolution for the Lumbee Indian Tribe.

Jewish law focuses on communal justice; and to promote scholarship in this area.

For more information, call 935-6549.

Community Powwow Meeting Feb. 19

Individuals interested in being part of the 17th annual powwow are invited to attend the Community Powwow Meeting from 1:30 p.m. to 4:30 p.m. Feb. 19 in Goldfarb Hall, Room 124.

The staff and students of the Kathryn M. Buder Center for American Indian Studies at the George Warren Brown School of Social Work are looking for community input about the powwow, a festival of American Indian dancing, singing, drumming, arts, crafts and food. A powwow is a cultural event organized to build community to engage in a discussion of the legal, social and ethical issues that bear upon access to justice; to highlight the professional responsibilities of law students and lawyers to provide access to justice; and to promote scholarship in this area.

Powwow speakers and performers include Dr. Linda Greenhouse, The New York Times Supreme Court correspondent; and David Davis, J.D., the Reef C. Ivey II Professor of Law at the University of North Carolina.

Individuals interested in participating in the powwow are invited to attend the Community Powwow Meeting from 1:30 p.m. to 4:30 p.m. Feb. 19 in Goldfarb Hall, Room 124.

For more information, call 935-6549.
Erik Herzog, Ph.D., monitors graphs on a computer that represent the activity of neurons in mice's brains, illuminated with a stimulus cedar oil. The research showed that the neurons are active at the same time each day, leading to the conclusion that mice have a biological clock for smell.

Clocks

Studying olfactory behavior to follow — from Page 3

They saw more of those cells light up — thanks to a bioluminescence marker associated with FOS — in the olfactory bulb at night than in the day.

"The olfactory bulb might be more sensitive at night when the creatures are active than when they are resting in the day," the hog speculated. "This might help them find food or mates when they are hungry for food or love."

Do the results suggest humans should perform or cologage at night to optimize the brain's function during the day?

"There are anecdotes in the literature about humans liking certain perfumes more during the evening than the morning, and there is some evidence that we also have daily rhythms in olfaction," Herzog said.

Herzog's next step is to study the olfactory behavior of mice.

"We'll ask the mice to tell us when they can smell out different concentrations, and we hope to learn more about how and when the clock modulates their sense of smell and which cells and genes are needed," he said.

A key question raised by the olfactory bulb biological clock study is why multiple clocks exist.

"The process seems to be mediated by communication between these clocks, but the one in our brain is new," Herzog said. "We might need now to consider our own clocks to solve a clockshop. It appears that disrupting the coordination between these clocks is bad for our health, like in jet lag or shift work."

Nerve

Interrupting brain signals is study key — from Page 3

A novel approach for treating chronic pain in the diabetic nerve.

Previously, the research team had shown that a nucleotide called PPAR-alpha (PPAR) was responsible for the induction of both diabetes and hypertension in mice. The team has now isolated glucocorticoids, also known as stress hormones.

"Mice that can't make PPAR-a develop diabetes or hypertension, while mice that can make PPAR-a are protected...and glucocorticoids..." said Semenkovich, who is also chief of the Division of Endocrinology, Metabolism and Lipid Research.

"The use of steroids is very common in medicine," he added. "People with arthritis, anthesis, organ transplants and others rely on these steroid drugs, and many of them go on to develop insulin resistance that can advance to diabetes and hypertension." But in these most recent experiments, the researchers showed that both PPAR and the vagus nerve were key players in creating and maintaining diabetes and hypertension.

"The vagus nerve has been surgically removed, the mice won't develop diabetes or hypertension in response to glucocorticoids..." said first author Carlos Bernal-Mizrachi, M.D., post-doctoral associate in the endocrinology, metabolism and lipid research division.

"The process seems to be mediated by...the liver, the pancreas, the vagus and signals to the brain," he said.

Actually, the vagus nerve communicates with just about every organ in the body, in the brain, said Dr. Edward Frazier, the surgical director in the intensive care unit and professor of medicine in the endocrinology, metabolism and lipid research division.

"It lends valued support to the other internal organs, including the liver, and thereby facilitates signaling from the brain to the intestine." In these studies, however, the researchers were interested mainly in the cells that innervate the vagus nerve coming from the liver and with its communication with the brain.

When mice are treated with glucocorticoids, the vagus nerve is activated, which signals the brain.

