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Researchers image brains of infants with autism risk

By Jim Dryden

Autism researchers at the School of Medicine are joining other scientists to image the brains of infants and attempt to identify anatomical and behavioral changes that may be linked to the onset of autism.

The $10 million Infant Brain Imaging Study funded by the National Institutes of Health allows investigators to analyze early brain development in children at risk for autism spectrum disorders by virtue of having an autistic sibling.

The study builds on two key findings. The first is that children with autism tend to have larger brains — between 5 percent and 10 percent larger by age 2 — than children who don't have the disorder. Data from pediatricians measuring head circumference suggests the enlargement could begin at the end of a child's first year of life. The second finding suggests the onset of social deficits associated with autism usually cannot be detected until the end of the first year.

Botteron

"We don't know much about brain development in children with autism or children at risk for autism, but we do know that symptoms start very early," said Kelly N. Botteron, M.D., principal investigator at the WUSTL study site and an associate professor of child psychiatry and of radiology. "We think it's going to be very important to learn about the changes in early brain development that may be associated with autism."

Botteron's team is joining researchers from the University of North Carolina, the University of Washington in Seattle and Children's Hospital of Philadelphia, collecting MRI brain images from children as young as 6 months old. The project also includes a data-coordinating center at the Montreal Neurological Institute in Canada.

"We're recruiting infants as young as possible — even during the mother's pregnancy — for interviews and screenings, and then they come to see us for brief testing and to have MRI scans at 6 months," said Botteron, a child psychiatrist at St. Louis Children's Hospital. "They come back for more scans and more testing at 12 months and again at 24 months."

The WUSTL portion of the Infant Brain Imaging Study uses MRI imaging to get a very detailed look at the brain's anatomy. The investigators also perform what's called resting-state, functional MRI imaging, which provides information about how the various structures in the brain connect to one another while the baby is resting. A third imaging technique, called diffusion tensor imaging, allows Botteron's team to analyze characteristics of the brain's gray matter and white matter.

The imaging is done in the evening while the babies are asleep.

"The parents rock the baby to sleep, and we put headphones over their ears so the noise of the MRI machine won't wake them up," Botteron said. "Most of the infants we've studied so far have slept peacefully for the 45 minutes or so that it takes to complete the various scans."

The brain scans in the study are

See **Autism**, Page 2

JOE ANGELES

Look, you had hair! Kevin Folkl (left) laughs as his sister, Kristin Folkl-Kaburakis, a former WNBA player, points out how the years have changed him. Kevin Folkl, a standout basketball player from 1992-96, was honored at the Hall of Fame Induction breakfast at the Knight Center Feb. 6 and then again that night at the women's basketball game, along with other members of the Hall of Fame Class of 2008: Stephanie Habif '97, volleyball; Chris Nalley '97, football and track and field; John Nelke '67, cross country and track and field; Rachel Sweeney Patton '00, soccer; Emily Richard '99, cross country and track and field; Tasha Rodgers '01, basketball; and Tim Spengler '86, tennis. Also honored as Distinguished Service members were Hord Hardin '35, football, golf, baseball and basketball; and W. Edward Lansche '48, basketball and track and field.

Readers build vivid mental simulations of narrative situations, brain scans suggest

By Gerry Everding

A new brain-imaging study is shedding light on what it means to "get lost" in a good book — suggesting that readers create vivid mental simulations of the sounds, sights, tastes and movements described in a textual narrative while simultaneously activating brain regions used to process similar experiences in real life.

"Psychologists and neuroscientists are increasingly coming to the conclusion that when we read a story and really understand it, we create a mental simulation of the events described by the story," said Jeffrey M. Zacks, Ph.D., associate professor of psychology in Arts & Sciences and of radiology in the School of Medicine, director of the Dynamic Cognition Laboratory and a co-author of the study.

The study, forthcoming in the journal Psychological Science, is one of a series in which Zacks and colleagues use functional magnetic resonance imaging (fMRI) to track real-time brain activity as study participants read and process individual words and short stories.

Nicole Speer, Ph.D., lead author of the study, said findings demonstrate that reading is by no means a passive exercise. Rather, readers mentally simulate each new situation encountered in a narrative. Details about actions and sensations are captured from the text and integrated with personal knowledge from past experiences. These data are then run through mental simulations using brain

See **Readers**, Page 2

Student entrepreneurs awarded $75,000 in annual Olin Cup

MARY BURKUS

Virtual Nerd co-founders Josh Salcman (left) and Leo Shmuylovich kiss the Olin Cup after receiving the $70,000 investment award from the Skandalaris Center and the Olin Business School for a promising startup.

By Melody Walker

An online tutoring service and a device designed to make custom-fit earbuds are the winners of the 2008 Olin Cup competition for entrepreneurs presented by the Olin Business School and the Skandalaris Center for Entrepreneurial Studies.

Two winning companies, Virtual Nerd and Verto, emerged from an original field of 38 entrants — a WUSTL record — to earn a $70,000 investment award and a $5,000 cash prize, respectively.

"We had a great diversity of ideas and entrepreneurs this year," said Ken Harrington, director of the Skandalaris Center. "I am impressed by the quality of the ideas and how much they advanced their ventures during the yearlong competition."

The five finalists, which were a personalized children's book publisher, a concert recording company and a vocabulary-building game in addition to the winners, presented their business ideas to an audience in Graham Chapel following an Assembly Series question-and-answer session with entrepreneur Maxine Clark, founder and CEO of Build-A-Bear Workshop.

All new business ventures begin with an idea. For M.D./Ph.D. student Leo Shmuylovich, co-founder of Virtual Nerd, the idea for an interactive, multimedia tutorial Web site to help students in math and science came while he was tutoring students one-on-one.

Shmuylovich is earning a doctorate in physics and a medical degree. He holds a bachelor of science degree in chemical engineering from Cornell University.

Shmuylovich wanted to be able to offer more students the advantage of tutoring and make it affordable. With business partner Josh Salcman, the two have invested their own time and money to create an interactive site that tracks students' questions and progress, which can be shared with parents and teachers to improve the learning process.

Both of Virtual Nerd's young entrepreneurs admitted they were "stunned and shocked — in a good way" about winning the $70,000 investment award.

"It was a great competition, and we learned a lot about our own business," said Shmuylovich, whose business card reads "Chief Scientific Nerd."

"Winning puts some lightness in our step," he said. "It's very motivating and very exciting."

Seth Burgett, founder and CEO of Verto and a student in Olin's executive MBA program, came up with his award-winning idea for custom-fit earbuds while participating in an Ironman competition.

An avid marathoner and triathlete, Burgett found extended use of his iPod earbuds was uncomfortable

See **Olin Cup**, Page 6

Assembly Series presents trio of talks; announces changes, additions

Three programs highlight the Assembly Series schedule this week, with presentations by cultural historian Janice Radway, Ph.D.; computer scientist Jonathan Schaeffer, Ph.D.; and a panel discussion on the legacy of George Washington.

The art and act of popular reading

Radway will speak at noon Tuesday, Feb. 17, in the Women's Building Formal Lounge. She is a cultural historian and literary scholar who examines the art as well as the act of reading.

Her books "Reading the Romance: Women, Patriarchy and Popular Literature" (1984) and "A Feeling for Books: The Book-of-the-Month Club, Literary Taste and Middle Class Desire" (1997) look at the excitement and satisfactions of "middlebrow" reading.

Radway, the Frances Fox Professor of Literature at Duke University, has received grants from the Guggenheim Foundation and the National Endowment for the Humanities. Her work centers on the study of girls' self-generated cultural production such as girls' zines, Web pages, collages, decorated backpacks and other cultural products.

In March, Radway will publish "Print in Motion: The Expansion of Publishing and Reading in the United States" with Carl Kaestle, Ph.D. She co-edited an anthology of American studies, also debuting in March.

Radway earned a bachelor's degree and a doctorate from Michigan State University; she earned a master's degree from the State University of New York.

Her talk is titled "Zines, Half-Lives and After-Lives: On the Temporalities of Social and Political Change." The lecture also is one of this year's Interdisciplinary Project in the Humanities Lecture Series.

— Barbara Rea

The interplay between man and technology

The development of high-performance game-playing computer programs has been one of the major successes of artificial intelligence research. That is the subject of Canadian researcher Schaeffer's talk at 11 a.m. Wednesday, Feb. 18, in Steinberg Hall Auditorium.

Schaeffer created the Chinook project to build a computer program capable of winning the human World Checkers Championship. It took 18 years, and to play better than the best human, the computer had to be perfect.

Schaeffer said what started out as a research project quickly became a personal quest. He will talk about the interplay between people and technology in the William C. Ferguson Lecture "Computer (and Human) Perfection at Checkers."

To appreciate this story, he said, no detailed knowledge of computer science or checkers is needed. His book, "One Jump Ahead: Challenging Human Supremacy in Checkers" (1997), chronicles the technical achievements of Chinook, including a solid discussion of how computers "think" when they play, and provides valuable, candid insights into human nature.

A native of Toronto, Schaeffer is a professor of computing science at the University of Alberta. From 2005-08, he chaired the department, and, in 2008, he became vice provost and associate vice president for information technology. He is involved in the university's GAMES group developing computer poker systems.

He earned a bachelor's degree in computer science from the University of Toronto and a master's degree in mathematics and a doctorate in computer science, both from the University of Waterloo in Waterloo, Ontario.

— Mary Kastens

George Washington: the legend vs. the man

To commemorate the 277th anniversary of George Washington's birth, WUSTL scholars will examine the legend versus the man and consider whether the philosophical and moral ambiguities he wrestled with during his lifetime have modern implications.

The event will be held at 6 p.m. Wednesday, Feb. 18, in the Women's Building Formal Lounge.

Panelists are David Konig, Ph.D., professor of history in Arts & Sciences and of law in the School of Law; Linda Nicholson, Ph.D., the Susan E. and William P. Stiritz Distinguished Professor of Women's Studies and professor of history, both in Arts & Sciences; and Andrew Rehfeld, Ph.D., associate professor and director of undergraduate studies in political science in Arts & Sciences.

Konig teaches colonial American history and civilization. His research interests include the development of constitutional and legal institutions in early America, Anglo-American legal history and American culture studies.

Nicholson specializes in feminism, gender studies, relationships, women, men and social identity.

Rehfeld's research interests include modern political thought, democratic theory, American political development and public policy. He has a joint appointment in social thought and analysis.

— Kurt Mueller

Changes to Assembly Series schedule

Since the initial announcement of the 2009 Assembly Series schedule was published, several changes and additions have been announced.

The following list provides the updated information at this time.

A Discussion About Race and Identity

4 p.m. Feb. 25, Danforth University Center Fun Room.

Students and faculty will converge for an informal and candid conversation about being a member of a minority group in America today.

Paul Alivisatos

11 a.m. March 4, Graham Chapel.

Nanoscience and its applications will play a major role in future scientific and medical breakthroughs, and Alivisatos is at the forefront of this revolution. His talk, the Compton Lecture, will describe his work and the promise it holds for creating new imaging tools.

Janine Benyus

5:30 p.m. March 19, location TBA.

