



## Carnegie Mellon

- 3 CENTER RESEARCHES TECHNOLOGIES TO GO
- 4 CHINESE PLAY TO OPEN SEASON
- 5 STUDENT FILLS ONLINE ARABIC NICHE
- 6 THE BIG PICTURE
- 7 BREAKING THE BRAIN'S CODE

### Carnegie Mellon Earns Reaccreditation For 10 More Years

■ Catherine Davidson

Carnegie Mellon has been officially reaccredited by the Middle States Commission on Higher Education (MSCHE), with the next full review not required until 2017-18 — the longest interval under Middle States' rules.

This news, which came in late June, was not really a surprise to anyone. The university has been accredited since 1921, and has steadily supported the peer-review approach to evaluation.

But this year was different.

During 2006 and 2007, in response to concerns about how well higher education was preparing students for the global economy, the U.S. Department of Education (DOE) had proposed a "No

CONTINUED ON PAGE SIX

### "Pausch's People" Walk to Honor Professor



PHOTO BY GLENN BROOKES

IN HONOR OF THE LATE PROFESSOR RANDY PAUSCH, TEAM PAUSCH'S PEOPLE RAISED \$19,257 FOR THE PICK UP THE PACE FOR PANCREATIC CANCER EVENT ON SUNDAY, AUG. 17, AT NORTH PARK. THAT AMOUNT INCLUDES A \$10,000 DONATION FROM CROWN CASTLE, A CELL-TOWER COMPANY IN CHARLOTTE, N.C., WHERE "LAST LECTURE" CO-AUTHOR JEFFREY ZASLOW RECENTLY SPOKE. CO-ORGANIZERS VIVIAN LEE AND CLEAH SCHLUETER SAID MORE THAN 100 MEMBERS OF THE CARNEGIE MELLON COMMUNITY ATTENDED THE PANCREATIC CANCER ACTION NETWORK 5K WALK, WHICH RAISED MORE THAN \$71,000 IN ALL. A CAMPUS MEMORIAL FOR PAUSCH WILL BE HELD AT 4:30 P.M., MONDAY, SEPT. 22. FOR PAUSCH'S OBITUARY, PLEASE SEE PAGE NINE.

### Disney Commits To R&D Lab

■ Byron Spice

The Walt Disney Company and Carnegie Mellon have established a collaborative laboratory that will conduct research and development for all of Disney's business units, including its theme parks, movie studio, the ABC network, ESPN and Pixar Animation Studios.

Jessica Hodgins, professor of computer science and robotics, will direct Disney Research in Pittsburgh, which will employ seven to eight principal investigators in the Graphic Arts Building, 4615 Forbes Ave.

Disney officials said the university's leading-edge work in computer science and technology are what led to the collaboration.

CONTINUED ON PAGE TWO

### Class of 2012 is University's Largest Ever

■ Abby Houck



PHOTO BY HEIDI OPDYKE

MOREWOOD GARDENS E TOWER RESIDENTS (CLOCKWISE FROM TOP: CHASE BROWNELL OF HERSHEY, PA., VICTOR TAM OF CALIFORNIA, STEPHANIE CHEN OF NEW JERSEY) WORK ON A BANNER DURING ORIENTATION. BROWNELL AND CHEN ARE FIRST-YEAR STUDENTS. TAM WAS AN ORIENTATION COUNSELOR.

Carnegie Mellon's freshman class is already a record-setting one on two fronts. With 1,481 total first-year students, it's the largest incoming class in university history. And with 633 females, the Class of 2012 has the distinction of having the most women.

The previous record-holding class

was the Class of 2010, which had 1,428 overall students. The Class of 2007 had the most women, 544, until now, but the Class of 2005 had the previous highest percentage of women at about 41 percent. The Class of 2012 breaks both records with 43 percent being female.

CONTINUED ON PAGE FOUR





# the PIPER

9/08 Issue

**PUBLISHER**  
Teresa Thomas

**EDITOR**  
Bruce Gerson

**MANAGING EDITOR**  
Heidi Opdyke

**WRITERS**  
Catherine Davidson  
Jocelyn Duffy  
Abby Houck  
Kelli McElhinny  
Abby Ross  
Eric Sloss  
Byron Spice  
Chris Swaney  
Ken Walters  
Andrea L. Zrimsek

**DESIGNER**  
Melissa Stoebe  
Communications Design Group

**PHOTOGRAPHY**  
Ken Andreyo  
Communications Design Group

To contact The PIPER staff, call 412-268-2900 or email bg02@andrew.cmu.edu.

Carnegie Mellon University does not discriminate and Carnegie Mellon University is required not to discriminate in admission, employment, or administration of its programs or activities on the basis of race, color, national origin, sex or handicap in violation of Title VI of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973 or other federal, state, or local laws or executive orders.

In addition, Carnegie Mellon University does not discriminate in admission, employment or administration of its programs on the basis of religion, creed, ancestry, belief, age, veteran status, sexual orientation or gender identity. Carnegie Mellon does not discriminate in violation of federal, state, or local laws or executive orders. However, in the judgment of the Carnegie Mellon Human Relations Commission, the Presidential Executive Order directing the Department of Defense to follow a policy of, "Don't ask, don't tell, don't pursue," excludes openly gay, lesbian and bisexual students from receiving ROTC scholarships or serving in the military. Nevertheless, all ROTC classes at Carnegie Mellon University are available to all students.

Inquiries concerning application of these statements should be directed to the Provost, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-6684 or the Vice President for Student Affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2057.

Carnegie Mellon University publishes an annual campus security report describing the university's security, alcohol and drug, and sexual assault policies and containing statistics about the number and type of crimes committed on the campus during the preceding three years. You can obtain a copy by contacting the Carnegie Mellon Police Department at 412-268-2323. The security report is available through the World Wide Web at [www.cmu.edu/police/statistics.htm](http://www.cmu.edu/police/statistics.htm).

Obtain general information about Carnegie Mellon University by calling 412-268-2000.

Produced for Media Relations by the Communications Design Group, September 2008, 09-150.

## Q&A With Robert Murphy: Humboldt Winner Reflects on German Experience

■ Jocelyn Duffy

Robert Murphy, the Ray and Stephanie Lane Professor in Computational Biology and director of the Lane Center for Computational Biology, has received a prestigious Humboldt Research Award from the Alexander von Humboldt Foundation. The award provides senior researchers 60,000 Euros to complete a research project in Germany. Murphy has been working at the University of Freiburg in Germany since late May, expanding his work in subcellular location proteomics, and will return to Carnegie Mellon in October.

**The Humboldt is a prestigious award, but one that takes you away from Carnegie Mellon for months. What was your initial reaction to receiving the award?**

I was very excited. The University of Freiburg is an exciting place where they've made some great investments in research infrastructure, and the chance to work with the colleagues who sponsored me was exciting. Additionally, I was interested in spending a significant amount of time in Germany. I've visited Europe a number of times, but it's a completely different experience to live there. I learned German in high school, and this was a great opportunity to practice and improve my language skills.

**You're working with Klaus Palme, who nominated you for this award. Palme is a noted botanist, and most of your work is with animal cells. How have you been integrating your**



ROBERT MURPHY

**work with what is being done at the University of Freiburg?**

At the university they have just started a Systems Biology Institute and they were interested in applying some of our machine learning methods for analyzing subcellular protein patterns to a plant cell system. Doing this will allow me to extend the methods we have developed for animal cells to other cell types — and I don't mean we'll just be doing the same thing over again in a different cell type. Rather, we hope to be able to generalize across all cell types to get a notion of what it means to have a specific cellular pattern of proteins.

Plants are specifically interesting because they present an extreme case. Plant cells are organized quite differently than animal cells, yet they're all eukaryotic cells. They have some fundamental

principles in common, and learning about those similarities seemed like the natural direction to go.

**Is there anything you hope to learn over the course of this fellowship that you will bring back and apply to your research at Carnegie Mellon?**

The first thing would be to bring back an improved set of tools for analyzing cellular patterns enabling us to see how subcellular patterns correlate with cellular morphology. I'm excited about being able to leave these tools in Germany for my collaborators to use.

The University of Freiburg recently has invested in some cutting-edge microscopy equipment. One of my interests is in automated microscopy where you use the microscope to image exactly

CONTINUED FROM PAGE EIGHT

## Disney Commits to Campus Lab

CONTINUED FROM PAGE ONE

"Carnegie Mellon is No. 1 in the world, and that was obvious to Disney," Joe Marks told the Pittsburgh Post-Gazette. Marks, who is leading the launch of this project as well as overseeing a lab with ETH Zurich in Zurich, Switzerland, is vice president of research and development for Walt Disney Imagineering and Walt Disney Animation Studios.

"Extending our R&D efforts to these top-notch university partners will take our internal initiatives to a new level," Marks said.

The two new labs were announced Aug. 11 in Los Angeles by Ed Catmull, president of Disney and Pixar Animation Studios, during a keynote address at SIGGRAPH, the world's largest computer graphics conference.

"Creating the next generation of sophisticated technologies requires long-term vision and collaboration with world-class innovators," Catmull said.