Then the brain uses the vagus pathways to feed back information to the liver and kidneys. The brain instructs the liver to increase glucose production and the kidney to halt fluid metabolism, elevating blood pressure.

The same sort of process can occur in people who are obese. Semenkovich said a modest elevation of glucocorticoids is associated with obesity. Those elevated levels can initiate PPAR-a in the liver, which then will communicate with the vagus nerve to signal the brain, and, in turn, the brain will signal the kidney and liver, contributing to diabetes and hypertension.

"We think obesity is probably initiating a similar process that we've interrupted in the mice," Semenkovich said.

"Our findings are very significant — such treatment with glucocorticoids, such as cortisol, can cause obesity — and it appears that this signal then is transmitted from the liver along the vagus nerve."

This cascade of communication along the vagal pathway has made the investigators think that they may be able to attack diabetes and hypertension by interrupting normal nerve communication.

And there may be a ready-made population to study because many people already also abuse drugs from the vagus.

"We used to suspect that patients with diabetes and hypertension are on other drugs that may have also disrupted the normal signals that we saw in people before, particularly in those who were treated with steroids or antidepressant medications," said Semenkovich.

Some people with severe disorders, however, who have very strong stress response have implanted electronic stimulators that regulate the vagus nerve. People with insulin resistance or hypertension. They place the implant on the vagus nerve, which helps people with insulin resistance or hypertension.

The most amazing thing about this research, according to the students conducting the study, is that the findings in the final was the good news that we saw in people before, during and after the argument, and the sharing of good news was a way to make them do real work," the dean said. "They are very hard working, got to prepare for the competition, and their hard work was evident in their presentations. It was impressive to see that the students are active participants on most other moot court teams and competitions in the trial team and are editors and staff writers for the law review.

Frazier and Rhoads were impressed by the encouragement and support that students were providing to each other.

"We were able to accomplish the work that we had to do and get the finished work," seminar leader in the law school's moot court program, said Frazier. "The student litigants were outstanding," said Ellen Tewes, J.D., director of the legal practice program and seminar leader in the law school's moot court program. "I'm impressed with the way they use the authority of arguing before the federal court."

Frazier added that he's been extremely impressed with the genuine moral support of the students who helped him shape the dean," he said. "I hope we made them proud."
### Science academy names nine faculty as fellows

By Tony Fitzpatrick

**Note**: The following are among the many new fellows of the University. Others will be introduced periodically in this space.

**Werner Ploberger**, Ph.D., joins the department of Economics & Arts as professor. He earned a doctorate in applied mathematics at Vienna University of Technology (Austria) in 1981 and a second doctorate in economics there in 1993. He has been affiliated with Vienna University of Technology, the University of Exeter (Scotland) and the University of Rochester. He was tenured in 1993 (Vienna) and promoted to full professor in 1995 (University of St. Andrews).

He has been at the University of Rochester since 1997. His research focus is in the areas of statistics, econometric methodology and time-series econometrics.

**Stephen Williamson**, Ph.D., joins the department of Economics in Arts & Sciences as professor. He earned a doctorate from the University of Wisconsin in 1984 and has since been affiliated with Queen's, Western Ontario and Reserve Bank of Minneapolis and the University of Iowa.

He was tenured in 1989 (Western Ontario) and promoted to full professor in 1992 (Iowa).

He served as department chair at Iowa (2000-03).

He is editor for the Economic Theory and associate editor of the Journal of Monetary Economics and Review of Economic Dynamics.

His research is mainly on macroeconomics, monetary economics and financial economics.

**Jinhae Dang**, Ph.D., joins the department of mathematics in Arts & Sciences as assistant professor.

Ding earned a doctorate in statistics from the University of California, Davis, under the guidance of Jane Long.

She works in a modern form of survival analysis using techniques that will be applicable to many other areas of statistics.

**Xiang Tang**, Ph.D., joins the department of mathematics in Arts & Sciences as assistant professor.

Tang was previously a visiting research professor at the University of California, Davis.

He earned a doctorate in mathematics from the University of Tennessee, Knoxville, where he worked under Alan Weinstein.

His areas of expertise are noncommutative geometry, symplectic geometry and quantization.

He worked on mathematics, quantum mechanics and thermodynamics while still an undergraduate at Peking University.