Benyus is a leading theorist and practitioner of the new discipline of biomimicry, which develops sustainable technologies inspired by ideas from nature. Benyus' talk is sponsored by Engineers without Borders and the College of Architecture and the Graduate School of Architecture and Urban Design.

Robert Osserman

4 p.m. March 25, Steinberg Auditorium.

The St. Louis Gateway Arch is not only a monumental architectural structure, but it's also a mathematical marvel. Osserman will explore the concepts involved in the Arch's design.

Henry "Roddy" Roediger III

4 p.m. March 30, Graham Chapel.

Roediger, Ph.D., the James S. McDonnell Distinguished University Professor in Arts & Sciences, will deliver the annual Phi Beta Kappa Lecture.

An expert in human memory function, his most recent research focuses on applying cognitive psychology to improve learning in educational situations.

Morgan Spurlock

7 p.m. April 1, Graham Chapel.

In 2005, Spurlock received an Oscar nomination for "Super Size Me," an indictment of Americans' unhealthy eating habits. His film "Where in the World Is Osama Bin Laden?" was released in 2008.

This is the Congress of the South 40 Lecture.

Richard Martin

4 p.m. April 9, Steinberg Auditorium.

The distinguished scholar in Homeric poetry and ancient Greece will deliver the annual Biggs Lecture in the Classics.

Martin's work centers on the way in which Homer was appreciated as performance art in his time and compares ancient Greek poetry with modern rap.

'The Onion' guys

7 p.m. April 9, Graham Chapel.

Newscasters Chad Nackers and John Harris of The Onion will bring their satire to campus.

This program is sponsored by WUnderground and Neureuther Library Lecture.

Theresa Wilson

11 a.m. April 15, Graham Chapel.

Wilson is leading thousands of women in some of the poorest countries out of poverty with her nonprofit organization, The Blessing Basket.

The Women's Society of Washington University Adele Starbird Lecture, "Making a Purchase that Makes a Difference: The Blessing Basket Project," will close the series.

For the most current information on Assembly Series programs, visit assemblyseries.wustl.edu or call 935-5285.

All programs are free and open to the public.

Readers

Results gleaned one word at a time

– from Page 1

regions that closely mirror those involved when people perform, imagine or observe similar real-world activities.

"These results suggest that readers use perceptual and motor representations in the process of comprehending narrated activity, and these representations are dynamically updated at points where relevant aspects of the situation are changing," said Speer, a research associate with The Western Interstate Commission for Higher Education (WICHE) Mental Health Program in Boulder, Colo.

"Readers understand a story by simulating the events in the story world and updating their simulation when features of that world change," Speer said.

In addition to Zacks, other co-authors of the study are Jeremy R. Reynolds, Ph.D., assistant professor of psychology at the University of Denver; and Khena M. Swallow, Ph.D., a postdoctoral associate in psychology at the University of Minnesota. Reynolds, Swallow and Speer all graduated from the psychology doctoral program at WUSTL in the past several years.

Reading has been difficult to study using fMRI because researchers seldom have access to expensive scanning equipment for long periods of time. Reading long passages of text also poses challenges because participants must remain very still for the scans to be effective.

In an effort to minimize eye movements, participants are immobilized within the brain-scanning device and presented with text one word at a time on an adjacent computer screen.

Previous research has shown that when people read isolated words or phrases involving vivid visual or motor contents, brain activity in sensory and motor brain regions specifically related to those contents increased.

But this result might not be typical of normal reading — in the previous studies, there was no story to try to understand, and participants sometimes had to make an explicit judgment about each word or phrase.

In this study, Speer and colleagues used fMRI to look for evidence of mental simulation during the reading of extended stories. Each participant read four stories of less than 1,500 words excerpted from a simple 1940s-era book about the daily activities of a young boy.

Participants were shown text passages on a computer screen that displayed one word at a time; reading all four stories took most participants about 40 minutes.

The researchers had carefully coded the stories so that they knew when important features of the story were changing.

The features had been chosen based on previous studies of narrative reading and were known to be important for comprehension.

The researchers hypothesized that activity in some brain regions would increase at several different feature changes, while other brain regions would be selectively activated by only one feature change.

This is what was found: Changes in the objects a character interacted with (e.g., "pulled a light cord") were associated with increases in a region in the frontal lobes known to be important for controlling grasping motions.

Changes in characters' locations (e.g., "went through the front door into the kitchen") were associated with increases in regions in the temporal lobes that are selectively activated when people view pictures of spatial scenes.

Overall, the data supported the view that readers construct mental simulations of events when reading stories.

The paper extends results reported by this group previously in Psychological Science. In the previous study, the researchers asked readers to divide the stories into meaningful events after reading them in the MRI scanner.

The researchers then investigated which parts of the brain increased in activity at event boundaries.

The mental simulation results reported in the follow-up study line up strikingly with those regions.

This suggests that readers construct a mental simulation as they read and then divide that simulation into meaningful events when important features change.

Autism

Five-year study will follow infants over time

– from Page 1

noninvasive. There are no needle sticks or contrast dyes to ingest. Babies are monitored closely throughout their scans, and if a child starts to wake up or cry, that baby is taken out of the scanner immediately.

Botteron plans to collect brain images from 110 infants with an autistic sibling. She also will scan the brains of 60 control infants who don't have a sibling with autism. Families who participate in the study are compensated for time and travel.

The five-year study will allow researchers to follow the infants over time to identify which infants develop autism and whether the brain scans can help predict that risk.

"The vast majority of infants enrolled in the study will not develop autism," Botteron said. "However, siblings of children with autism do have a higher risk of the disorder, so we expect between 10 percent and 15 percent of the infants in the study will develop noticeable and detectable symptoms by the age of 2."

For more information about the study, contact Lisa Flake at flakel@psychiatry.wustl.edu or visit infantsibs-stlouis.org/index.php.

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School of Medicine Update

Scientists uncover new genetic variations linked to psoriasis

By Caroline Arbanas

Two international teams of researchers have made significant gains in understanding the genetic basis of psoriasis, a chronic skin condition that can be debilitating in some patients. Their research, involving thousands of patients, is reported in two studies published in the advance online Nature Genetics.

"Taken together, the studies help us get closer to realizing the promise of personalized medicine," said a senior author of both papers, Anne Bowcock, Ph.D., professor of genetics. "Eventually, we hope to be able to target treatments for psoriasis patients based on the genetic alterations that have contributed to their disease."

The researchers found new genetic variants that affect an individual's risk of psoriasis. Their discoveries point to different biological pathways that underlie the disease and may eventually lead to targeted drugs and treatments, Bowcock said.


Bowcock

An estimated 7 million Americans have psoriasis, an autoimmune disease that occurs when the body's immune cells mistakenly attack the skin. The condition is usually characterized by red, scaly skin patches that can be itchy, painful or both. Some 10 percent to 30 percent of patients with psoriasis develop psoriatic arthritis, which occurs when inflammation attacks the joints, causing pain and disability.

Both studies looked for common variants in the genomes of psoriasis patients to uncover associations with the disease.

The first study, conducted in collaboration with the University of Michigan, the University of Utah and colleagues in Canada and Europe, focused on sites within the genome where a single unit of DNA is changed, called a single nucleotide polymorphism (SNP). The researchers scanned nearly 450,000 SNPs in each of the genomes of 1,409 psoriasis patients and compared the DNA variations with those in 1,436 healthy controls.

They initially discovered 21 suspect variants associated with psoriasis and then tested the validity of these variants in another group of psoriasis patients and controls. This revealed seven confirmed variants, all of which appear to increase the risk of the disease. Five of the variants cluster in two distinct pathways.

A second study of 2,831 patients with psoriasis looked for links between the disease and copy number variations, in which a gene is produced in multiple copies. Bowcock and her colleagues in Barcelona, Spain, and elsewhere found that the absence of two skin genes — LCE3B and LCE3C — increases the risk of psoriasis.

Both genes normally are activated after an injury to the skin. The researchers suspect the absence of the genes could lead to an inappropriate immune response, which may cause the inflammation that is a hallmark of the disease.

"Until now, all of the genes linked to psoriasis have been involved in the immune system," Bowcock said. "But psoriasis is a disease of the immune system and the skin, and it makes sense that we would eventually find genes in the skin that are involved in the disease."

Faculty recognized for outstanding achievements

Eighteen School of Medicine faculty were honored Jan. 29 at the 2009 Distinguished Faculty Awards ceremony at the Eric P. Newman Education Center.

This is the second year for the awards, which were created to recognize outstanding achievements in clinical care, community service, research and teaching.

The 18 recipients were selected from 49 nominees.

"These dedicated and talented individuals have made significant and lasting contributions to the School of Medicine," said Larry J. Shapiro, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine. "Our awardees' efforts have touched the personal and professional lives of countless patients, families, colleagues and trainees. In the process, they have enriched our academic community and beyond in immeasurable ways."

The award recipients are as follows:

Distinguished Clinician Awards

L. Michael Brunt, M.D., professor of surgery

Steven A. Edmundowicz, M.D., professor of medicine

Diane F. Merritt, M.D., professor of obstetrics and gynecology

Robert J. Rothbaum, M.D., professor of pediatrics

René Tempelhoff, M.D., professor of anesthesiology and of neurological surgery

Distinguished Educator Awards

Clinical Fellow Mentoring

Gerald Medoff, M.D., emeritus professor of medicine and of microbiology

Graduate Student Teaching

Carolyn Baum, Ph.D., the Elias Michael Director of the Program in Occupational Therapy and professor of occupational therapy and of neurology

House Staff Teaching

Eugene H. Rubin, M.D., Ph.D., professor of psychiatry

Postdoctoral Research Mentoring

Andrew C. Heath, D. Phil., the Spencer T. Olin Professor of Psychiatry and associate professor of genetics

Distinguished Community Service Awards

F. Sessions Cole, M.D., the Park J. White, M.D., Professor of Pediatrics and professor of cell biology and physiology

David B. Gray, Ph.D., associate professor of occupational therapy and of neurology

Abby S. Hollander, M.D., associate professor of pediatrics

ROBERT BOSTON

Eugene H. Rubin, M.D., Ph.D. (left), professor of psychiatry, and Abby S. Hollander, M.D., associate professor of pediatrics, congratulate each other after receiving Distinguished Faculty Awards Jan. 29. Rubin and Hollander were among 18 faculty honored for patient care, education, research and community service. More photos from the event can be found at mednews.wustl.edu/news/page/normal/13415.html.

Distinguished Investigator Awards

Maurizio Corbetta, M.D., the Norman J. Stupp Professor of Neurology and professor of radiology and of anatomy and neurobiology

Fanxin Long, Ph.D., assistant professor of medicine and of developmental biology

Robert P. Mecham, Ph.D., the Alumni Endowed Professor of Cell Biology and Physiology and professor of medicine, of pediatrics and of biomedical engineering

Kenneth M. Murphy, M.D., Ph.D., professor of pathology and immunology

Joseph H. Steinbach, Ph.D., the Russell D. and Mary B. Shelden Professor of Anesthesiology and professor of anatomy and neurobiology

The Daniel P. Schuster Award for Distinguished Work in Clinical and Translational Science

Michael R. DeBaun, M.D., the Ferring Family Chair in Pediatric Cancer and Related Disorders and professor of pediatrics, of neurology and of biostatistics

Major immune system branch has ability to learn

By Michael C. Purdy

Half of the immune system has a hidden talent, School of Medicine researchers have discovered.