Disney has made an initial five-year commitment to fund the director and the principal investigators of each lab. Hodgins said researchers will be encouraged to teach Carnegie Mellon classes and anticipates that most will have adjunct faculty appointments. Most of the lab's research projects will be collaborations with Carnegie Mellon faculty and students, she added.

One of the Pittsburgh lab's first projects will be developing methods for people to interact with autonomous characters, either virtual or robotic.

"We'll be looking for ways to sense what a person is doing or thinking so that the character can respond appropriately," Hodgins said. "Whether the character is a robot or a virtual creation, the interaction issues are similar. We need to figure out what sensors to build and how to interpret and respond to human behavior.

"The access Disney provides to real-world problems and data will enable us to do research with greater impact than is typically possible within a purely academic environment," she said.

## Autonomous Driving Steers Partnership



PHOTO BY GLENN BROOKES

GM AND CARNEGIE MELLON ANNOUNCED A PARTNERSHIP IN JUNE FOR A NEW LAB DEVOTED TO AUTONOMOUS DRIVING. PICTURED ARE: NADY BOULES, DIRECTOR OF THE ELECTRICAL & CONTROLS INTEGRATION LAB AT GM R&D AND CO-DIRECTOR OF THE NEW LAB; MARK KAMLET, CARNEGIE MELLON PROVOST AND SENIOR VICE PRESIDENT; ALAN TAUB, EXECUTIVE DIRECTOR OF GM RESEARCH & DEVELOPMENT IN WARREN, MICH.; AND RAJ RAJKUMAR, CARNEGIE MELLON PROFESSOR OF ELECTRICAL AND COMPUTER ENGINEERING AND CO-DIRECTOR OF THE NEW LAB.

GM HAS COMMITTED \$5 MILLION OVER FIVE YEARS TO ESTABLISH THE GM-CARNEGIE MELLON AUTONOMOUS DRIVING COLLABORATIVE RESEARCH LAB (CRL), WHICH WILL INVOLVE FACULTY FROM THE SCHOOL OF COMPUTER SCIENCE AND THE COLLEGE OF ENGINEERING. IT WILL OPERATE IN ADDITION TO THE EXISTING GM-CARNEGIE MELLON COLLABORATIVE LAB DEVOTED TO SMART CAR TECHNOLOGY. BOTH LABS ARE CO-DIRECTED BY RAJKUMAR AND BOULES.



# Framework Nearly Complete:

**SEPT. 29 "TOPPING OFF" CEREMONY TO COMMEMORATE FINAL BEAM**



STEEL RISES ABOVE THE UNDERGROUND PARKING STRUCTURE, WHICH WILL HAVE ROOM FOR 150 VEHICLES WHEN COMPLETED.



PHOTOS BY HEIDI OPDYKE

CONSTRUCTION WORKERS GUIDE A STEEL BEAM INTO PLACE NEAR THE TOP OF THE GATES CENTER FOR COMPUTER SCIENCE. THE FINAL BEAM WILL BE INSTALLED DURING A "TOPPING OFF CEREMONY" FROM 3 TO 5 P.M. ON MONDAY, SEPT. 29. MEMBERS OF THE CAMPUS COMMUNITY WILL BE ABLE TO SIGN THE LAST BEAM THE WEEK BEFORE. STAY TUNED FOR MORE DETAILS.

## New Center Researches Technologies To Go

■ Chriss Swaney

This century has erupted with countless inventions and innovations, many of which have had a huge impact. In some instances, that impact has been obvious. In others, it is subtle but no less profound — the binary weaves of ones and zeroes that, largely unseen by humans, keeps computers and telecommunications humming.

But innovation can be an uneven process in which the benefits accrue slowly. To keep pace with innovation, Carnegie Mellon CyLab recently launched a new research center to study business, organizational and technical issues related to mobility in managing systems found in cell phones, home appliances and building infrastructures.

The Mobility Research Center, which involves students and faculty from the Pittsburgh and Silicon Valley campuses, will develop underlying technologies that will ensure the privacy, security and reliability of sensitive and valuable information.

To complement this new research center, the university's Information Networking Institute (INI) has launched a new master's degree program in mobility that will educate and train students in this important, emerging field.

Because handheld devices are so ubiquitous, the demand for the growth and adoption of new technologies to manage data and streamline connec-

tions to share photos and video has exploded into a \$70 billion industry.

The Mobility Research Center will conduct research to improve hardware and software technology for mobile devices, including studies of how people work, play, shop and collaborate, and how new applications and services can change their lives, according to University Professor Pradeep K. Khosla, the founding director of Carnegie Mellon CyLab and dean of Carnegie Mellon's College of Engineering.

**"WE ARE MOVING FROM THE PLAIN OLD MOBILE PHONE TO THE TRULY MOBILE COMPANION," MARTIN GRISS, CO-DIRECTOR OF THE NEW CENTER AND ASSOCIATE DEAN FOR RESEARCH**

"Several hand-held manufacturers, including Motorola and Nokia, are on board to work with us, and we will continue to work with industry to improve mobile applications," Khosla said. "The new center is part of our strategy to integrate our campus in Silicon Valley with Pittsburgh."

In addition to Carnegie Mellon CyLab, the campus in Silicon Valley and the Department of Electrical and Computer Engineering, the new Mobile Research Center will collaborate with the university's Human-Computer Interaction Institute and the School of Computer Science.

"This anywhere-anytime computing capability has prompted a need for increased emphasis on how all this novel mobile technology will benefit consumers," said Martin Griss, a co-director of the new center and associate dean for research at the Silicon Valley campus. "We are moving from the plain old mobile phone to the truly mobile companion," Griss said.

Griss said the center would link existing research, education and entrepreneurship in California to ongoing

research in Pittsburgh.

ings to anticipate when the consumer needs certain information. Narasimhan has developed a hub for student research projects that develop mobile technologies to assist the disabled by turning the cell phone into a virtual coach. Her research team developed software that allows blind users to independently identify currency, shop for groceries and receive scheduled bus routes from the Internet on smart phones that read the information aloud to the users. Her team also created systems to translate sign language into the spoken word.

"There's really no limit to what can be accomplished," Narasimhan said. "This new center will engage both industry and academia in improving next generation mobile technology."

Students involved with the new research center will be able to earn a doctorate in electrical and computer engineering and participate in a variety of industry practicums.

The Silicon Valley campus, established in 2002 at Moffett Field, offers full-time and part-time master's degree programs in software engineering, software management, networking, security and mobility, and engineering and technology innovation management.

This fall, the Silicon Valley campus will launch an associated Ph.D. degree program focused on mobility, security and networking.



# Chinese Play To Open Season

■ Eric Sloss

Much as the world witnessed the cultural magnificence of China during the 2008 summer Olympics, the School of Drama continues to reveal China's ethos with its first-ever staging of the Chinese play "The Other Shore."

Written by Nobel Prize winner Gao Xinjiang, "The Other Shore" provides a glimpse into the political heartbeat of 1980s China. The avant-garde production was banned after just one month of rehearsals for its theme of individualism, a philosophy with dramatic political implications in Communist China. Opening Oct. 3, "The Other Shore" addresses the individual's journey of salvation, challenging its characters to cross the "river of life" and reach nirvana.

"Audiences should expect to watch the School of Drama push the boundaries and explore new areas of theatrical art this season," said Michael Chemers, assistant professor of dramatic literature.

The 2008-2009 season of plays speak to the different ways men and women process experience throughout history and across the world. Much like Gao's "The Other Shore," each play reveals an individual journey. The

season continues Nov. 14 with mainstage productions of "Into the Woods," a musical by Stephen Sondheim and James Lapine; "The London Cuckolds," by Edward Ravenscroft, adapted by Terry Johnson opening Feb. 20; and "A Bite of Brecht," a collection of musical cabaret and spoken highlights from Bertolt Brecht's repertoire, which opens April 16.

Starting this season, students in the Production Dramaturgy Program will hold regular post-performance talkbacks with the audience, casts and crews following the Tuesday evening performances. Led by Chemers, the talkbacks will provide viewers an inside view of the play's literary themes and production process.

The School of Drama also will offer the following plays directed by students at no ticket cost: "Heart of a Dog" by Mikhail Bulgakov; "Eurydice" by Sarah Ruhl; "Mill on the Floss" by Helen Edmundson; "The Illusion" by Tony Kushner, an adaptation of Pierre Corneille; "Someone Who'll Watch Over Me" by Frank McGuinness; "The Father" by August Strindberg; and "One Flea Spare" by Naomi Wallace. More information about the School of Drama season can be found at [www.cmu.edu/cfa/drama/](http://www.cmu.edu/cfa/drama/).

CarnegieMellon

season 2008/09  
drama



PHOTO BY JOSHUA FRANZOS

## Robotic Art Fascinates City



PHOTO BY GLENN BROOKES

CARNEGIE MELLON GRADUATE STUDENT ALLY REEVES EXPLAINS HER CREATION, "THE LOOK-SEE TREE," DURING THE KICKOFF EVENT ON CAMPUS FOR ROBOT 250, A CITY-WIDE COMMUNITY ART AND TECHNOLOGY PROGRAM HELD IN CONJUNCTION WITH PITTSBURGH'S 250TH ANNIVERSARY. ROBOT 250 FEATURED 11 "BIGBOTS," INCLUDING REEVES' ARTWORK, AT VARIOUS LOCATIONS IN PITTSBURGH.