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### Sustainability Web site offered

**The University became a member of the Association for the Advancement of Sustainability in Higher Education (AASHE), a membership-based association of colleges and universities working to advance sustainability in higher education in the United States and Canada.**

As such, everyone on the Danforth and School of Medicine campus is covered by AASHE membership and may access many of the organization's Turnkey-only resources. To do this, visit aashe.org: click on a locked resource (or click on "Member Login" in the left column) and at the log-in page, select "Create a new account." Follow the directions to receive a password. Use your campus e-mail address as your user name.

The site features resources to assist campus sustainability efforts, including a membership directory, campus sustainability projects' page, interest groups, publications, classroom resources and links for virtual every aspect of campus operations.

To help keep up with the rapidly evolving campus sustainability achievement is a free weekly e-newsletter called AASHE Bulletin. It delivers the latest campus sustainability news, resources, opportunities and events from the United States and Canada.

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### "We are looking for candidate genes that underlie particular traits that differ between the two. Knowing more about the traits could help in potentially controlling the weed. We have a key advantage in this research in that we know the complete cultivated rice genome, so it's fairly easy to target genes of interest."  **Kenneth M. Olsen**

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### Rice gone bad: Plant biologist investigates

By Tony Fitzpatrick

**Notables**

Raymond Arvidson, Ph.D., the James S. McDonnell Distinguished University Professor at the University of Missouri,olumbia, chair of earth and planetary sciences, for international achievement in planetary science research and teaching.

Graham Colditz, M.D., Dr.P.H., the Mississinewa Professor in Medicine and associate director of Preventive Medicine at the Mayo Clinic, for groundbreaking research on chronic disease prevention and treatment.

Timothy Florkin, M.D., the Bixby Professor of Surgery, surgeon-in-chief at Barnes-Jewish Hospital and director of the Surgical Critical Care Center, for leadership in fostering medical advances in cancer diagnosis and treatment.

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**Rice sounds like a New Orleans dish or a San Francisco treat. But, it's a weed, the biggest nuisance to American rice growers, who are the fourth-largest exporters of rice in the world, and rice farmers hate the pest, which, if harvested along with domesticated rice, reduces marketability and contaminates seed stock.**

**We are looking for candidate genes that underlie particular traits that differ between the two. Knowing more about the traits could help in potentially controlling the weed. We have a key advantage in this research in that we know the complete cultivated rice genome, so it's fairly easy to target genes of interest."  **Kenneth M. Olsen**

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**AASHE membership and may access periodically in this space.**

Follow the directions to click on "Member Login" in the weekly e-newsletter called AASHE Bulletin. It delivers the latest campus sustainability news, resources, opportunities and events from the United States and Canada.

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The studies will help understand molecular differences between the two that someday could provide the basis for a plan to eradicate the weed.

The particular NSF program funding the research is the Plant Genome Comparative Sequencing Program.

Kenneth M. Olsen, Ph.D., assistant professor of biology in Arts & Sciences, believes that gene flow is one factor that has been at work.

"We are looking for candidate genes that underlie particular traits that differ between the two," Olsen said. "Knowing more about the traits could help in potentially controlling the weed. We have a key advantage in this research in that we know the complete cultivated rice genome, so it's fairly easy to target genes of interest." Olsen has collaborated with Ana Caicedo, Ph.D., of the University of Georgia, and Yulin Jia, Ph.D., of the U.S. Department of Agriculture National Laboratory and Rice Research Center, to test at least two hypotheses.

One is that red rice is rich that's gone feral, or gone bad. **The 150-year-old mission of the Academy is to elevate the sciences; Alex Evers, M.D., the Henry Eliot Mallinckrodt Professor of Surgery, surgeon-in-chief at Barnes-Jewish Hospital and director of the Surgical Critical Care Center, for leadership in fostering medical advances in cancer diagnosis and treatment.**

In the United States and Canada.

Some look remarkably like cultivated rice and behave like cultivated rice.

The plants are as tall as cultivated rice, and some of them are even taller.

These "crop mimics" are difficult to spot.

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Leonard Green, Ph.D., has spent much of his career exploring the motivations that drive animal and human behavior. Still, he admits with a slight chuckle, it's his own behavior that sometimes defies rational explanation.