They found the innate immune system, long recognized as a specialist in rapidly and aggressively combating invaders, has cells that can learn from experience and fight better when called into battle a second time. Scientists previously thought any such ability was limited to the immune system's other major branch, the adaptive immune system.

The finding, published online in the Proceedings of the National Academy of Sciences, will help scientists better understand the immune system and seek new ways to modulate its responsiveness. Low immune responsiveness, like that found in some genetic disorders and conditions such as AIDS, can leave the body dangerously vulnerable to infection, but too much can put it at risk of autoimmune conditions such as rheumatoid arthritis.

Vaccines take advantage of a property researchers call "immune memory," which is found in adaptive immune cells that can learn to recognize a particular invader and more quickly and forcefully attack the invader if it returns. By exposing the immune system to a weakened or dead version of a pathogen such as measles, a vaccine stimulates the body so that it can much more effectively respond to naturally occurring infections of the same or similar agents.


Yokoyama

The new ability scientists identified has a similar result — cells that can fight back more effectively after an initial stimulation — but the cells are not adaptive immune cells. They are the innate immune system's natural killer cells, which can switch between an active infection-fighting state and a dormant, resting state.

"We're calling this new property 'memory-like,'" said senior author Wayne M. Yokoyama, M.D., the Sam J. and Audrey Loew Levin Professor of Medicine, professor of pathology and immunology and a Howard Hughes Medical Institute investigator. "Natural killer cells can't specialize in recognition of a particular pathogen, but we found that once they've been activated, they can respond more easily and effectively to the next call for activation."

Service award nominations sought

Do you have a colleague you think deserves some recognition? It's time to nominate School of Medicine staff for this year's Dean's Distinguished Service Award, the highest honor awarded to a medical staff member.

The award, which includes a $1,000 cash prize, recognizes a full-time medical school employee with at least three years of continuous service who shows commitment to exceeding his or her job responsibilities, creates a positive working and learning environment and improves the community.

The school also is seeking nominations for the research support and operations staff awards.

Those awards honor current employees who perform duties that exceed job expectations and demonstrate outstanding leadership and superior quality service. Each of those recipients will receive $500 in cash.

All winners will be recognized during the Length of Service Awards Program June 2. For more information, visit medschoolhr.wustl.edu and click on the Dean's Distinguished Service Award link or see posters around the medical school.

All nominations are due Feb. 28.

Help set the national agenda for women's health research

Washington University will host a public hearing and conference March 4-6 to gather input and set priorities for federally funded women's health research.

The National Institutes of Health is seeking public testimony from scientists, health-care providers, patients, community groups, advocacy groups and any interested parties at the March 4 hearing. To submit oral or written testimony, an online form detailing remarks must be completed by Feb. 20. The form can be found at orwhmeetings.com/newdirections/testimony.aspx.

The hearing kicks off the conference, which will bring together U.S. physicians, scientists and public-policy officials to generate new ideas and initiatives for research on women's health.

The conference is free and open to the WUSTL community and the public, but registration is required. To register and find more information, visit research.wustl.edu/womenshealth.

The kickoff begins at 2 p.m. with opening remarks and a panel discussion in the Eric P. Newman Education Center on the Medical School Campus. Public testimony will begin immediately afterward.

University Events

Classical Ahn Trio returns to Edison Feb. 28

By Cynthia Georges

Born in Seoul, Korea, and educated at the prestigious Juilliard School in New York, the Ahn Trio — sisters Maria, Lucia and Angella — return to Edison Theatre at 8 p.m. Feb. 28 to present a piano-trio repertoire with commissioned works by some of today's most visionary composers.

In addition, the trio will present a special matinee performance in the ovations for young people series at 11 a.m. that day. The entire family can enjoy the Ahn sisters, musicians who are setting the standard for the next generation of chamber ensembles.

The evening program features "Divertissement for Violin, Cello and Piano," the first trio Nikolai Kaspustin has composed for the Ahns, and Pat Metheny's "Yu Ryung" (Korean for "ghost figure"), which the musicians premiered in summer 2008 in Mexico and have performed in New York, China and Korea.

The trio will conclude its performance with selections from "Lullaby for My Favorite Insomniac," the musicians' latest CD, recorded on their own label, L.A.M.P.

The Ahns will perform these works with special guests Taku Hirano, a top-rated percussionist who has played with Fleetwood Mac, Whitney Houston, Bette Midler, Dr. Dre and Stevie Nicks; and The Kin, Australian-born brothers Thorry and Isaac Koren.

Of The Kin, Billboard Magazine wrote, "The Australian siblings have a radiant gift for songwriting and performing that infuses their live shows and is winning believers in clubs across the United States. The Koren brothers' trump cards are their vocals and dual harmonies — unaffected and quietly passionate. Hearing their partnership is a humbling experience."

Lucia (piano), Angella (violin) and Maria (cello) have fused their work with that of dancers, pop singers, disc jockeys, electronic music artists, painters, installation artists, photographers, lighting designers, ecologists and even kite makers and have received critical

COURTESY PHOTO

The Ahn Trio — (from left) Maria, Lucia and Angella — will bring extraordinary talent and style to Edison Theatre Feb. 28.

acclaim for their collaborative project with the David Parsons Dance Company.

This summer, the Ahns were the only classical group to be invited to perform at the iTunes LIVE Festival in London. Their engaging live performance with Tata Bojs at the Czech Grammys led to the Ahns' recording a collaborative album, "Smetana," with the award-winning Czech rock band.

Next year, the trio will premiere Mark O'Conner's "Triple Concerto" as well as Nikolai Kapustin's second trio — works that the award-winning composers are writing.

Possessing a hypnotic combination of talent and style, the Ahns are inviting subjects for the international press. They made their magazine premiere as teens in Time's cover story "Asian American Whiz Kids" and have gone on to frequent fashion pages, the likes of Vogue and GQ. In 2003, they were named three of People Magazine's 50 Most Beautiful People.

The Ahns recently signed a multialbum exclusive recording artist contract with SonyBMG International. The trio is in high demand, performing and leading master classes and workshops across the United States and around the world. Wherever the Ahns travel, they share their innovative spirit and ever-evolving vision of music.

Tickets for the 8 p.m. performance ($20 for students and children; $28 for faculty, staff and seniors; and $32 for the public) and the 11 a.m. performance ($10) are available at the Edison Theatre Box Office and through all MetroTix outlets.

For more information, call 935-6543.

Science and Society • Government Bailout • Air Quality

"University Events" lists a portion of the activities taking place Feb. 15-25 at Washington University. Visit the Web for expanded calendars for the Danforth Campus (news-info.wustl.edu/calendars) and the School of Medicine (medschool.wustl.edu/calendars.html).

Exhibits

"Art and Sexuality." Through Feb. 16. Danforth University Center Visitor's Lounge and Whisper's Café. 935-3964.

"Eero Saarinen: Shaping the Future." Through April 27. Mildred Lane Kemper Art Museum. 935-4523.

"On the Riverfront: St. Louis and the Gateway Arch." Through March 9. Steinberg Hall Architecture Gallery. 935-4523.

"Paris — From the Commune of 1871 to the Exposition of 1900: Images From the Russell Sturgis Photograph Collection." Through March 30. Olin Library, Lvl. 1, Ginkgo Rm. 935-9730.

Film

Monday, Feb. 16

7 p.m. Jewish, Islamic and Near Eastern Film Series. Middle East-North Africa Film Series. "The Yacoubian Building." Marwan Hamed, dir. (Discussion to follow.) Seigle Hall, Rm. L006. 935-5110.

Lectures

Thursday, Feb. 12

Noon. Genetics Seminar. "Evolution and the Impact of Segmental Duplications." Evan Eichler, assoc. prof. of genome sciences, U. of Wash. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

4 p.m. Chemistry Seminar. "Assemblies of Nanoparticles as 3D Scaffolds for New Materials: From Mechanically Strong Polymer Crosslinked Aerogels to Porous Iron and Silicon Carbide." Nicholas Leventis, prof. of chemistry, Mo. U. of Science & Technology. McMillen Lab., Rm. 311. 935-6530.

4 p.m. Dept. of Music Lecture Series. Marc Copland, pianist, and Gary Peacock, bassist. Music Classroom Bldg., Rm. 102. 935-5566.

4 p.m. Vision Science Seminar Series. "Herpes Simplex Virus Evasion of Autophagy and the Immune Response." David Leib, prof. of ophthalmology and visual sciences. Maternity Bldg., Rm. 725. 362-3315.

Friday, Feb. 13

9:15 a.m. Pediatric Grand Rounds. "Rethinking Bronchiectasis." Steven Brody, assoc. prof. of medicine. Clopton Aud., 4950 Children's Place. 454-6006.

11 a.m. Electrical & Systems Engineering Seminar. "Nonlinear Oscillations and the Steady-State Behavior of Nonlinear Feedback Systems." Christopher I. Byrnes, prof. of electrical and systems engineering. Bryan Hall, Rm. 305. 935-5565.

11 a.m. Energy, Environmental and Chemical Engineering Seminar. "Engineering Palladium-Coated Gold Nanoparticles for the Catalytic Cleansing of Water." Michael S. Wong, assoc. prof. of chemistry, Rice U. Urbauer Hall, Rm. 101. 935-5548.

Noon. Cell Biology and Physiology Seminar. "How to Schedule Your Day: Neuropeptide Entrainment of Circadian Oscillators." Erik D. Herzog, assoc. prof. of biology. McDonnell Medical Sciences Bldg., Rm. 426. 362-6950.

Saturday, Feb. 14

11 a.m. MLA Saturday Seminar Series. "Science and Society." Barbara A. Schaal, prof. of biology. McDonnell Hall, Goldfarb Aud. 935-6700.

Monday, Feb. 16

4 p.m. Immunology Research Seminar Series. "Digital Signaling and Frustration During Thymic Selection Results in an Antigen-Specific T Cell Repertoire." Arup Chakraborty, prof. of chemical engineering, Mass. Inst. of Technology. Farrell Learning & Teaching Center, Connor Aud. 362-2763.

6:30 p.m. Sam Fox School Public Lecture Series. Distinguished Alumni Lecture. David Dowell, principal, el dorado inc., Kansas City. (6 p.m. reception.) Steinberg Aud. 935-9300.

Tuesday, Feb. 17

Noon. Assembly Series. "Zines, Half-lives and Afterlives: On the Temporalities of Social and Political Change." Janice Radway, prof. of literature and history, Duke U. Women's Bldg. Formal Lounge. 935-5285.

Noon. Molecular Microbiology and Microbial Pathogenesis Seminar Series. "Viral Connections to Chronic Inflammatory Disease." Michael Holtzman, prof. of medicine. Cori Aud., 4565 McKinley Ave. 286-1124.

6:30 p.m. Center for the Study of Ethics & Human Values. Ethics Night on Campus. "Economic Crisis: Who Deserves a Government Bailout? A Debate on the Values." (Food provided.) Umrath Hall. For information: humanvalues.wustl.edu.