## Class of 2012 Represents 46 States

CONTINUED FROM PAGE ONE

The demographic makeup of the Class of 2012 demonstrates Carnegie Mellon's commitment to providing educational opportunities in a diverse environment. Mike Steidel, director of the Office of Undergraduate Admission, said a diverse student body ensures "a richer and more rewarding undergraduate experience."

First-year students hail from every state, including the District of Columbia, with the exception of Alabama, Kansas, Montana, North Dakota, South Dakota and Utah. Seventeen percent call Pennsylvania home.

International students make up 14 percent of the freshman class. They represent 27 countries, including Brazil, Bulgaria, Canada, China, Cameroon, Colombia, Ecuador, Greece, Hong Kong, India, Indonesia, Italy, Japan, Korea, Malaysia, Nigeria, Qatar, Philippines, Saudi Arabia, R.O.C. Taiwan, R.O.S. Singapore, Trinidad and Tobago, Thailand, Turkey, Uganda, United Arab Emirates, United Kingdom and Ukraine.

Enrollment data also indicate approximately 5 percent of first-year students are African American, 6 percent are Hispanic American and 22 percent are Asian American.

According to Steidel, incoming first-year students ranked in the top 12 percent of their high school classes with a 3.65 grade point average on a four-point scale. Their average SAT scores were 670 in critical reading, 720 in math and 670 in writing.

## Upcoming Events

### Lectures

#### School of Computer Science Distinguished Lecture Series

**SCS Doctoral Dissertation Award Lecture**  
Adam Wierman, assistant professor of Computer Science, California Institute of Technology; and Jacob Wobbrock, assistant professor, The Information School, University of Washington  
3:30 p.m., Sept. 11  
7500 Wean Hall

#### University Lecture Series

Sarah Igo, professor of History, University of Pennsylvania  
"The Averaged American: Citizens and Statistics in the 20th Century"  
4:30 p.m., Thursday, Sept. 11  
Adamson Wing, 136A Baker Hall

Kathleen Hall Jamieson, professor, Annenberg School of Communications, University of Pennsylvania, will analyze the convention acceptance addresses and advertising aired since the conventions.  
4:30 p.m., Thursday, Sept. 18  
Adamson Wing, 136A Baker Hall

Harriet Fulbright, president of the J. William & Harriet Fulbright Center  
"Toward a More Peaceful World"  
4:30 p.m., Thursday, Sept. 25  
Adamson Wing, 136A Baker Hall

### Music

**Carnegie Mellon Philharmonic Concert**  
8 p.m., Wednesday, Sept. 17  
Carnegie Music Hall, 4400 Forbes Ave.  
\$5, Carnegie Mellon students free with ID

### Contemporary Ensemble Concert

5 p.m., Saturday, Sept. 27  
Kresge Theatre, College of Fine Arts

### Exhibits

#### "Your Town, Inc." Reuse of Abandoned Retail Stores

An exhibition showcases photographs and installations by Julia Christensen. The gallery will host a hometown barbecue reception from 6 to 8 p.m., Friday, Sept. 19. Christensen will discuss her exhibition and her new book, "Big Box Reuse," from 4:30 to 6 p.m., Thursday, Nov. 13 as part of the Carnegie Mellon Lecture Series.  
Aug 29–Nov. 23  
The Miller Gallery  
For further information: [www.cmu.edu/millergallery](http://www.cmu.edu/millergallery)

### Special Events

#### 2008 Andy Awards Ceremony

Carnegie Mellon will present its annual Andy Awards to individual staff members and/or teams whose outstanding dedication and performance have had a significant impact on the university.  
Noon, Friday, Sept. 12  
McConomy Auditorium, University Center (UC)  
Reception follows in Rangos Hall, 2nd floor UC

#### Homecoming

Festivities include class reunions, college receptions, intriguing presentations, performances and campus tours, the Alumni Awards dinner and the pageantry of college football.  
Thursday–Sunday, Oct. 23–26  
Further information: <http://alumni.cmu.edu/homecoming/index.html>

CONTINUED ON PAGE SEVEN





SOME OF THE 2008 GRADUATES FROM THE SILICON VALLEY CAMPUS SHOW OFF THEIR CLASS GIFT AFTER THEIR DIPLOMA CEREMONY ON AUG. 9.

## Fence Stretches to West Coast

■ Bruce Gerson

Carnegie Mellon's historic Fence just got a little longer. The "campus billboard" painted for decades by thousands of student groups after midnight on the Cut now has a 10-foot extension on the Silicon Valley campus.

The Silicon Valley Fence in the back patio of the campus is a class gift from the 45 graduates who received their master's degrees during a diploma ceremony Aug. 9. The students, all working professionals, earned their degrees in software engineering and management. Students Minh Nguyen, Belinda Leung, Dossym Nurmukhanov and Anantakrishnan Iyer organized the class gift of \$1,500 for the

Fence installation. The class also gave \$1,000 to the Randy Pausch Honorary Fund.

"We wanted the gift to be something that would, in a sense, connect the Silicon Valley campus with the Pittsburgh campus," said Nguyen, a software design engineer for Microsoft.

Several student awards were presented at the diploma ceremony. Nguyen received the Class of 2008's Outstanding Service Award. Recipients of the Return on Education awards were Alexander Quilter, a senior product manager for security and compliance software with Hewlett-Packard, and Chandra Yeleshwarapu, director of product strategy and management and supply chain management for Oracle.

## Contest Seeks Internet Innovations

■ Abby Houck

Interested in becoming the next Johnny Chung Lee? Or winning \$20,000?

While a graduate student at Carnegie Mellon's Human-Computer Interaction Institute, Lee (CS '08) became an Internet sensation after uploading his Wiimote demonstration videos to YouTube. He recently was named one of the 35 most exciting innovators younger than 35 by Technology Review and spoke at the invitation-only Technology Entertainment Design conference in Monterey, Calif.

This fall, the Greater Oakland Keystone Innovation Zone (GO KIZ) is sponsoring Pittsburgh Innovates, a contest designed to leverage Web-based media to showcase innovation, technology and its connections to Pittsburgh. The contest runs through Oct. 26.

"My organization saw the viral nature of the Johnny Chung Lee videos and the recent Heinz Ketchup advertisement competition," said Kathryn Connor, GO KIZ coordinator. "We thought that a similar competition would be a fun way to harness technology to let others know about what is going on in terms of innovation in the region."

Individuals and teams may submit entries for the Pittsburgh Innovates contest through a variety of mediums, including blogs, videos, podcasts, simulations, static images, flash games and social networking applications.

A panel of local and national technology professionals, gaming experts and venture capitalists will select the winner of a \$20,000 Judges Award.

The public is encouraged to log on to the contest's Web site now through Oct. 26 to rank entries for the \$10,000 Community Choice Award. Individuals may rank entries once each day throughout the contest. Submissions will be showcased at a variety of Pittsburgh-area events throughout the fall, and winners will be announced in November.

Pittsburgh Innovates winners may spend prize money as they please, although Connor said her organization hopes winners will use the awards to fuel more local innovation and entrepreneurship.

More information about GO KIZ is available at [www.gokiz.org](http://www.gokiz.org). More information on the contest is available at [www.pittsburghinnovates.com](http://www.pittsburghinnovates.com).

## Tepper Student Fills Online Niche for Arabic Books

■ Andy Zrimsek

Growing up in Scotland, Carnegie Mellon graduate Jinanne Tabra struggled to learn the Arabic language. Like most Arab children in non-Arab countries, she had limited access to Arabic books, games, toys and other learning materials. The daughter of an Iraqi father and Scottish mother, Tabra went to an English-speaking school during the week and spoke Arabic in her home. On weekends her parents sent her to an Arabic school run by their small Arabic community.

"I complained every weekend. It wasn't fun at all," Tabra said. "The books we had were given to us from an Arabic country's government's curriculum so they weren't that interesting. They didn't make learning the language fun."

After moving to Qatar and being immersed in an Arab environment, Tabra's Arabic fluency increased. However, it never left her mind that there were millions of Arabs around the world still struggling to learn the language.

Tabra had what she called a "light bulb moment" when her mother, Dawn, a library technician at The Learning Center, told her that parents in Doha were always complaining that there were not enough quality Arabic books here. "I thought, if there aren't enough books here in Qatar, then there are definitely not enough in the U.S. and other countries," she said.

And so ARABOH.com was born.



JINANNE TABRA WANTS TO MAKE FUN BOOKS AVAILABLE TO CHILDREN LEARNING ARABIC. HER WEB SITE, ARABOH.COM, IS AN ONLINE COMMUNITY THAT CARRIES LITERATURE FROM SHAKESPEARE TO BABY BOOKS.

Founded to promote the education of the Arabic language, particularly among Arabs living outside the Arab world, the online community has educational books with an Arabic theme.

"I saw the need and decided to do something to fill it," Tabra said. "I knew exactly what I wanted to do."

But it was not that easy. Tabra contacted many publishing houses across the world and began handpicking more than 700 titles to carry. Books are categorized by age range and can help anyone from a preschooler to a senior citizen learn the language. Some books are solely in Arabic, while others are in English and Arabic, French and Arabic, or all three. Books can be shipped anywhere.