"One of the reasons I like working here is that I can get away with saying anything," he quips, adding that on occasion something he's intended to be funny or instructive has been misunderstood as mean-spirited. "I'm from New York, and in our family, we didn't have arguments. We just had lots of very loud discussions, so you're always interrupting people — that's just me.

"Occasionally I do inhibit, though" he continues. "There seems to be some small inhibitory center in my brain, although it's always off-center.

Green, professor of psychology in Arts & Sciences, enjoys having fun at his social shortcomings, but his reputation with students and students leaves little doubt that those who get to know him invariably come to appreciate him.

BY GERRY EVERDING

The psychology of learning
Leonard Green plays tough with students and leaves a lasting impression

even if they don't always get his sense of humor.

"Gambling psychology offers insight into decision-making," is one of the most rigorous in the department, yet students line up to get into it," says Henry L. "Roddy" Roediger III, Ph.D., the J. McKee Distinguished University Professor at the chair of psychology.

"The number of students is less than the number enrolled," he adds. "Len is known to be a superb teacher.

Roediger, now dean of academic planning in Arts & Sciences, credits Green with building student interest in psychology.

"Psychology has more majors than any other department in Arts & Sciences, and Len Green is a big part of the reason," Roediger says. "The work's very hard in his role as director of undergraduate studies. He meets with students, sends out requests, and better keeps them updated on new developments and other opportunities to pursue the major.

On faculty here since 1975, Green grew up in the Bronx and attended City College of New York on a Regents scholarship, riding the subway between campus, home and his part-time job at a camera shop.

At City College, Green took a couple of psychology courses and fell hard for the discipline.

"It just struck me as conceptually rich," he recalls. "There were a few concrete theories, but they were well-grounded in empirical research. It wasn't just any old bull. There had to be data and the appropriate experimental research.

Green's undergraduate honors thesis involved laboratory-related experiments with nursery-school children. He admits that it was a lot of hard work, much of his research involved teaching with the children and reading their theories, but still many managed to earn a bachelor's degree in psychology.

He moved on to graduate school at the State University of New York (SUNY) at Stony Brook, where he planned to continue his work on human behavior.

Len and Howie began cracking out papers on such issues as "Economic and Biological Influences on a Pigeon's Key Peck," "Commodity Choice Behavior with Pigeons as Subjects" and "Demand Curves for Animal Consumption."

Their work, still influential, has been cited hundreds of times. Their first published paper is the basis for research on the experimental analysis of commitment and self-control, including Green's current work on the psychology of gambling, discounting, gambling and delay of gratification.

Green earned a doctorate at SUNY in 1974. He stayed one year as a post-doctoral research associate before taking a cut in pay to join Washington University as assistant professor. He has published more than 100 articles and book chapters and is editor of his field's prestigious publication, the Journal of the Experimental Analysis of Behavior.

Green's book series, "Advances in Behavioral Economics," co-edited with John Kagel, helped popularize the use of traditional psychology lab experiments to investigate economic theories on individual behavior. The book includes contributions from noted economists and psychologists and argues that economic theories can be scientifically tested in the laboratory, even using animal experimental contexts.

In addition to his undergraduate advising roles, Green is director of psychology's study abroad program and oversees partner programs at the University of Sussex and Exeter in England and the University of Queensland in Australia. He's the longtime campus cpt for the national honor society in psychology, Psi Chi, and a founding member of the psychology lab experiments that foster student-faculty interaction on the South Side.

His most rewarding extracurricular activity is working on behalf of children with autism.

Like so many of his interests, this one came by accident: A distraught mother called Green by mistake, thinking the acronym "ABA" on his resume meant he would send his 18-month-old daughter into the middle of a developmental lecture he was giving and have her hand me a note that said: "You are looking for kids. My name is Hannah, and I am one! Naturally, his daughter was a big hit, and I was touched to see that set the stage for a long-term relationship.

Green's wife, Andrea Hale, a longtime family friend, recounts the story this way: "Len Green is the kind of colleague who would send his 18-month-old daughter into the middle of a developmental lecture I was giving and have her hand me a note that said: "You are looking for kids. My name is Hannah, and I am one!"

"Len Green played an enormous role in my academic and personal growth, is directly responsible for introducing me to psychology and contributed greatly to my desire to continue my studies and work in psychology beyond Washington University," Hale says.

"Green is the best teacher I have ever interacted with, and I am certain there are hundreds of other graduate students who will echo this sentiment."