Wednesday, Feb. 18

11 a.m. Assembly Series. "Computer (and Human) Perfection at Checkers." Jonathan Schaeffer, prof. of computer science, U. of Alberta. Steinberg Aud. 935-5285.

11 a.m. Interdisciplinary Project in the Humanities Lecture Series. "The Power of Virtue and Sentiment: Nineteenth-Century Germany in American Translation." Lynne Tatlock, prof. in the humanities. Co-sponsored by the Assembly Series and Center for the Humanities. Women's Bldg. Formal Lounge. 935-4200.

How to submit 'University Events'

Submit "University Events" items to Angela Hall of the Record staff via:

e-mail — recordcalendar@wustl.edu
campus mail — Campus Box 1070
fax — 935-4259

Upon request, forms for submitting events will be e-mailed, mailed or faxed to departments to be filled out and returned.

Deadline for submissions is noon the Thursday prior to publication date.

4 p.m. Institute for Public Health Faculty Seminar Series. Ross Brownson, prof. of social work. Goldfarb Hall, Rm. 132. 454-7998.

6 p.m. Assembly Series. "The Legacy of George Washington." David Konig, prof. of history, Andrew Rehfeld, assoc. prof. of political science, and Linda Nicholson, prof. of women's studies. Women's Bldg. Formal Lounge. 935-5285.

6:30 p.m. Sam Fox School Public Lecture Series. Yuko Shimizu, artist. (6 p.m. reception.) Steinberg Aud. 935-9300.

Thursday, Feb. 19

8 a.m.-5 p.m. School of Medicine Annual Guze Symposium on Alcoholism. "Translating Basic Science Findings to Guide Prevention Efforts Across the Lifespan." Cost: $100; free for WUSTL faculty, staff, postdocs and students. Eric P. Newman Education Center. 286-2244.

Noon. Genetics Seminar. "Genetic Protection from Diseases of Dietary Excess." Helen H. Hobbs, prof. of genetics and development, U. of Texas Southwestern Medical Center. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

3 p.m. Siteman Cancer Center Basic Science Seminar Series. David H. Gutmann, prof. of neurology. Eric P. Newman Education Center, Seminar B. 454-7029.

3:15 p.m. Electrical & Systems Engineering Seminar. "The Impact of Technology Globalization: Challenges to and Opportunities for National Security." John C. Sommerer, dir., science and technology, Johns Hopkins U. Bryan Hall, Rm. 305. 935-5565.

4 p.m. Chemistry Seminar. "The Removal of Heavy Metal Ions by Imprinted Polymers." Anja Mueller, prof. of chemistry, Central Mich. U. McMillen Lab., Rm. 311. 935-6530.

4 p.m. Vision Science Seminar Series. "The NAD World: Sirt1, Systemic NAD Biosynthesis, and Their Importance for Metabolism and Aging." Shin-ichiro Imai, assoc. prof. of developmental biology. Maternity Bldg., Rm. 725. 362-3315.

Friday, Feb. 20

9:15 a.m. Pediatric Grand Rounds. "Nanotechnology for Cancer Diagnosis and Therapy." Samuel A. Wickline, prof. of medicine. Clopton Aud., 4950 Children's Place. 454-6006.

11 a.m. Energy, Environmental and Chemical Engineering Seminar. "Atmospheric Brown Clouds and Their Impact on Air Quality and Climate Change." Greg Carmichael, assoc. dean of chemical and biochemical engineering, U. of Iowa. Lopata Hall, Rm. 101. 935-5548.

Noon. Cell Biology and Physiology Seminar. "Postsynaptic Plasticity in the Spinal Cord Underlying Central Pain Sensitization." Robert W. Gereau, prof. of anesthesiology. McDonnell Medical Sciences Bldg., Rm. 426. 362-6950.

Noon. Interdisciplinary Project in the Humanities Lecture Series. "Passionate Amateurs: Literary Societies and the Common Reader." Miriam Bailin, assoc. prof. of English. Co-sponsored by the Assembly Series and Center for the Humanities. Women's Bldg. Formal Lounge. 935-4200.

12:30 p.m. Biostatistics Seminar Series. Min Zhang, asst. prof. of biostatistics, U. of Mich. Shriners Bldg., Rm. 3307, 706 S. Euclid. 362-1565.

Saturday, Feb. 21

11 a.m. MLA Saturday Seminar Series. "Why Universities Sponsor Presidential Debates." Andrew Rehfeld, assoc. prof. of political science. McDonnell Hall, Goldfarb Aud. 935-6700.

Monday, Feb. 23

Noon. School of Law "Access to Justice" Public Interest Law Speaker Series. "The Future of Civil Rights: Reflections and Renewal." Goodwin Liu, acting prof. of law, U. of Calif., Berkeley. Anheuser-Busch Hall, Bryan Cave Moot Courtroom. 935-7567.

Noon. Work, Families and Public Policy Brown Bag Seminar Series. "The Diffusion of IT in Higher Education: Publishing Productivity of Academic Life Scientists." Anne Winkler, prof. of immunology and rheumatology, U. of Mo.-St. Louis. Seigle Hall, Rm. 348. 935-4918.

4 p.m. Immunology Research Seminar Series. "Poxviral Infections of Man and Mouse: Survival Requires the Complement System." John P. Atkinson, prof. of medicine. Farrell Learning & Teaching Center, Connor Aud. 362-2763.

4 p.m. Sam Fox School Public Lecture Series. Steinberg Auditorium Rededication Lecture. Fred Tomaselli, artist. (Reception follows.) Steinberg Aud. 935-9300.

4 p.m. Siteman Cancer Center Breast Cancer Research Group Seminar Series. "Recent Declines in Breast Cancer: What and Why?" Christina A. Clarke, research scientist, Northern Calif. Cancer Center. Center for Advanced Medicine, Farrell Conf. Rm. 2. 454-8981.

Tuesday, Feb. 24

Noon-5 p.m. Division of Biology & Biological Sciences Annual Postdoc Scientific Symposium. Co-sponsored by the Office of Post Graduate Affairs, WU Postdoctoral Society and the vice chancellor for research. Eric P. Newman Education Center. To register: dbbs.wustl.edu/postdoc.

4 p.m. Center for the Humanities Faculty Fellows' Series. "Cold War Nostalgia, From the International Spy Museum (DC) to 'Stalin World', Grutas Park, Lithuania." Penny M. Von Eschen, prof. of history and American culture, U. of Mich. Duncker Hall, Rm. 201, Hurst Lounge. 935-5576.

Wednesday, Feb. 25

4 p.m. Assembly Series. "A Discussion About Race and Identity." Danforth University Center, Fun Rm. 935-5285.

Buder Center trivia night, auction

By Jessica Martin

The Kathryn M. Buder Center for American Indian Studies at the School of Social Work will host a trivia night at 7 p.m. Feb. 20 in Brown Hall Lounge. Tables of 8-10 players are available for $15 per person.

In addition to the trivia competition, a silent auction will be held featuring items collected from local businesses and individuals who support the Buder Center and its programs.

All proceeds from the event, co-sponsored by the American Indian Student Association, will go toward the 19th Annual Pow Wow, scheduled for March 28 in the Athletic Complex.

For more information about the trivia night, silent auction or upcoming Pow Wow, contact the Buder Center at 935-4510 or e-mail bcais@gwbmail.wustl.edu.

And More

Friday, Feb. 13

8:30 a.m.-1:30 p.m. Social Work Master of Public Health Introductory Event. "Focus on MPH." Brown Hall Lounge. 935-6676.

Campus celebrates George Washington Week

BY NEIL SCHOENHERR

If you see a distinguished-looking gentleman with a white wig and long topcoat riding a horse-drawn buggy around campus next week, don't be alarmed. It's just George Washington.

The annual George Washington Week, beginning Monday, Feb. 16, is sponsored by the sophomore honorary Lock & Chain. It will feature horse and buggy rides, birthday cake, appearances by "George" himself, cherry pie and a benefit party.

"George Washington Week and its events are meant not only to celebrate our namesake's birthday, but to unite the Washington University community by building school spirit and social awareness," said Nate Maslak, member of Lock & Chain and co-chair of the week. "Our events are meant to build a sense of pride in Washington University while also fostering discussion of George Washington and the legacy that he has left."

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

"The message behind George Washington Week is central to Lock & Chain," Maslak said. "As a service honorary, our organization stresses building social awareness and giving back to the community. This year, Lock & Chain will be running a campaign promoting campus awareness of racial and socioeconomic inequality in the St. Louis community."

The schedule

Monday, Feb. 16. Horse and buggy rides from 10 a.m.-2 p.m. on the Danforth Campus.

Tuesday, Feb. 17. Cherry pie and tea party in Tisch Commons of the Danforth University Center from 3-5 p.m. Jostens will be on hand to sell University rings.

The Career Center will present its annual etiquette dinner at 5:30 p.m. at Whittemore House, where free copies of "George Washington's Rules of Civility & Decent Behavior in Company and Conversation" will be given to students attending.

Wednesday, Feb. 18. The "Washington Wednesday" sale will be happening all day at the Bear Necessities store in the Wohl Student Center.

The Assembly Series will present "The Legacy of George Washington" panel discussion at 6 p.m. in the Women's Building Formal Lounge. A reception will follow. (See page 2.)

The Political Science Student Association will host the College Democrats and College Republicans at 8 p.m. in the Women's Building Formal Lounge for a quiz bowl competition.

Thursday, Feb. 19. George Washington's 277th birthday party will be held from noon-3 p.m. in Tisch Commons in the Danforth University Center with cake, soda and entertainment.

Friday, Feb. 20. Free colonial tricorn hats will be given away to WUSTL students at the women's and men's home basketball games against Carnegie Mellon University at 6 and 8 p.m. in the Athletic Complex. Jostens representatives will also be selling University rings.

For more information on the week, contact Maslak at anmaslak@wustl.edu.

'Wonderboy' comes to Edison Feb. 20-21

BY LIAM OTTEN

Superpowers aren't all they're cracked up to be.

Take "Wonderboy," the new collaboration by San Francisco choreographer Joe Goode and master puppeteer Basil Twist. Blessed with uncanny empathy and superhuman sensitivity, the title character is virtually paralyzed by everyday sights and sounds — the clash of bells, the glare of sunlight, a young man passing on the street.

Yet "Wonderboy" is not without resources, nor without courage. The three-foot-tall wooden hero can be seen at 8 p.m. Feb. 20 and 21 when the Joe Goode Performance Group brings "Wonderboy" to St. Louis as part of the Edison Theatre OVATIONS Series.

Goode is among the most innovative and original choreographers working in American dance theater.

His performance group, launched in 1986, combines traditional dance movement with spoken word, song, visual imagery and sculptural props. Major works range from the Bessie Award-winning "Deeply There (stories of a neighborhood)" (1998), which explores the havoc of the AIDS epidemic, to "Mythic, Montana" (2002), an American take on Greek mythology, and "Stay Together" (2006), about the difficulties of maintaining relationships in a world that moves too fast.