"We have everything from baby books to novels," she said. "We even have Shakespeare in Arabic." She read each book and wrote summaries in English and Arabic.

The site also includes book jackets and excerpts.

Tabra decided to set up in Sharjah, U.A.E., because of a free zone there where she can import and export her products without paying a duty. Qatar is setting up a similar zone but it's not yet up and running. She donates a portion of her profits to charities that aid children in the Arab world.

Tabra launched ARABOH, which is slang for Arabs, in December 2007 while still in her senior year at Carnegie

Mellon Qatar. She worked with Communications Professor Patrick McGinnis on developing her logo, vision and mission. George White, professor of entrepreneurship, assisted her in starting the venture.

"We're so proud of our newly minted Tepper grad with her first foray into e-commerce," McGinnis said. "We know that her Carnegie Mellon education will serve her well as she turns this important service into a successful business."

Tabra is in the process of developing a marketing strategy to reach Arab communities around the globe. She plans on contacting organizations, schools and other groups that she can leverage to reach her audience. The young entrepreneur credits her years as a business administration student at Carnegie Mellon Qatar with providing her the skills necessary to bring her idea to fruition.

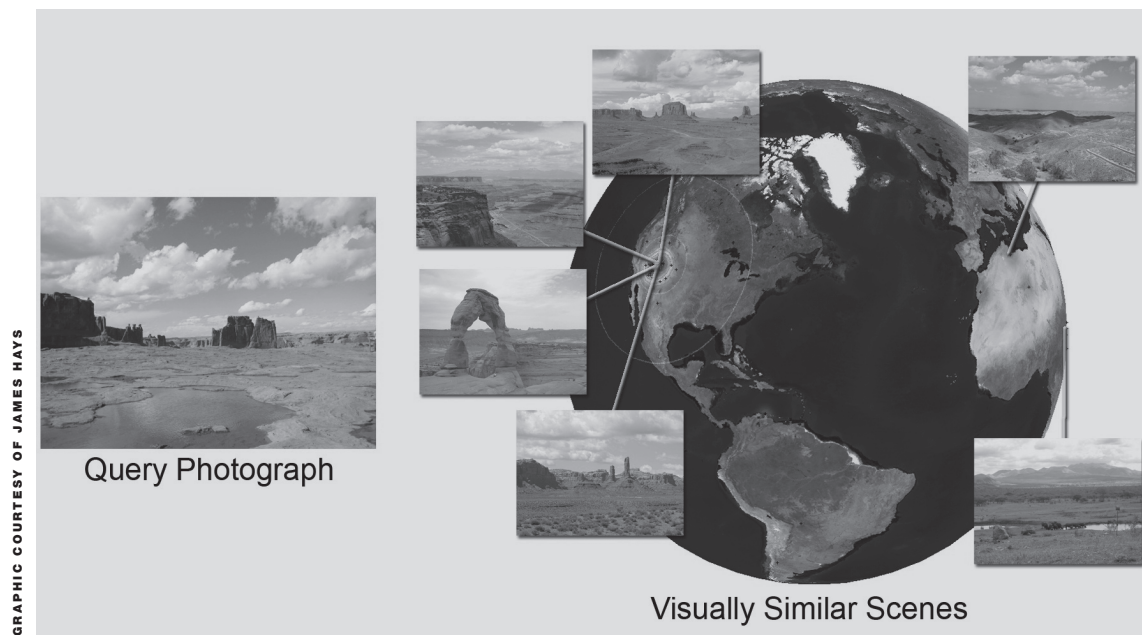
"The resources available here at Carnegie Mellon were crucial in getting ARABOH.com up and running," she said. "I wouldn't have been able to do any of this four years ago. My education at Carnegie Mellon has equipped me to start my own business and fill a need I know is out there."

Tabra sums up her first business venture as a movement to keep Arabic heritage alive globally: "ARABOH.com is about teaching our children to embrace their Arab pride. It's about giving the gift of the Arabic language to your family, to your friends and to the world."



# The Big Picture:

## RESEARCHERS PINPOINT WHERE IN THE WORLD PHOTOGRAPHS WERE TAKEN



A COMPUTER ALGORITHM ANALYZES A PHOTOGRAPH'S COMPOSITION AND THEN SEARCHES FLICKR FOR SIMILAR SCENES. SUCH A SYSTEM COULD HELP SORT PERSONAL IMAGES OR BE USED IN FORENSIC RESEARCH.

### ■ Byron Spice

Using a computer to figure out where in the world a photograph was taken is something that fictional FBI agents accomplished in an episode of CBS-TV's "NUMB3RS," but that, until recently, had stumped real-life computer scientists.

Carnegie Mellon researchers have demonstrated that they can accomplish this feat by using a computer algorithm called IM2GPS and taking advantage of the millions of GPS-tagged images in the Flickr online photo collection. The algorithm, developed by James Hays, a computer science graduate student, and Alexei A. Efros, assistant

professor of computer science and robotics, doesn't attempt to scan a photo for location clues, such as types of clothing, the language on street signs, or specific types of vegetation, as a person might do. Rather, it analyzes the composition of the photo, notes how textures and colors are distributed and records the number and orientation of lines in the photo. It then searches Flickr, an online photo-sharing Web site, for photos that are similar in appearance.

"We're not asking the computer to tell us what is depicted in the photo but to find other photos that look like it," Efros said. "It was surprising to us

how effective this approach proved to be. Who would have guessed that similarity in overall image appearance would correlate to geographic proximity so well?"

Hays and Efros found they could accurately geolocate the images within 200 kilometers for 16 percent of more than 200 photos in their test set — up to 30 times better than chance.

And even if their algorithm failed to identify the specific

location, they often found that it could narrow the possibilities, such as by identifying the locale as a beach or a desert.

"It seems there's not as much ambiguity in the visual world as you might guess," said Hays, who presented the research in June at the IEEE Computer Society Conference on Computer Vision and Pattern Recognition in Anchorage, Alaska, as well as in a Google Tech Talk in Mountain View, Calif., in August.

"Estimating geographic information from images is a difficult, but very much a doable, computer vision problem."

Identifying the locale of a photo could enhance image search techniques,

making them less dependent on captions or associated text. In addition to forensic applications as depicted in "NUMB3RS," such a system might be used to sort through vacation photos and other personal photos. Determining the location of photos also makes it possible to combine them with geographic databases related to climate, population density, vegetation, topography and land use.

In the tests thus far, the IM2GPS algorithm has located photographs of such landmarks as the Cathedral of Notre Dame in Paris. More surprisingly, it was able to recognize that a narrow street in Barcelona was typical of Mediterranean villages, rather than an American alleyway.

But odd matches also occurred. The architecturally unique Sydney Opera House seemed to the computer to be similar to a hotel in Mississippi as well as a bridge in London. A shot of the Eiffel Tower at dusk was matched to other Eiffel Tower shots, but also to San Francisco's Coit Tower and New York's Statue of Liberty, both shot at dusk.

One reason for this confusion, Hays explained, is that the algorithm is not designed to recognize specific objects so much as it is to recognize geographic areas.

An image of Utah's Monument Valley, for instance, prompted the IM2GPS algorithm to successfully retrieve a number of other images from Monument Valley and the American Southwest, rather than images of a specific rock formation.

## NASDAQ Openers



STUDENTS FROM THE TEPPER SCHOOL OF BUSINESS RANG THE NASDAQ STOCK MARKET OPENING BELL ON FRIDAY, AUG. 15 IN NEW YORK CITY. THE EVENT WAS ONE OF THE COVETED PRIZES FROM THE TEAM'S WIN AT THIS YEAR'S GLOBAL MOOT CORP® COMPETITION. THE STUDENTS' WINNING VENTURE — A MEDICAL TECHNOLOGY COMPANY CALLED NEUROBANK — BEAT OUT 37 OTHER TEAMS FOR THIS YEAR'S TOP HONOR. THE NEUROBANK TEAM IS COMPRISED OF MBA CANDIDATE DR. RAYMOND SEKULA AND SASHA BAKHRU, A PH.D. CANDIDATE AT CARNEGIE MELLON'S COLLEGE OF ENGINEERING. THE TEAM'S ADVISORS ARE ARTHUR A. BONI, THE JOHN R. THORNE CHAIR OF ENTREPRENEURSHIP; S. THOMAS EMERSON, THE DAVID T. AND LINDSAY J. MORGENTHALER PROFESSOR OF ENTREPRENEURSHIP; AND THOMAS J. HAJDUK, ASSOCIATE TEACHING PROFESSOR OF BUSINESS MANAGEMENT COMMUNICATION AND ENTREPRENEURSHIP.

## University Earns Reaccreditation

CONTINUED FROM PAGE ONE  
Child Left Behind"-style of achievement test for higher education. The DOE has pressured agencies, such as Middle States, to take a tougher approach, especially on the issue of how institutions assess student learning outcomes. Even well-established universities, such as Texas Tech, have received provisional accreditation under these new standards.