Goode met Twist — a San Francisco native now based in New York — in 2006, on the set of Paula Vogel's acclaimed drama "The Long Christmas Ride Home." Twist, who was directing the play for San Francisco's Magic Theatre, enlisted Goode to choreograph a short dance sequence. The pair hit it off and began planning a longer collaboration.

The result is "Wonderboy," a tender coming-of-age story that explores the ways in which outsiders forge communities and lives of their own. As the piece begins, Wonderboy sits perched above the stage in a window frame, from which he sees, hears and feels entirely too much. Gradually he finds the strength to venture outside and connect with others, encountering rage and rejection — a cheerleader's taunts, a gender-bending solo about sexual intimidation — yet also discovers acceptance and even love.

COURTESY PHOTO

The three-foot-tall wooden hero and title character "Wonderboy" will be on stage Feb. 20 and 21.

"I want to pierce the veil of toughness that we all have in our lives and to uncover the vulnerable center, the confused, flailing human part of us that we conceal and avoid," Goode said of his work. "I want to make 'human scale' dances. By human in scale — I mean placing the emphasis on the unglamorized body — the body in more intimate moments, when it is fallible or agitated or inept."

The staging is reminiscent of Japanese bunraku puppetry, in which both puppet and puppeteers are visible to the audience. Six dancers — Mark Stuver, Melecio Estrella, Jessica Swanson, Andrew Ward, Patricia West and Alexander Zendzian — take turns manipulating Wonderboy, whose monologues frequently quote literary "wonderboys" such as Sam Shepard, Thom Gunn, Christopher Isherwood and Jiddu Krishnamurti. The original music is by singer/violinist Carla Kihlstedt and pianist/drummer Matthias Bossi.

Twist is perhaps best known for his long-running, Obie Award-winning "Symphonie Fantastique" (1998), a tour-de-force of underwater puppetry set to the music of Hector Berlioz. Other works include ingenious re-creations of two classic puppet operas: "Master Peter's Puppet Show" (2002) by Manuel De Falla and "La Bella Dormente Nel Bosco (Sleeping Beauty in the Woods)" (2005) by Ottorino Respighi.

Recent pieces include "Hansel and Gretel," a 2006 commission from The Houston Grand Opera and The Atlanta Opera; and "Arias with a Twist," a new collaboration with drag queen Joey Arias, which debuted in June 2008.

Tickets — $20 for students and children; $28 for seniors, faculty and staff; and $32 for the public — are available at the Edison Theatre Box Office and through all MetroTix outlets.

For more information, call 935-6543 or e-mail Edison@wustl.edu.

Spring concerts in the Department of Music

BY CYNTHIA GEORGES

The Department of Music in Arts & Sciences continues its spring 2009 concert series with an array of events that will entertain, inspire and inform music-loving audiences in the St. Louis and surrounding areas.

This year's offerings range from international jazz greats Marc Copland, Gary Peacock and Bill Stewart, who perform Friday, Feb. 13, at the 560 Music Center (co-sponsored with Jazz at Holmes), to Dominick Argento's "The Aspern Papers," an operatic adaptation of Henry James' novella of the same name, to be presented March 20 and 21 at Edison Theatre.

Hugh Macdonald, Ph.D., the Avis H. Blewett Professor of Music, head of musicology and acting chair of the Department of Music in Arts & Sciences, noted additional highlights of the spring series:

March 1. A program of Broadway music by Jerome Kern and George Gershwin, to be introduced by Todd Decker, Ph.D., assistant professor of musicology, and featuring WUSTL's Symphony Orchestra under the direction of Dan Presgrave, lecturer and director of orchestra and wind ensembles

March 22. An intimate program titled "Virginals, Voice and Viols" and featuring pianist and harpsichordist Charles Metz, the new president of the Friends of Music. Metz's group supports the Department of Music's high standards in performance, musical studies and research while encouraging WUSTL students and faculty in their musical scholarship and creativity

March 30. "Unofficial Leningrad, 1961," to be presented in partnership with the Saint Louis Symphony Orchestra and featuring some of the orchestra's members, with an introduction by Peter Schmelz, Ph.D., assistant professor of musicology.

"A full display of our large ensembles — the Jazz Band, the Concert Choir and the Symphony Orchestra — for the Chancellor's Concert April 26th is an annual favorite," Macdonald said. "With our regular series of lectures and student recitals, the calendar is quickly filled. I look forward to seeing the department's friends and supporters at some or all of these events."

All events are free and open to the public unless otherwise noted. For more information, call 935-5566 or e-mail kschultz@artsci.wustl.edu.

To see the complete schedule of spring events, visit artsci.wustl.edu/~music.

Music

Thursday, Feb. 12

11:30 a.m. Concert. Master Class. Marc Copland, piano. Tietjens Hall. 935-5566.

Friday, Feb. 13

8 p.m. Jazz at Holmes. Marc Copland, piano, Gary Peacock, bass, and Bill Stewart, drums. Cost: $20, $15 for faculty and staff, $5 for students. E. Desmond Lee Concert Hall, 560 Trinity Ave. 862-0874.

Thursday, Feb. 19

8 p.m. Jazz at Holmes. The Mosby Music Group. Ridgley Hall, Holmes Lounge. 862-0874.

On Stage

Friday, Feb. 13

8 p.m. OVATIONS Series. "King Henry V." Cost: $32, $28 for seniors, faculty and staff, $20 for students and children. Edison Theatre. 935-6543.

8 p.m. Performing Arts Dept. Presentation. "Hamlet." (Also 8 p.m. Feb. 14, 20 and 21; 2 p.m. Feb. 15 and 22.) Cost: $15, $10 for students, faculty and staff. A.E. Hotchner Studio Theatre. 935-6543.

Saturday, Feb. 14

8 p.m. OVATIONS Series. "The Spy." Cost: $32, $28 for seniors, faculty and staff, $20 for students and children. Edison Theatre. 935-6543.

Wednesday, Feb. 18

7:30 p.m. Performing Arts Dept. Staged Reading. "Hamlet: The Actors' Version." Presenting the 1603 Quarto Version of the play. Edison Theatre. 935-5858.

Friday, Feb. 20

8 p.m. OVATIONS Series. "Wonderboy." (Also 8 p.m. Feb. 21.) Cost: $32, $28 for seniors, faculty and staff, $20 for students and children. Edison Theatre. 935-6543.

Sports

Friday, Feb. 20

6 p.m. Women's Basketball vs. Carnegie Mellon U. Athletic Complex. 935-4705.

8 p.m. Men's Basketball vs. Carnegie Mellon U. Athletic Complex. 935-4705.

Sunday, Feb. 22

11:30 a.m. Men's Basketball vs. U. of Rochester. Athletic Complex. 935-4705.

1:30 p.m. Women's Basketball vs. U. of Rochester. Athletic Complex. 935-4705.

Construction Update

Construction Update is published periodically and provides information about the progress of major building and renovation projects. Information is provided to the Record by facilities management.

Danforth Campus

Brauer Hall

Piers are complete. Site utilities are nearly complete. The first-floor deck has been poured. Piping has started.

Busch Hall renovation

Painting and acoustical ceiling grid and lighting installation have begun on the second floor and mezzanine level. Elevator rough-in will start in mid-February. Terrazzo flooring will begin installation by the end of February.

South 40 Umrath House replacement

The lower level and first and third floors are under way. The LEED team's development of material to achieve LEED innovation points continues.

South 40 utilities

Concrete work continues. Duct banks for electric and communications routed to the chiller plant have been constructed, poured and backfilled.

Wohl Center replacement

The lower level and first and second floors are under way. The LEED team's development of material to achieve LEED innovation points continues.

Medical Campus

BJC Institute of Health at Washington University

The steel frame of the BJC Institute of Health at Washington University will be completed this month, pending weather. Enclosing of the building in brick, limestone and glass is under way. The exterior skin should be completed by April. Crews are putting the finishing touches on the service road, which will lead from Taylor Avenue to the building's underground loading docks. For the remainder of 2009, work will shift to finishing the interior as well as to building the plaza and streetscape. The building will open in December 2009.

Engineering school honors alumni

The School of Engineering & Applied Science will honor six distinguished alumni at the annual Engineering Alumni Awards banquet at 7 p.m. Feb. 19 at the Ritz-Carlton in Clayton. The school also will present the Dean's Award to two individuals and one Young Alumni Award.

Dean's Award

Stephen F. and Camilla T. Brauer will receive the Dean's Award in recognition of their philanthropy and service to the school and the University.

Stephen Brauer, current vice chair and chair-elect of the Board of Trustees and chair of the School of Engineering's National Council, joined the board in 1991. He has championed WUSTL's ascent among the world's premier universities and helped build a leading engineering school.

Stephen Brauer is a former U.S. ambassador to Belgium and chairman of St. Louis-based Hunter Engineering Co., a leading manufacturer of computer-based, automotive service equipment for the global market. Camilla Brauer is a prominent figure in local cultural and civic organizations and has been recognized nationally for her volunteer work as a fund-raiser.

In October 2008, Chancellor Mark S. Wrighton announced that the University had received a major commitment from the Brauers to help implement the long-range, strategic plan of the School of Engineering.

A new building, scheduled for completion in 2010, will bear the name "Stephen F. and Camilla T. Brauer Hall." The commitment was made in the form of a challenge grant, which will match all gifts and commitments from alumni, parents and friends up to the maximum of the commitment by the Brauers.

Young Alumni Award

Lt. Col. Robert Behnken, Ph.D., (BSPhy '92, BSME '92) has logged more than 1,000 flight hours in more than 25 different aircraft. Behnken was selected as a mission specialist by the National Aeronautical Space Administration (NASA) in July 2000, and, in March 2008, completed his first spaceflight mission as Mission Specialist 1 on the space shuttle Endeavor. His next space flight is scheduled for December 2009.

Behnken's journey to space began as an Air Force ROTC student. His exceptional performance at WUSTL earned recognition as Outstanding Mechanical Engineering Senior in 1992 and then catapulted him into work as a National Science Foundation Graduate Research Fellow at the California Institute of Technology.

There, Behnken earned master's and doctoral degrees and conducted research in nonlinear analysis, including software implementation development and hardware construction.

Distinguished Alumni Awards

Dev A. Banerjee, DSc., (MSSSM '74, DScME '77) began his career with McDonnell Douglas Helicopter Systems and worked his way up in the company to chief of Aeromechanics Research and Development. In 1989, Banerjee was named director of research and technology. After more than two decades of leadership in Rotorcraft Division that included stops in Mesa, Ariz., and Philadelphia, Banerjee was appointed division director of Systems and Flight Engineering for Boeing Aircraft and Missiles in St. Louis.

During his 31-year career, Banerjee has established a record of sustained technical and leadership excellence, rising from an entry-level engineer to his current position as director of systems engineering for Boeing Integrated Defense Systems, responsible for technical excellence of approximately 6000 engineers across Boeing. He has published 18 technical papers and holds two patents.

George P. Bauer (BSIndE '53, MS '59) wrote his master's thesis on the first IBM computer and thus was a natural for a job at IBM.

He joined IBM as an account manager and rose to executive positions, moving 18 times in 25 years. He spent four years in Paris as group director of business systems for Europe, Africa and the Middle East. An early pioneer, he launched IBM into the consulting and services business in the United Kingdom in the mid-1980s.

Upon retirement from IBM, Bauer was named executive professor of information systems at Georgia State University in Atlanta, where he taught for three years before beginning his third career as an investment banker.

Today, Bauer is chairman and CEO of the GPB Group Ltd., an investment banking company headquartered in Wilton, Conn.

Victor Hermelin (BSChE '36) is founder and chairman emeritus of KV Pharmaceutical Co., a publicly traded company on the New York Stock Exchange with more than 1,000 employees.

Hermelin was an originator of the concept of time-release pharmaceuticals. His innovative work in pharmaceutical dosage design has made drug products easier to take and reduced side effects, thereby increasing compliance by the patient.

His first company was based on his invention of lanolin-enriched permanent wave, a solution he sold to local beauty salons.

In 1944, he developed a unique process for producing multivitamins called spheroids. This medical breakthrough was used by the U.S. Department of Defense to prevent night blindness in World War II soldiers. Hermelin also invented the skinless frankfurter while working at Swift & Co.

At age 90, Hermelin continued to play an active role in the research and development of innovative drug delivery technologies. His latest patent is used in Ther-Rx Corp.'s PrimaCare prenatal vitamins.

Anna L. Patterson (BSEE '87, BSCS '87) has built a career on searching for a better way for users to interact with the Internet, and her work has revolutionized Internet search engines. In 2004, Patterson joined Google after designing and eventually selling Recall — the largest search engine in existence at the time with 12 billion pages.

At Google, she was the technical lead of one of the two Web ranking groups, in charge of GoogleBase and the manager for the core piece of Google's ad-matching technology. She is the architect of Google's largest search index, TeraGoogle, consisting of 30 billion pages.

In 2006, Patterson left Google to help create Cuil (a Gaelic word for knowledge). Cuil is the largest search engine currently available.

John C. Sommerer (BSSSM '79, MS '79), is chief technology officer and director of science and technology at the Johns Hopkins University Applied Physics Laboratory.

The lab provides the U.S. Department of Defense and NASA with essential capabilities in combat and guided missile systems, air and missile defense, space science and exploration, strategic systems test and evaluation, information technology and communications systems and research and development.

Sommerer serves as primary technical liaison with the academic divisions of the university. Since August 2008, he has served as head of the lab's space department, which is responsible for executing NASA's mission to Mercury (in transit), the mission to Pluto (in transit), the Radiation Belt Storm Probes mission to explore the Van Allen Belts (in spacecraft development), and the Solar Probe mission to explore the Sun's outer atmosphere (in engineering and mission design).

Gerald J. Williams (BSME '70, MSME '72) began work for McClure Engineering Associates in St. Louis in 1974, advancing to president in 2000 — an office he held for eight years until his recent retirement.

As president, he is credited with increasing the staff from 35 to 51 and revenue from $3.1 million to $6.8 million. He also lectured at WUSTL as an affiliate professor from 1973-1980.

Williams has many national awards, including the Technology Award in 2002 from the American Society of Heating, Refrigerating, and Air-Conditioning Engineers for the energy retrofit of the Clinical Sciences Research Building at the School of Medicine.

Williams has served as principal engineer on numerous other energy conservation projects for the medical school.

He is on the HPAC (Heating/Piping/Air Conditioning) Engineering Editorial Advisory Board, a registered professional engineer in six states and a LEED Accredited Professional.

Olin Cup

All participants benefit from the judging process

– from Page 1

and prone to falling out of his ears.

With a background in minimally-invasive surgical devices for neurology, cardiology and ophthalmology, Burgett invented a non-contact imaging technology to digitally scan an individual's ears and produce a malleable custom-fit ear-tip that attaches to iPod and mobile phone earbuds.

Verto's eartips make earbuds comfortable and allow them to stay in during exercise and extended use. Burgett plans to test-market the device this summer at triathlon and marathon races.

Olin Cup competitors are eliminated through a series of business-planning challenges by a team of 27 judges, including WUSTL faculty and community business leaders.

Harrington said the judging process plays an important role in helping entrepreneurs turn their ideas into viable businesses.

"We are very grateful to the judges and local entrepreneurs for their input," Harrington said. "All of the Olin Cup contestants receive valuable advice and feedback from them."

Sponsors of the 2008 Olin Cup included Lopata, Flegel & Co. LLP; Polsinelli Shughart PC; RubinBrown LLP; the St. Louis Regional Chamber & Growth Association; Senniger Powers LLP; Sonnenschein Nath & Rosenthal LLP; and Olin Business School. Innovate St. Louis provided mentoring services.

To enter the 2009 Olin Cup competition, visit sc.wustl.edu/OlinCup/index.html.

Peace Corps acting director to speak Feb. 19

BY JESSICA MARTIN

Josephine Olsen, Ph.D., acting director of the Peace Corps, will present the talk "International Volunteering and Service in the 21st Century: Toward Peace and Development" at 4 p.m. Feb. 19 in Brown Hall Lounge.

Olsen's presentation, the Benjamin E. Youngdahl Lecture in Social Policy, is free and open to the public.

Olsen has had a long and distinguished career with the Peace Corps, beginning as a volunteer in Tunisia. She has served as country director in Togo as well as a Peace Corps regional director, chief of staff and deputy director.

President Barack Obama's transition team named Olsen acting director of the Peace Corps Jan. 20.

The Benjamin E. Youngdahl Lecture in Social Policy, co-sponsored by the Center for Social Development (CSD) at the George Warren Brown School of Social Work and the Gephardt Institute for Public Service, honors Youngdahl, dean of the Brown School from 1945-1962.

CSD has a number of research initiatives on global civic service, which includes programs such as the Peace Corps.

"International volunteering is increasing in scope and significance around the world, yet it is the least studied form of civic service," said Amanda Moore McBride, Ph.D., assistant professor of social work and CSD research director.

"Through our research, we are assessing the nature and scope of international service, helping develop effective practices for service programs and creating a global network of service providers and scholars," McBride said.

McBride also is director of the Gephardt Institute.

For more information about the lecture, contact Terri Behr at 935-6630.

Visit gwbweb.wustl.edu/CSD for more information about the CSD.

Engineering Week on campus

The School of Engineering will host a week of special events beginning Monday, Feb. 16, to inspire current and future engineers at WUSTL.

On-campus events will include several student outreach projects and the presentation of the Alumni Achievement Awards.

The National Engineers Week Foundation — a formal coalition of more than 100 professional societies, major corporations and government agencies — is dedicated to ensuring a diverse and well-educated future engineering workforce by increasing understanding of and interest in engineering and technology careers among young students and by promoting precollege literacy in math and science.

Engineers Week also raises public understanding of engineers' contributions to society.

Founded in 1951 by the National Society of Professional Engineers, it is among the oldest of America's professional outreach efforts.

For more information, contact Erin Pennington at 935-3416 or visit engineering.wustl.edu/enweek09.aspx.

Sports

Men's basketball unbeaten in UAA

The No. 2 men's basketball team remained undefeated in conference play last weekend at home with a pair of victories over New York University (73-55) and Brandeis University (82-57).

With five University Athletic Association (UAA) games remaining, the Bears have a three-game lead over Carnegie Mellon University (16-4, 6-3 UAA) and the University of Rochester (15-5, 6-3 UAA).

WUSTL (19-1, 9-0 UAA) hits the road for its final trip of the regular season. The Bears face Emory University Friday, Feb. 13, in Atlanta and then play their last road game at Case Western Reserve University Sunday, Feb. 15, in Cleveland.

Women on five-game winning streak

The No. 16 women's basketball team completed season sweeps of No. 14 New York University and No. 21 Brandeis University with home victories Feb. 6 and 8 at the WU Field House.

WUSTL topped New York, 68-47. The Bears were led by senior Jaimie McFarlin, who recorded her fifth double-double of the season with a season-high 14 points and 10 rebounds. The Bears defeated Brandeis, 71-56, behind a season-high 21 points from junior forward Janice Evans.

The pair of victories over ranked University Athletic Association (UAA) foes pushed the WUSTL winning streak to five games, and the Bears have won 12 of their past 13 overall. With an 8-1 record in the UAA, WUSTL is tied with the University of Rochester for first place.

The Bears (16-4, 8-1 UAA) return Friday, Feb. 13, at Emory University and then take on Case Western Reserve University, Sunday, Feb. 15.

Track teams post five NCAA marks

The men's and women's indoor track and field teams combined to post five NCAA Division III championship provisional marks at the Illinois Wesleyan University Bob Keck Invitational Feb. 6 and 7 in Bloomington, Ill.

The women's team placed second out of 14 schools with 95 points while the men finished fourth out of 13 with 68 points.

Sophomore Ben Harmon won the men's pentathlon with a qualifying score of 3,597 points, and senior Alli Alberts placed second in the women's pentathlon with an NCAA provisional mark of 3,245.

Also posting individual qualifying standards was senior Danielle Wadlington in the triple jump (11.29 meters) and sophomore Taryn Surtees in the mile run (5:04.29).

The women's distance medley relay team of freshman Erica Jackey, senior Erika Wade, junior Molly Schlamb and freshman Elizabeth Phillips eclipsed the NCAA qualifying time with a first-place finish in 11:58.03.

Both teams will be back in action Saturday, Feb. 14, at the Monmouth College Invitational.

Notables

Of note

Elizabeth Haswell, Ph.D., assistant professor of biology in Arts & Sciences, has received a four-year, $408,562 subaward from the California Institute of Technology for research titled "Biophysical, Structural and Functional Analysis of Mechanosensitive Channels." …

Shirley Sahrmann, Ph.D., professor of physical therapy, of cell biology and physiology and of neurology, has been selected to receive the Richard W. Bowling-Richard E. Erhard Orthopaedic Clinical Practice Award from the Orthopaedic Section of the American Physical Therapy Association (APTA). The award, which honors Sahrmann's outstanding contribution to the clinical practice of orthopaedic physical therapy, will be presented at the Combined Sections Meeting of the APTA in February. …