"We were prepared for a much higher level of scrutiny this year," said Gloriana St. Clair, dean of university libraries and co-chair of the Middle States Self-Study steering committee. "And because Carnegie Mellon was one of the first research universities to be reviewed under new standards, we began this process with no precedent to follow. We were setting the pace this time."

### The Self Study

Working with Linda Suskie, a vice president of the Middle States Commission, the steering committee chose to focus on five of the 14 standards, an option usually chosen by long-accredited institutions. (The remaining nine standards were evaluated by review of documents only.) Three

of these standards dealt with institutional processes for planning, resource allocation and assessment; the other two focused on general education and on assessment of learning outcomes.

### Next Review: 2018

The committee praised Carnegie Mellon's performance on the planning, institutional assessment and resource allocation standards, especially the use of the Presidential Advisory Board process. They made no recommendations or suggestions on these standards.

The visiting team was impressed and pleased with the open, thorough and well-organized self-study process and report, and the university received a rare special commendation for the quality of this work. That commendation and the 10-year interval before the next review process in 2017-18, are strong signals that this process was a big win for Carnegie Mellon.

"Accreditation is like a pass-fail course," said Russ O'Lare, director of University Planning and co-chair of the steering committee "There is no way for Middle States to say if we got an 'A+' or a 'C-', but we have indications that Carnegie Mellon did very, very well."

# Breaking the Brain's Code: Model Predicts Patterns

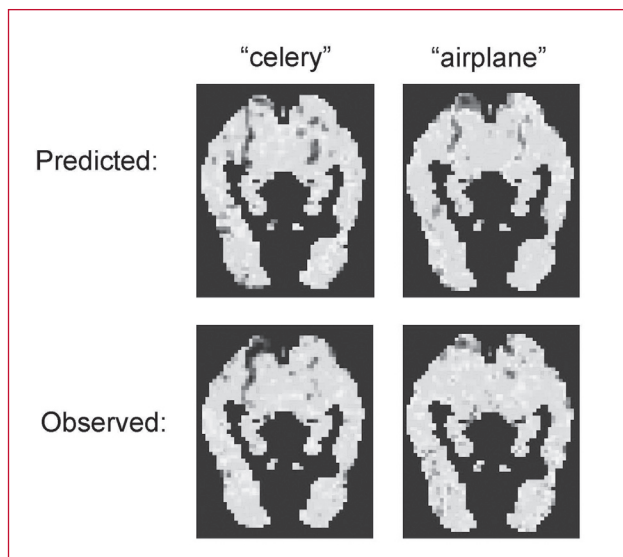
■ Kelli McElhinney

A machine that can identify what a person is thinking is still science fiction, but the idea seems just a bit less fanciful now that Carnegie Mellon researchers are beginning to unravel how the brain codes the meanings of words.

A team led by computer scientist Tom M. Mitchell and cognitive neuroscientist Marcel Just have created the first computational model that can predict the unique brain activation patterns associated with names for things that you can see, hear, feel, taste and smell.

Researchers previously have shown that they can use functional magnetic resonance imaging (fMRI) to detect which areas of the brain are activated when a person thinks about a specific word. This new research has taken the next step by predicting these activation patterns for concrete nouns — things that are experienced through the senses — for which fMRI data does not yet exist.

The Carnegie Mellon researchers constructed the computational model by using fMRI activation patterns for 60 concrete nouns and by statistically analyzing a set of texts totaling more than a trillion words, called a text corpus. The computer model combines this information about how words are used in text to predict the activation patterns for thousands of concrete nouns contained in the text corpus with accuracies significantly greater than chance.



CARNEGIE MELLON RESEARCHERS PREDICTED THE FUNCTIONAL MAGNETIC RESONANCE IMAGING (fMRI) ACTIVATION PATTERN FOR CONCRETE NOUNS SUCH AS “CELERY” BY STATISTICALLY ANALYZING EACH NOUN’S CO-OCCURRENCE WITH 25 VERBS SUCH AS “EAT,” “TASTE” AND “FILL” IN A TEXT DATABASE. THE PREDICTED BRAIN ACTIVITY IS CREATED BY COMBINING THE fMRI SIGNATURES FOR EACH OF THESE VERBS WEIGHTED ACCORDING TO THE FREQUENCY OF THEIR CO-OCCURRENCES WITH THE NOUN. PREDICTED fMRI IMAGES FOR “CELERY” AND “AIRPLANE” SHOW SIGNIFICANT SIMILARITIES WITH THE OBSERVED IMAGES FOR EACH WORD.

The findings were published in the May 30 issue of the journal *Science*.

“We believe we have identified a number of the basic building blocks that the brain uses to represent meaning,” said Mitchell, who heads the School of Computer Science’s Machine Learning Department. “Coupled with computational methods that capture the meaning of a word by how it is used in text files, these building blocks can be assembled to predict neural activation patterns for any concrete noun. And we have found that these predictions are quite accurate for words where fMRI data is available to test them.”

Just, a professor of psychology who directs the Center for Cognitive Brain Imaging, said the computational model provides insight into the nature of human

thought. “We are fundamentally perceivers and actors,” he said. “So the brain represents the meaning of a concrete noun in areas of the brain associated with how people sense it or manipulate it. The meaning of an apple, for instance, is represented in brain areas responsible for tasting, for smelling, for chewing. From the brain’s perspective, an apple is what you do with it. Our work is a small but important step in breaking the brain’s code.”

In addition to representations in these sensory-motor areas of the brain, the Carnegie Mellon researchers found significant activation in other areas, including frontal areas associated with planning functions and long-term memory. When someone thinks of an apple, for instance, this might trigger memories of the last time the person ate an apple, or initiate thoughts about how to obtain an apple.

“This suggests a theory of meaning based on brain function,” Just added.

In the study, nine subjects underwent fMRI scans while concentrating on 60 stimulus nouns — five words in each of 12 semantic categories including animals, body parts, buildings, clothing, insects, vehicles and vegetables.

To construct their computational model, the researchers used machine-learning techniques to analyze the nouns in a trillion-word text corpus that reflects typical English word usage. For each noun, they calculated how frequently it co-occurs in the text with each of 25 verbs associated with sensory-motor functions, including see, hear, listen, taste, smell, eat, push, drive and lift.

“The perceptions and actions referred to by these 25 verbs appear to be among the basic building blocks the brain uses for representing the meaning of concrete nouns,” Mitchell said.

By using this statistical information to analyze the fMRI activation patterns gathered for each of the 60 stimulus nouns, they were able to determine how each co-occurrence with one of the 25 verbs affected the activation of each voxel, or 3-D volume element, within the fMRI brain scans.

gains were not only maintained but became more solidified.

The poor readers worked in groups of three for an hour a day with a reading “personal trainer,” a teacher specialized in administering a remedial reading program. The training included both word decoding exercises, in which students were asked to recognize the word in its written form, and tasks in using reading comprehension strategies. The poor readers were 25 fifth-graders taken from a stratified sample from schools in Allegheny County.

This was the first brain imaging study in which children were tested on their understanding of the meanings of sentences, not just on their recognition of single words.

“This study demonstrates how the plasticity of the human brain can work for the benefit of remedial learning,” said neuroscientist Marcel Just, director of Carnegie Mellon’s Center for Cognitive Brain Imaging (CCBI), and senior author of the study. “We are at the beginning of a new era of neuro-education.”

## Upcoming Events

CONTINUED FROM PAGE FOUR

### Celebrate our Future: Carnegie Mellon Capital Campaign Kick-Off Event

Come experience the innovation and creativity that has made this university one of the great success stories of higher education today. All faculty, staff and students are invited to attend this free-of-charge celebration and can register via the homecoming Web site at <http://alumni.cmu.edu/homecoming/>. The special evening will include refreshments, exhibits and entertainment by Carnegie Mellon-affiliated performers, such as the River City Brass Band, Cellofourte, Idiot Boyfriend, the Billy Price Band and the winning band from September’s “Battle of the Bands.” The event will conclude with a blast. 8 p.m., Friday, Oct. 24  
College of Fine Arts Lawn

### Sports

#### Soccer

Men vs. Juniata College  
7:30 p.m., Saturday, Sept. 13  
Gesling Stadium

#### Volleyball

Tartans vs. Otterbein  
6 p.m. Friday, Sept. 19  
Tartans vs. Mount Union  
8 p.m. Friday, Sept. 19  
Tartans vs. John Carroll  
Noon Saturday, Sept. 20  
Tartans vs. Muskingum  
4 p.m. Saturday, Sept. 20

#### Football

The Tartans vs. Hobart College  
1 p.m., Saturday, Sept. 20  
Gesling Stadium

#### Volleyball

The Tartans vs. St. Vincent College  
2 p.m., Tuesday, Sept. 23  
Skibo Gymnasium

#### Soccer

Men vs. St. Vincent College  
7:30 p.m., Friday, Sept. 26  
Gesling Stadium

#### Football

The Tartans vs. Hiram College  
1 p.m., Saturday, Sept. 27  
Gesling Stadium

#### Soccer

Women vs. Kenyon College  
6 p.m., Saturday, Sept. 27  
Gesling Stadium

For more events, visit <http://my.cmu.edu/site/events/>

## EXERCISE CAN STRENGTHEN BRAINS, TOO

■ Kelli McElhinney

Just as a disciplined exercise regimen helps human muscles become stronger and perform better, specialized workouts for the brain can boost cognitive skills, according to Carnegie Mellon scientists. Their brain imaging study of poor readers, published in the August issue of the journal *Neuropsychologia*, found that 100 hours of remedial instruction — reading calisthenics, of sorts, aimed to shore up problem areas — not only improved the skills of struggling readers, but changed the way their brains activated when they comprehended written sentences.