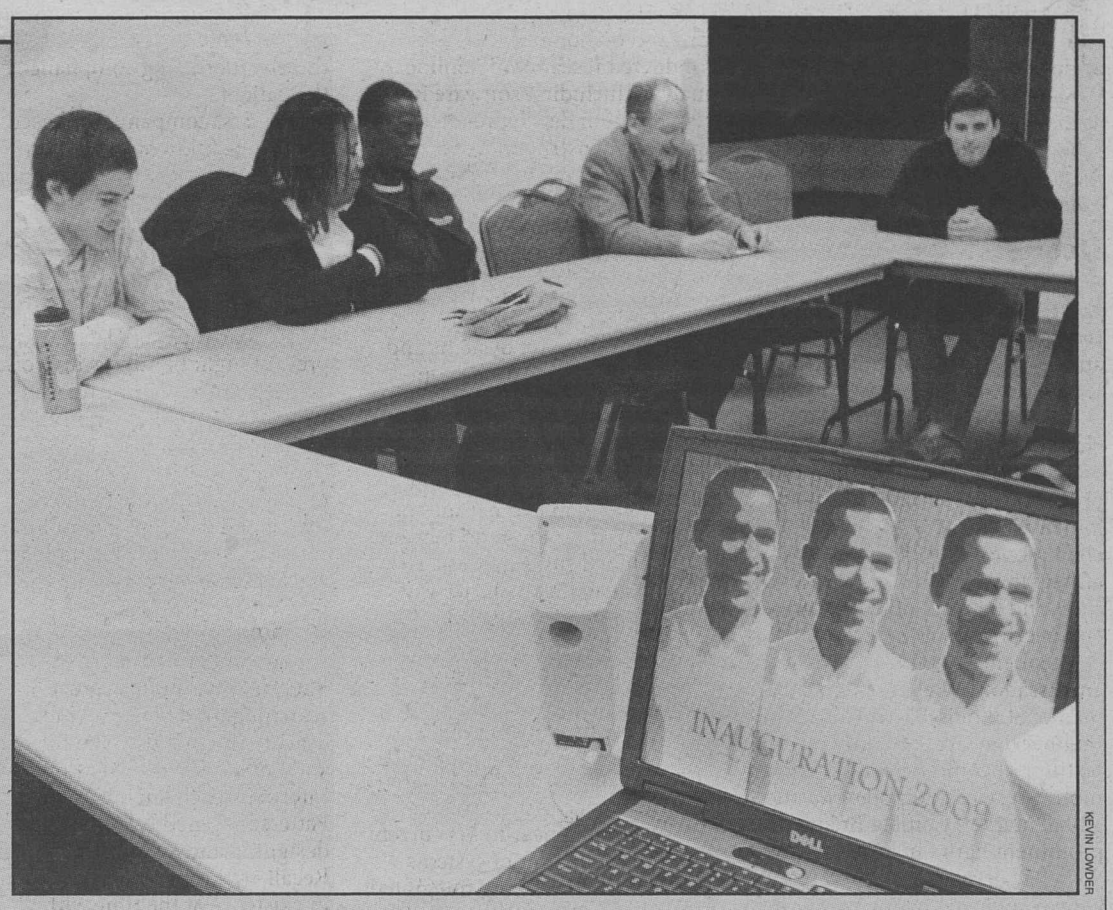
Thaddeus Stappenbeck, M.D., Ph.D., assistant professor of pathology and immunology and of developmental biology, has received a two-year, $330,000 grant from The Broad Foundation for research titled "Identification of Colitogenic Bacteria in an Antibiotic-Responsive Model of Fulminant Ulcerative Colitis." …

Herbert W. Virgin IV, M.D., Ph.D., the Edward Mallinckrodt Professor and chair of pathology and immunology and professor of molecular microbiology, has received a two-year, $330,000 grant from The Broad Foundation for research titled "*In Vivo* Function of Crohn's Disease Susceptibility Gene ATG16L1 in Intestinal Inflammation." …

Thomas A. Woolsey, M.D., the George H. and Ethel R. Bishop Scholar in Neuroscience and professor of neurological surgery, of neurology, of anatomy and neurobiology, of cell biology and physiology and of biomedical engineering, was awarded the Science Educator Award at the Society for Neuroscience annual meeting. The $5,000 award is made to a neuroscientist who has made significant contributions in educating the public about the field.

Speaking of

Robert McCarter, the Ruth and Norman Moore Professor of Architecture and chair of the Architecture Graduate Program, gave two invited lectures in November: "Embossings of the Sky: Louis I. Kahn and the Light-Giving Wall," presented at the AIA New York Center for Architecture, and "Louis I. Kahn: The Eternal and the Circumstantial," delivered as part of the Architecture Lecture Series at Kansas State University.



KEVIN LOWDER

Yes, we did **Students who attended the inauguration of President Barack Obama in Washington, D.C., hold a forum in Lambert Lounge of the Mallinckrodt Student Center to discuss their experiences and give the WUSTL community an inside look at the inaugural event. The Feb. 5 forum was hosted by the Democracy and Citizenship Initiative and included (from left) senior David Shapiro; graduate student Alana Fields; junior Matthew Aiken; moderator Randall Calvert, Ph.D., the Thomas F. Eagleton University Professor of Public Affairs and Political Science and director of the American Culture Studies Program in Arts & Sciences; and senior Andrew Flick. The Democracy and Citizenship Initiative is a campus-wide effort, coordinated by the American Culture Studies Program, to foster discussions about the role of the university in a democratic society.**

DUC architects win award for design

Tsoi/Kobus & Associates Inc., the Cambridge, Mass., architecture firm that designed the Danforth University Center, has received a 2009 Palladio Award for its work in creation of WUSTL's new student center that opened last August.

The Danforth University Center won the "New Design and Construction — More than 30,000 Square Feet" award in the "Commercial, Institutional and Public Projects" category of the Palladio Awards program.

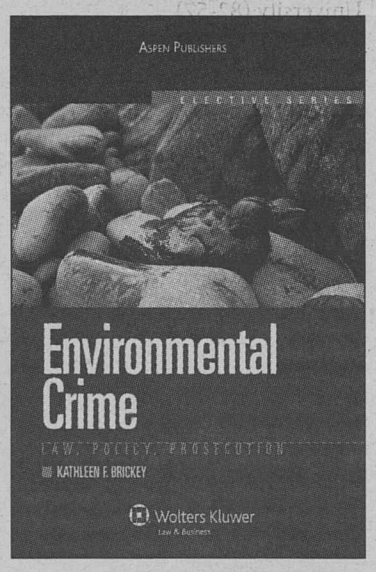
The Palladio Awards honor outstanding achievement in traditional design. The awards were named in honor of Andrea Palladio, the Renaissance architect who created modern architecture for his time while using models from the past for inspiration and guidance.

Campus Author

Kathleen F. Brickey, J.D., the James Carr Professor of Criminal Jurisprudence

Environmental Crime: Law, Policy, Prosecution

Aspen Publishers (2008)



"Environmental Crime: Law, Policy, Prosecution" offers a unique perspective on the intersection of environmental law and criminal law. It is the first law school text devoted exclusively to the study of environmental crime.

"The advent of modern environmental legislation in the 1970s and '80s ushered in an era of increased public and congressional support for sending polluters to jail," said author Kathleen F. Brickey, J.D., the James Carr Professor of Criminal Jurisprudence.

"When my casebook publisher approached me about writing an environmental crime book, I viewed it as a unique opportunity to build on my previous work on environmental criminal enforcement and integrate it with my more extensive writing on traditional white-collar crime issues," she said.

"The project also provided a welcome occasion to write for a broader audience, including non-law students who are interested in environmental studies," she said.

Brickey uses an interdisciplinary approach to bridge the historical divide between the environmental and criminal law fields.

The book's overview of the federal regulatory framework introduces key points at the core of the criminal enforcement debate: Did Congress overlook dangers inherent in elevating violations of existing environmental standards — originally set at levels designed for civil enforcement — into serious crimes? Are the goals of environmental law and criminal law compatible under the current regulatory regime?

These are among several recurring themes that run throughout the book. Although its primary substantive focus is on liability for violating federal laws regulating air and water pollution, hazardous waste and hazardous and toxic substances, the book also explores liability under conventional criminal statutes that prosecutors often use in tandem with environmental crime charges.

The book concludes with a close look at the criminal enforcement program: What case selection criteria do the EPA and Justice Department use to determine which environmental violations should be treated as crimes? Are environmental prosecutors "loose cannons" as some critics suggest? Or does the current system of centralized decision-making and multilevel review provide an effective check on prosecutorial discretion?

Brickey's book is praised for its accessibility to students regardless of their technical or legal backgrounds.

Obituaries

Nassief, associate professor of neurology, 43

Abdullah M. Nassief, M.D., one of the region's premier experts on stroke, died Feb. 3, 2009, of coronary artery disease while playing soccer, one of his favorite pastimes. He was 43.

Nassief, associate professor of neurology, was co-director of the Cerebrovascular Disease Section in the Department of Neurology. He also was director of the Neurology Residency Program at the School of Medicine and of the Clinical Stroke Center and of Acute Rehabilitation Services at Barnes-Jewish Hospital.

Nassief spearheaded the team that led to Barnes-Jewish Hospital's naming as a Primary Stroke Center by the Joint Commission, the first subspecialty accreditation in any area of medicine obtained by the hospital. He played a central role in developing Washington University Medical Center as one of the premier stroke centers in the country.

Nassief

"Abdul was a compassionate, caring physician and a dedicated teacher," said David M. Holtzman, M.D., the Andrew B. and Gretchen P. Jones Professor and head of the Department of Neurology. "He was an inspirational role model to many medical students and residents pursuing careers in neurology. He had infectious energy and enthusiasm and took genuine interest in residents and students. He will be missed, both as a colleague and a friend."

Mark Goldberg, M.D., professor of neurology, helped to train Nassief when he came to the School of Medicine as a fellow. "But lately he trained me," he said. "He was a stroke expert for the whole region and was the person people turned to with difficult questions about stroke. His mission was to take care of stroke patients."

Goldberg said Nassief was dedicated to his family and was extremely friendly as well as intelligent.

"He had an encyclopedic knowledge for clinical things," Goldberg said.

"Abdul was a very special person," said Jin-Moo Lee, M.D., Ph.D., associate professor of neurology and director of the Cerebrovascular Disease Section in the Department of Neurology. "He had a presence and a sincere way of connecting with people. He touched many hearts — colleagues, co-workers and patients alike. He will be dearly missed."

Nassief earned a medical degree at King Saud University College of Medicine in Riyadh, Saudi Arabia, in 1989. He completed residencies at King Fahad Hospital in Riyadh and at the University of Vermont. He completed two years of fellowship training in cerebrovascular disease at Washington University School of Medicine before joining the faculty in 2000.

Nassief was an admired and recognized teacher who won several teaching awards, including the Sven Eliasson Award for Teaching Excellence in the Department of Neurology and the prestigious Washington University School of Medicine Distinguished Clinical Teacher of the Year Award in 2008.

He also received clinical teaching awards from students in 2000, '03, '04 and '05.

Nassief is survived by his wife, Sheri, and two young sons, Fahris, 8, and Sammy, 5.

A memorial service will be held in St. Louis at a later date.

— Beth Miller

Washington People

Substance behind theory

Van Dillen studies how movement contributes to pain

By Judy Martin

Linda Van Dillen did not always want to be a physical therapist. She thought she would major in biology at the University of Missouri-Columbia. But after talking to a college friend who was very excited about going into the field of physical therapy (PT), she investigated the degree and was hooked.

"I realized that a degree in PT would allow me to use my basic science education and allow me to work with people," says Van Dillen, Ph.D., associate professor of physical therapy and of orthopedic surgery. "Physical therapists were educated at the bachelor's degree then — now we're at the doctorate level. That's how long ago it was!"

The "long ago" was in 1975, just after she graduated from Rosati-Kain High School, a few blocks from her current office. The field wasn't necessarily new, but admission to PT programs was very competitive, as it is today.

"Physical therapy was very selective, and the classes were small — I came out of a class of 26," she says.

She interviewed at several places after graduation, thinking she'd practice anywhere but in St. Louis. But, she ended up at Washington University — about five miles from where she grew up with her parents, two brothers and three sisters — and has been here ever since.