In the functional magnetic resonance imaging study, poor readers initially showed less activation in the parietotemporal area of the brain, which decodes the sounds of written language and assembles them into words and phrases that make up a sentence, than did good readers. However, remedial instruction increased the struggling readers’ activation to near normal levels.

Further, the improvement remained evident well after the intensive instruction had ended. When the children’s brains were scanned one year after instruction, their neural



# Summer Program Gears Girls Toward Engineering



PHOTO BY ROSE FROLLINI

WILKINSBURG MIDDLE SCHOOL STUDENTS MIKAILA RODGERS, INDYA STEWART AND ALEXANDRA PORTER PARTICIPATED IN THE SUMMER ENGINEERING EXPERIENCE FOR GIRLS (SEE) ON CAMPUS THIS SUMMER. INCOMING EIGHTH- AND NINTH-GRADERS WORKED WITH ENGINEERS ACROSS THE DEPARTMENTS IN CIT. ALL GIRLS WHO ARE ACCEPTED IN THE PROGRAM ATTEND FOR FREE.

■ Chriss Swaney

Getting girls excited about engineering and science, that's what one summer camp is all about at the Institute for Complex Engineered Systems (ICES).

The program, aimed at girls entering eighth and ninth grades, strives to show participants that engineers have a particular ability to make the world a better place.

Najae Tate, 14, one of 20 middle school girls attending the Carnegie Mellon program this summer, said she had never realized how fun engineering could be.

"The hands-on activities involving the environmentally friendly uses of energy were cool," said Tate, who attends Wilkinsburg High School.

Jasmine Prat, 13, praised the summer program for its big emphasis on "problem-solving skills."

"I am really interested in all things connected with global warming and pollution," said Prat, who attends Sterrett Middle School in the city's Point Breeze neighborhood.

Tate and Prat said they are still undecided about their future careers. But they credit the university's Summer Engineering Experience (SEE) for giving them some direction and goals for the future.

Susan Finger, a faculty advisor for the program, said the campers are introduced to a specific project and work alongside university staff and faculty to accomplish a set of goals.

"This summer, we gave them a chance to create efficient and environmentally friendly uses of energy," said Finger, a professor in the Department of Civil and Environmental Engineering.

Alicia Brown, external relations and outreach coordinator for ICES, said the program connects participants with future opportunities and stresses the need to sustain good math and science skills throughout college.

The SEE instructors and staff provide information on related math, science and engineering programs.

"The program helped me realize the need to be better in math," Tate said.

The realization that math and engineering are important has become a clarion call for the nation. Recent economic studies indicate that 80 percent of the nation's gross domestic product comes from the introduction of new technologies. Those new technologies are introduced by innovative engineers.

However, only 4.5 percent of U.S. students study engineering compared to more than 40 percent in China. Programs like SEE help hone new interest in engineering, technology and science.

Additional information about the program may be obtained at [adbrown@andrew.cmu.edu](mailto:adbrown@andrew.cmu.edu) or by calling 412-268-5227.



PHOTO COURTESY LARRY RIPPEL PHOTOGRAPHY

PROFESSOR SUSAN FINGER (CEE) CHECKS IN WITH REIA CHO AND MORGAN LENNON WHO WERE WORKING ON ENERGY RESEARCH PROJECTS OF THEIR OWN CHOOSING.

## Professor Proposes International Approach To Nuclear Security in Journal Article

■ Kelli McElhinny

A Barack Obama ad says that a nuclear attack is the biggest threat faced by America today. Indeed, the prospect of terrorists using such weapons is a particularly frightening one, and planning for a response to such an attack should be at the top of the foreign policy agenda of the next president, be it Obama or Senator John McCain.

A journal article co-authored by Howard Heinz University Professor Baruch Fischhoff, along with his colleagues Scott Atran and Marc Sageman, proposes an international security doctrine intended to mobilize global support in the face of an attack, in ways that would decrease the likelihood of it happening in the first place. Atran, has appointments at the National Center for Scientific Research in Paris, the University of Michigan and John Jay College. Sageman is a New York Police Department Scholar in Residence.

Fischhoff and his co-authors recommend developing an international support network that would provide aid to any collaborating nation that suffers an attack, founded on confidence-building measures created in advance.

"Should the United States find itself the target of a nuclear attack by terrorists, the president will face great pressure to respond swiftly and decisively," Fischhoff said. "However, any action that is not the result of careful deliberation could be disastrous. An advance plan for this type of scenario is critical."

The article, "Mutually Assured Support: A Security Doctrine for Terrorist Nuclear Weapon Threats," was published in the July issue of the *Annals of the Academy of Political and Social Sciences*, which was dedicated to recommendations for handling terrorist threats and edited by former Clinton and Bush Administration counter-terrorism advisor Richard A. Clarke.

The piece's title recalls the doctrine of mutually assured destruction that governed American nuclear policy during the Cold War standoff with the Soviet Union. However, whereas the United States and the Soviet Union each had enough firepower to destroy the world several times over, terrorists will likely have access to much smaller arsenals, perhaps of just one or two bombs.

Further, during the Cold War, the

enemy was crystal clear. Today's terrorist organizations can be transnational, and work hard to obscure their sources of aid. Determining the target of a retaliatory strike could be a serious challenge.

Fischhoff and his co-authors argue for an international agreement in which participating nations pledge to come fully to an attacked nation's aid, mobilizing their resources and, if necessary, forgoing some elements of sovereignty — in return for not being targets of retaliation.

"A unilateral response is unlikely to be effective against an evasive enemy and may in fact end up fostering more instability," Fischhoff said. "The chances of success are much higher if nations collaborate and demonstrate their solidarity."

As part of such an agreement, otherwise hostile nations, such as the United States and Iran, would need to share information and intelligence, Fischhoff and his co-authors note. Coordination between participating nations — including enemies — is essential and could be beneficial, as even countries with otherwise chilly relationships find grounds for mutual security.

## Q&A: Robert Murphy

CONTINUED FROM PAGE TWO

what you need to answer the question you are asking. We're going to be testing some of these methods while in Germany.

**While the work you're doing will enhance your research here, did you have concerns about leaving the Lane Center for five months?**

I did, but my solution is that I've been taking advantage of the time difference. I work during the day in Freiburg, have dinner, then get on Skype and I spend four or five hours talking to my group here and other colleagues on conference calls. In reality I'm still very active running my program here. I get to work two days in one!

**The Humboldt Foundation is largely funded through the German government. In your experience how does the German government view scientific research?**

I went to a ceremony held at the German president's residence, Bellevue Palace, for the people who received awards from the Humboldt Foundation. The president himself addressed the awardees at a reception in the garden. It was very nice to see how seriously the German government takes science in general — that the president of the country would take time to show up at a reception for a bunch of scientists. It was also nice to see the emphasis placed on international collaboration in science.



# Head of Biological Sciences Jones was Renowned Geneticist



PHOTO BY GLENN BROOKES

■ Jocelyn Duffy

Elizabeth W. Jones, an internationally renowned geneticist and admired educator at Carnegie Mellon, died June 11 following complications from surgery. A symposium in her honor is scheduled for Oct. 15.

“Beth was a leader in research, education and as a department head. She loved her work, her students and Carnegie Mellon,” said Fred Gilman, dean of the university’s Mellon College of Science (MCS). “Her legacy will live on through her students and colleagues, for whom she worked tirelessly.”

Jones began her scientific career as a chemistry major at the University of Washington. After working in geneticist Herschel Roman’s lab during her sophomore year, Jones realized her true calling to the field of biology. In 1960, she received her bachelor’s degree in chemistry from the University of Washington, and in 1964, under Roman’s guidance, she was awarded the first genetics doctorate ever granted by the University of Washington. Jones then completed her post-doctoral training with Boris Magasanik at the Massachusetts Institute of Technology. Her first faculty appointment was at Case Western Reserve University, where she taught for five years.

Jones joined the Carnegie Mellon community in 1974 as an associate professor of biological sciences in MCS. In 1982, she was promoted to professor, and in 2000, she was named head of the Department of Biological Sciences and the Dr. Frederick A. Schwartz Distinguished Professor of Life Sciences. In 2002, she was named a University Professor, Carnegie Mellon’s highest faculty honor.

“Beth Jones was truly among the best, setting the standard for what a professor should strive to become,” said

Carnegie Mellon President Jared Cohon. “She was one of the most beloved members of the university family. To say she will be missed is a great understatement.”

Until her death, Jones continued the research she began more than 40 years ago, using genetic approaches to understand how proteins in yeast cells reach their proper destinations. Jones chose to study yeast because fundamental genes are “obsessively conserved” between yeast and mammals during evolution; thus, advances in yeast may be directly translatable to humans.

During her tenure at MCS, Jones was recognized for her dedication to her students and her support of undergraduate research. She received the university’s Robert Doherty Prize for Excellence in Education and the Julius Ashkin Teaching Award from MCS. In 2007, she received the inaugural Excellence in Education Award from the Genetics Society of America, and she recently received the society’s 2008 Lifetime Achievement Award for her pioneering work in yeast genetics.

Jones co-authored two textbooks about genetics and published more than 70 papers in the scientific literature. For nearly 12 years, she served as editor-in-chief of *Genetics*, the leading journal in the field, and since 1990, she was co-associate editor of the *Annual Review of Genetics*. Jones also served a lengthy tenure as an associate editor with the journals *Yeast* and *Molecular Biology of the Cell*.

Contributions may be made in Jones’ memory to Carnegie Mellon University, P.O. Box 371525, Pittsburgh, Pa., 15251-7525. Please write “Elizabeth W. Jones Memorial Fund” in the check’s memo.

# Pausch Impacted the World

Computer scientist Randy Pausch, whose inspirational message touched millions, died July 25 of complications from pancreatic cancer. He was 47.

“Randy had an enormous and lasting impact on Carnegie Mellon,” said University President Jared L. Cohon. “He was a brilliant researcher and gifted teacher. ... Carnegie Mellon — and the world — are better places for having had Randy Pausch in them.”

His life-affirming lecture, called “Really Achieving Your Childhood Dreams,” delivered in September 2007 has been watched online by millions and was the basis for a bestselling book. “The Last Lecture,” was co-written with Jeffrey Zaslow (HSS’80) of the *Wall Street Journal* and has been translated into more than 30 languages.

ABC News declared Pausch one of its three “Persons of the Year” for 2007, and *TIME* magazine named him one of the 100 most influential people in the world. He appeared twice on “The Oprah Winfrey Show.” Pausch and his wife, Jai, were also



PHOTO BY KEN ANDREYO

**“REMEMBERING RANDY: A CELEBRATION OF THE LIFE AND LEGACY OF RANDY PAUSCH” WILL BE HELD AT 4:30 P.M., MONDAY, SEPT. 22. ATTENDANCE TO THE SERVICE IN THE RANGOS BALLROOM WILL BE BY INVITATION ONLY, BUT THE ENTIRE EVENT WILL BE WEBCAST ON ABCNEWS.COM. SCHOOLS AND COLLEGES ARE ENCOURAGED TO ORGANIZE THEIR OWN GATHERINGS OF STUDENTS, FACULTY AND STAFF TO WATCH THE WEBCAST. AFTERWARD, THE MEMORIAL SERVICE WILL BE POSTED ON THE CARNEGIE MELLON CHANNELS OF YOUTUBE AND ITUNESU.**

the subjects of an hourlong ABC News Primetime special in April hosted by Diane Sawyer and viewed by 8.2 million people. ABC News also aired an hourlong special on Pausch following his death.

The university will honor Pausch’s memory as an advocate for bridging art and science through faculty collaborations. The Randy Pausch Memorial Footbridge will connect the Gates Center for Computer Science and the Purnell Center for the Arts as a reminder of his enthusiasm for blending disciplines.

Pausch carried that theme through his work with *Alice*, a computer program that allows novices to create 3-D computer animations using a drag-and-drop interface, which is used by 10 percent of U.S. colleges and many high schools.

“The best way to teach something,” Pausch said in his final lecture, “is to have them think they’re learning something else.”

Pausch joined the Carnegie Mellon School of Computer Science faculty in 1997 with appointments in the Computer Science

Department, the Human-Computer Interaction Institute and the School of Design. He soon launched an interdisciplinary course, called “Building Virtual Worlds,” in which student teams designed interactive animations. A showcase of the projects attracted standing-room-only crowds to McConomy Auditorium, the campus’ largest auditorium. These end-of-semester shows have established themselves as a premier event on campus during finals week.

Pausch is survived by his wife and their three children, Dylan, Logan and Chloe. Also surviving are his mother, Virginia Pausch of Columbia, Md., and a sister, Tamara Mason of Lynchburg, Va.

The family requests that donations on his behalf be directed to the Pancreatic Cancer Action Network, 2141 Rosecrans Ave., Suite 7000, El Segundo, CA 90245, or to Carnegie Mellon’s Randy Pausch Memorial Fund ([www.cmu.edu/giving/pausch](http://www.cmu.edu/giving/pausch)), which primarily supports the university’s continued work on the *Alice* project.



PHOTO BY SHANLEY ERIC KANE

A TRIBUTE WAS PAINTED ON THE FENCE A FEW DAYS AFTER PAUSCH’S DEATH.



# Graduate Student Takes Time Off To Reign as Miss Pennsylvania

■ Abby Ross

For most students, academic classes are steps toward the goal of earning a degree and securing a professional position. But, for Kendria Perry, a creative enterprise management student at the Heinz School, they also have served as preparation toward an additional, and much more glamorous goal.

This summer Perry won the Miss Pennsylvania Scholarship Pageant in Nazareth, Pa., and will compete in the Miss America Pageant this January in Las Vegas.

“I am fortunate that my community service platform for the pageant is also my life’s work, and my major,” Perry said. “So, each day that I sat in arts management classes at Carnegie Mellon, I was preparing to be a better manager and a better advocate for the arts as Miss Pennsylvania.”

As an aspiring arts manager, Perry was lured to Pittsburgh by its thriving arts and cultural sector and was impressed by the Master of Arts Management (MAM) program’s emphasis on building strong quantitative and analytical thinking skills.

“The MAM program at Carnegie Mellon is one of the best in the country, and I was thrilled to be accepted and even offered scholarship support,” she said.



PHOTO BY JOHN METZGER

CREATIVE ENTERPRISE MANAGEMENT GRADUATE STUDENT KENDRIA PERRY WILL REPRESENT PENNSYLVANIA IN THE MISS AMERICA PAGEANT THIS JANUARY IN LAS VEGAS.

Perry cited the arts education class she took with Sarah Tambucci, director of the Arts Education Collaborative, for expanding her thinking on the issue of

youth involvement in the arts and for challenging her to dig deeper with regard to the consequences of the No Child Left Behind Act. She noted that her friends and professors were very supportive as she balanced her coursework with hours of preparation for the pageant and development of her “Art Works!” platform.

“My mission is to put the arts to work for our children now so that they can reap the benefits of a complete, well-rounded education for a lifetime,” she said.

A classically trained pianist, Perry always searches for the chance to perform and looks to the Miss America Pageant as a venue that offers opportunities for personal growth and professional networking.

“I believe that young classical musicians have to be willing to seek out a broader audience,” Perry said. “We must be innovators.

And, we can’t be afraid to creatively and strategically choose new venues in order to sustain the industry into the 21st century.”

Her experiences with pageants and the Miss America organization, which provided more than \$45 million in scholarship assistance for women last year, has taught her a great deal.

“Don’t be paralyzed by the fear of taking risks,” Perry warned. “Competing in a pageant in front of an audience does make you somewhat vulnerable to the criticism of judges, and it can feel like a personal risk. Sometimes big risks yield the biggest rewards.”

Perry ultimately hopes to work as director of development or outreach for a major performing arts organization or museum. She believes that “things happen for a reason, and that we take from each experience just what we’ll need to be prepared for the next chapter in our lives.”

For now, that means a yearlong break from Carnegie Mellon to complete her service as Miss Pennsylvania, which includes near-daily public appearances and speaking engagements. And, of course, she’s preparing for the Miss America pageant.

“I am honored to be one of 52 young women across the nation who were selected to compete for the dream job that is Miss America. I plan to enjoy every moment and share the experience with my family and friends who will be there to support me,” she said.

## NEWS BRIEFS

### FCC Hearing Maintains Broadband Access for All a Priority



An FCC hearing at Carnegie Mellon was designed to debate the “broadband of tomorrow,” but what was striking was the level of agreement on many key points.

U.S. Representative Mike Doyle (D-Forest Hills) who helped organize the event, said the hearing was intended to address the openness of the Internet and the so-called digital divide between those who have broadband access and those who don’t.

Jon Peha (pictured above), a professor in the Department of Engineering and Public Policy and the Department of Electrical and Computer Engineering, said the goal of his testimony would be to raise questions that the commission must face, rather than to provide answers, “both how we might try and have free and open competition among those who want to provide us with video entertainment and also how we protect intellectual property for those who might develop entertainment we want to watch.”

Chairman Kevin J. Martin said that he had proposed that any winners of a recent FCC auction of broadband spectrum be required to offer a basic level of broadband free of charge to all consumers. Some commissioners called access to broadband almost a “civil right.”

### Ramayya Krishnan Appointed Acting Dean of Heinz School

Ramayya Krishnan, the William W. and Ruth F. Cooper Professor of Management Science and Information Systems, has been appointed acting dean of the Heinz School. He succeeds Mark Wessel, who stepped down as dean. Krishnan’s research interests lie in problems that arise at the interface of technology, business and policy aspects of Internet-enabled systems. He earned his Ph.D. in management science and information systems at the University of Texas at Austin.

“Ramayya’s outstanding scholarship in information systems and in public policy, his many contributions in the classroom, and his demonstrated leadership over the years at the Heinz School make him an ideal choice to serve as acting dean,” said Provost and Senior Vice President Mark Kamlet.