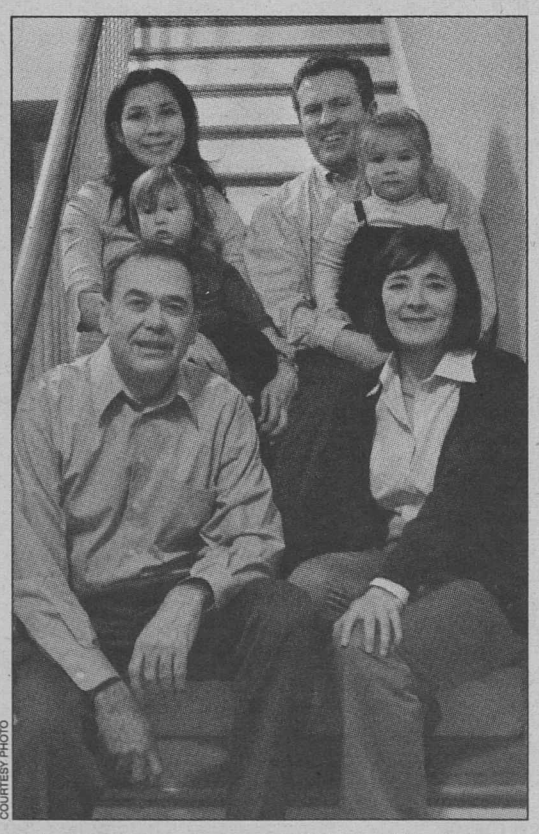
"I heard there was a job at Washington University," she says. "Not knowing who to contact to apply, I called the admissions office of the physical therapy educational program. I was fortunate because Dr. Steven J. Rose, then the director of the Program in Physical Therapy, was also the director of the physical therapy clinical services at the Irene Walter Johnson Institute of Rehabilitation (IWJ). Steve was a nationally renowned scientist and clinician in the field of PT.

"Fortunately, I didn't know that at the time, or I would have been really nervous," she laughs.

Rose, Ph.D., hired her without knowing exactly where she would work, but he knew she was a good fit.

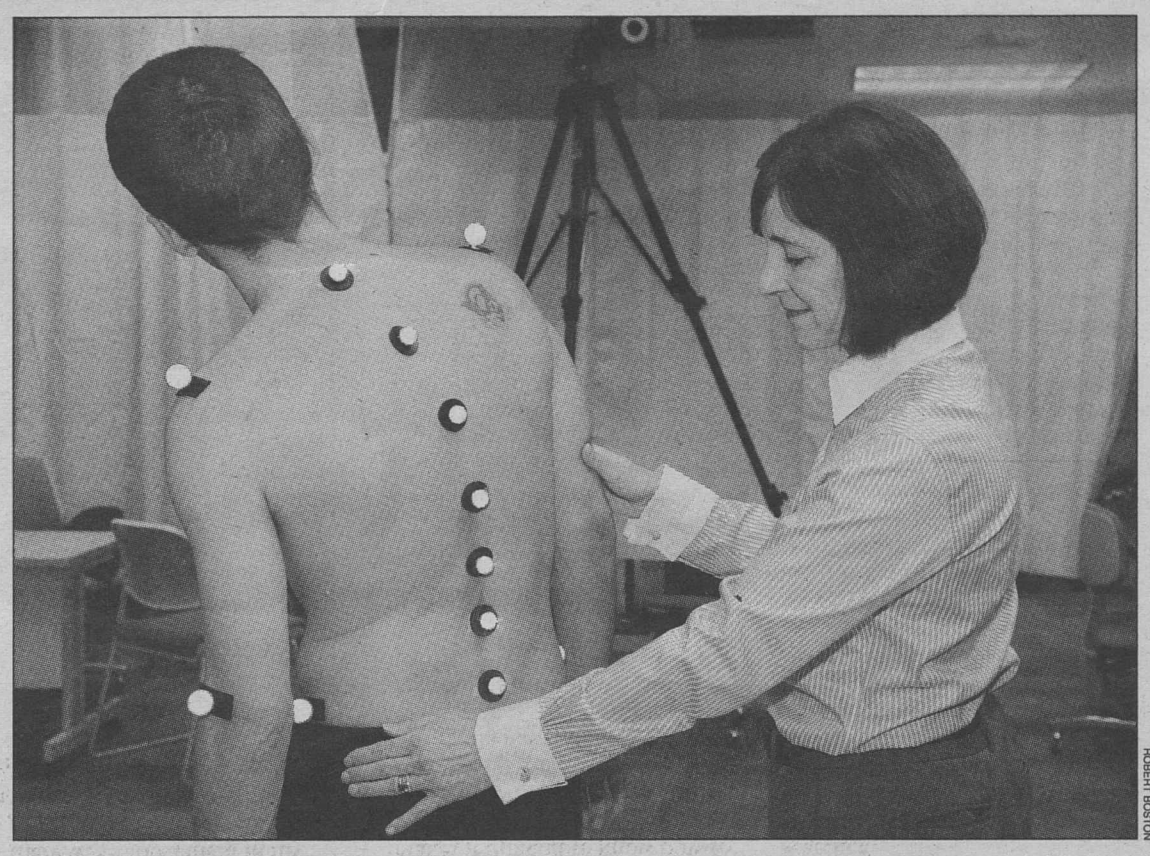
Van Dillen began as a staff physical therapist in the PT Neurology Service at IWJ. Within 18 months, she was moved to a senior physical therapy position and later was promoted to supervisor. Under her leadership, physical therapy clinicians built a comprehensive service for neurological rehabilitation that included acute care, inpatient and outpatient rehabilitation and home health care. The clinicians followed their patients across levels of care to see how they responded at different stages of their condition.

"Before this system, a therapist would see a patient in the hospital and would not know how the treatment affected the patient in the home after discharge," Van Dillen says. "With the clinicians following patients across levels of care, it became clear how to best direct acute service care to help the patient manage after discharge."



COURTESY PHOTO

(Clockwise from bottom left) Friend Mark Mieners, nephew Matthew Hurst, niece Kim Hurst, nephew Jeff Hurst, niece Katie Hurst and Linda Van Dillen.



ROBERT BOSTON

Linda Van Dillen, Ph.D. (right), examines Marco Boschi, a research fellow in the Program in Physical Therapy, as he performs a trunk lateral bend motion. The reflective markers on his body are used with a video-based, 3-D motion analysis system to capture and quantify movement patterns, which allows a more precise quantification of movement characteristics. "Linda is a wonderful citizen of our program and has brought us great distinction," says Susie Deusinger, Ph.D., executive director of the Program in Physical Therapy and professor of physical therapy and of neurology. "Her logical and organized approach makes her a wonderful researcher."

Evidence-based care

In the 1980s, Van Dillen became increasingly bothered by the lack of evidence-based treatment in the field. She returned to school to earn a master's degree in health science in physical therapy at WUSTL, which gave her hands-on experience with the research process. Van Dillen said her master's experience made it clear that if she wanted to conduct sound research, she needed more training.

"I decided that I needed to go back and really learn the scientific process well to effectively examine if anything we were providing to patients in PT really made a difference," she says. "Around this time, there was a movement in my profession to identify clinical as well as basic science evidence underlying PT, and my generation initiated bridging that gap.

"When Dr. Rose came to Washington University in 1979, he initiated a research agenda for PT and brought the education, clinical care and research together," she says. "This approach was unique, and the structure and philosophy of the Program in Physical Therapy now is a model for many other PT programs across the U.S."

Van Dillen pursued a doctorate in experimental psychology at WUSTL and studied under Richard Abrams, Ph.D., professor of psychology in Arts & Sciences, in his perceptual-motor laboratory. The work served as a model to conduct very structured experiments of movement behavior in humans and to get background in research design and analysis that could be applied to a different area of investigation.

After she earned a doctorate, Van Dillen began studying musculoskeletal pain problems at the suggestion of Shirley Sahrmann, Ph.D., professor of physical therapy, of cell biology and physiology and of neurology.

"Shirley pointed out that people in her clinic with musculoskeletal pain displayed very stereotypical movement patterns that appeared to contribute to their pain problem," Van Dillen says. "They were similar to my patients with neurological conditions who typically develop stereotypical movement patterns as a result of their nervous system condition. The thought was that people with musculoskeletal pain develop specific movement patterns as a result of activities that they perform repetitively."

Challenging research

The major focus of Van Dillen's funded work has been on the study of musculoskeletal pain, particularly spinal pain conditions.

"Spinal pain conditions are among the most common conditions referred to outpatient PT," she says. "Spinal pain conditions have a huge impact on the quality of life and have enormous economic and social consequences that impact the public health-care system," she says. "Low back pain is a general diagnosis, in many cases not consistently linked to a specific pathoanatomy, and that makes it difficult to know how to treat the condition."

Sahrmann says Van Dillen's research approach is unmatched.

"Linda has systematically put real substance behind theory in an area that is not easy to break into," Sahrmann says. "In addition to the typical challenges of grant funding, she has to fight the battles associated with breaking into new territories."

With grant funding, her team has studied trunk movement in people with low back pain who regularly participate in racquet sports, a repetitive activity.

The researchers proposed that trunk movements used repeatedly in the racquet sport would contribute to the development of stereotypical movement strategies that people use in other activities. The repetition of the same movement strategies during the day was proposed to contribute to the low back pain.

"Using a structured clinical examination and laboratory measures, we subgroup people with low back pain based on the specific movement pattern they consistently display and the associated symptoms," Van Dillen says. "We can then examine what factors contribute to why they move in a particular way. This gives us a basis for treatment, where we focus on modifying the contributing factors to alleviate the related low back pain symptoms and functional limitations."

Van Dillen is conducting a Phase I clinical trial that involves people with low back pain based on their movement and alignment patterns identified with a standard clinical examination. Participants are then randomly assigned to one of two treatments to determine which results in the best outcomes.

Van Dillen's published work has taken her around the world — she has attended conferences in Spain, the United Kingdom, Canada and Australia. She's set to go back to Australia this year to the University of Queensland for a consensus conference on treatment of the spine.

"Linda is a wonderful citizen of our program and has brought us great distinction," says Susie Deusinger, Ph.D., executive director of the Program in Physical Therapy and professor of physical therapy and of neurology. "Her logical and organized approach makes her a wonderful researcher."

In the meantime, Van Dillen stays busy with her friend Mark Mieners and enjoys entertaining in their Central West End condominium.

"We like to cook, so when people come into town to work with us in our laboratory, we will have a few people from the lab, and a few faculty members come over. It gives us a chance to get to know everyone away from the work setting," she says.

Linda Van Dillen

Education: B.S., 1979, University of Missouri-Columbia; M.H.S., 1985, and Ph.D., 1994, Washington University

Titles: Associate professor of physical therapy and of orthopedic surgery; director, Musculoskeletal Analysis Laboratory

Family: Friend Mark Mieners; mother, Rose Van Dillen; brothers James and Don Van Dillen; sisters Nancy Cavedine, Sue Hurst and Joyce Mueller; 20 nieces and nephews

Hobbies: Spending time with family, playing tennis, cycling, hiking and keeping up with the world by reading The Economist and BusinessWeek and biographies and autobiographies of political figures