### Historically Black College and University Students Collaborate on Web site

Eight students from Historically Black Colleges and Universities (HBCU) took part in the six-week Information Systems in the Community 2008 summer program sponsored by the Information Systems program in H&SS. This

year’s participants included Genelle Howell from Florida Memorial University; Derwin Emmanuel from Grambling State University; Nicole Fitzhugh and Cherie Frazier from Hampton University; Alimou Bah, Kevin Walton and Thomas Zgambo from Morehouse College; and Elita Green from Oakwood University.

IS Teaching Professor Larry Heimann and adjunct summer faculty member Jennifer Foster taught students technical subjects such as programming for the Web, as well as principles of teamwork, project management and professional communications. The students collaborated to develop a Web site for the Western Pennsylvania Diversity Initiative (WPDI) and gave a presentation to members of WPDI’s board, and faculty and staff from IS and other departments within H&SS. The program is underwritten by a grant from the Andrew W. Mellon Foundation.

### Low-Income People Spend More on Lottery Tickets

Even in these tough economic times, people continue to pour money into state lotteries although they return an average of just 53 cents for every dollar spent on a ticket. According to a Carnegie Mellon study published in the July issue of the Journal of Behavioral Decision Making, poverty seems to play a central role in people’s decisions to buy lottery tickets.

In the study, participants who were made to feel subjectively poor bought nearly twice as many lottery tickets as a comparison group that was made to feel subjectively more affluent. The authors — Emily Haisley, who recently received her doctorate in organizational

behavior and theory from the Tepper School of Business, along with Herbert A. Simon Professor of Economics and Psychology George Loewenstein and Social and Decision Sciences graduate student Romel Mostafa — noted that lotteries set off a vicious cycle that not only exploits low-income individuals’ desires to escape poverty but also directly prevents them from improving upon their financial situations. They recommended that state lottery administrators explore strategies that balance the economic burdens faced by low-income households with the need to maintain important funding streams for state governments.

### Biological Sciences Names Acting Head



John Woolford has been named acting head of the Department of Biological Sciences, succeeding Beth Jones who died this past June. A professor of biological sciences and co-

director of the Center for Nucleic Acids Science and Technology, Woolford has been a member of the Carnegie Mellon community since 1979, when he joined the Mellon College of Science faculty after completing his post-doctoral studies.

An avid researcher in the field of eukaryotic molecular biology, particularly mRNA splicing and ribosome assembly and formation, Woolford is well known for his dedication to



# Media Fellowship Focuses on the Environment

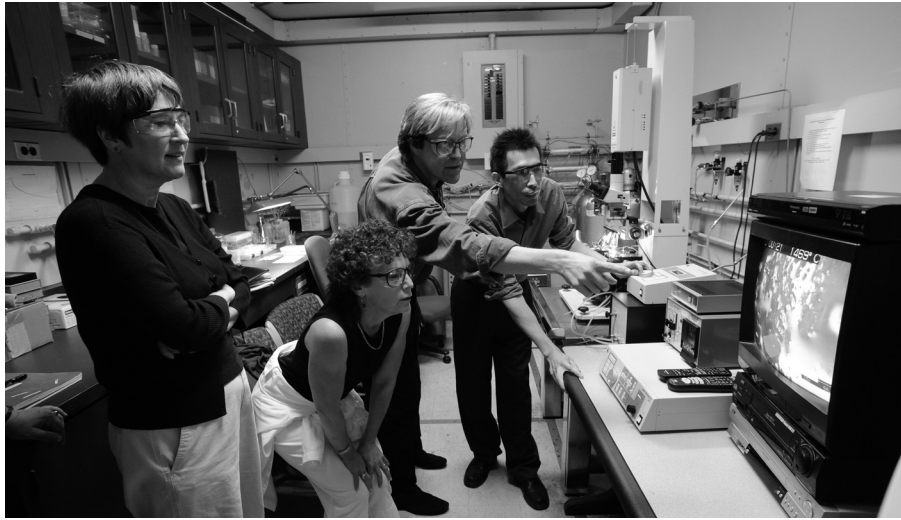


PHOTO BY KEN ANDREYO

CHERYL HOGUE, SENIOR EDITOR OF CHEMICAL & ENGINEERING NEWS, ROSANNE SKIRBLE, A PRODUCER AND EDITOR AT VOICE OF AMERICA, AND JEFF BURNSIDE, A PRODUCER AT WTVJ NBC 6 MIAMI, GET A BRIEF TOUR OF RESEARCH FROM JINICHIRO NAKANO AT CARNEGIE MELLON'S CENTER FOR IRON AND STEELMAKING IN THE DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING.

■ ChriSS Swaney

Carnegie Mellon's 2008 Steinbrenner Institute Media Fellowship netted impressive coverage with the editors at Science News.

Janet Raloff, a senior editor/policy at Science News, wrote three separate blogs about her visit with a cache of Carnegie Mellon researchers June 13-16.

"It was a great experience and I did get some wonderful story ideas," said Raloff, one of four media fellows to attend the fourth annual Environmental Media Fellowship sponsored by the Steinbrenner Institute for Environmental

Education and Research.

The other media participants included Jeff Burnside, a producer at WTVJ NBC 6 Miami; Cheryl Hogue, a senior editor at Chemical & Engineering News; and Rosanne Skirble, a senior reporter at Voice of America.

Burnside praised the fellowship for its attention to detail and the great mix of research presentations.

All four media fellows met informally with researchers in labs and in the field. Their interviews spanned topics ranging from global warming issues to alternative energy, air and water quality, risk management and green design.

One of the fellowship highlights was meeting the university's new mascot, a Scottish terrier named "Maggie." "You just have to love that mascot," Hogue said. In addition to interviewing faculty, the journalists took a scenic boat ride, attended a Pirates baseball game and got a VIP tour of Kennywood Park, one of the greenest amusement parks in America.

"The fellowship enables leading science journalists to deepen their knowledge of environmental issues, and provides a great opportunity for our faculty members to broaden their knowledge about how the media work," said David Dzombak, faculty director for the Steinbrenner Institute and the Walter J. Blenko Sr. professor of environmental engineering.

The Steinbrenner Institute works to develop new interdisciplinary environmental education and research initiatives at Carnegie Mellon, and to advance and coordinate the activities of 18 research centers focused on environmental topics. The educational focus includes an emphasis on helping all Carnegie Mellon undergraduate students understand the complex environmental problems and to think about the paths to a more sustainable world.

In the past four years, the Steinbrenner Institute has allocated more than \$400,000 in grants to a variety of Carnegie Mellon research and educational initiatives, including industry and media panel sessions and fellowships.

# Mt. Lebanon Police Chief Joins University

■ Ken Walters

Tom Ogden, a 28-year veteran of the Mt. Lebanon, Pa., Police Department, has been named director of university security. Ogden, Mt. Lebanon's chief of police the past 10 years, succeeds Creig Doyle, who resigned in the fall of 2007 to become chief of police at Plymouth State University in New Hampshire.



Prior to becoming chief, Ogden held a variety of positions on the Mt. Lebanon force, including deputy chief of police, commander, lieutenant and criminal investigator. He is a consultant to the Pennsylvania Governors Center for Local Government Services, which provides guidance and assistance regarding police management and policy matters.

"We are delighted to have Tom Ogden join Carnegie Mellon as our chief of police," said Michael Murphy, vice president for campus affairs. "He brings a wealth of knowledge and expertise that will help us to maintain and enhance campus safety for students, faculty and staff."

teaching. He has received the college's Julius Ashkin and Richard Moore awards and the university's William and Frances Ryan Award for excellence in teaching, and has served on many campus-wide committees.

## Professors Named to Three-Year Appointments as Associate Deans



The Tepper School of Business has created two associate dean posts to oversee teaching and research areas. Faculty members Robert M. Dammon and Richard C.

Green have been named to the new posts, with three-year appointments.

Dammon, professor of financial economics, will serve as associate dean, education, overseeing all educational programs offered by the school.

Green, the Richard M. and Margaret S. Cyert Chair and professor of financial economics, will serve as associate dean, research, overseeing the school's research focus as well as the development of tenure-track junior faculty.



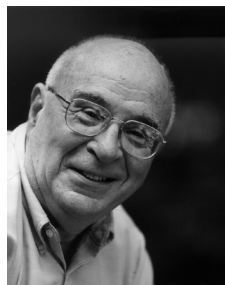
These new positions are designed as rotating three-year terms among the Tepper School faculty, and represent an evolution of the previous position of associate dean, intellectual strategy. The prior appointment was recently completed by R. Ravi, the Carnegie Bosch Professor of Operations Research and Computer Science, who has returned full-time to the Tepper School faculty following his assignment.

## Farber Stays for Second Term as Project Manager in Japan's IT Agency

When it comes to nurturing young technologists, Dave Farber says the United States would do well to borrow a concept from Japan: Give young people enough money and guidance to see if their bright ideas can become useful and profitable products.

Farber, a distinguished career professor of computer science and public policy, has seen how well this process can work over the past two years, observing it from the inside as the only foreigner out of six project managers for Japan's Information-Technology Promotion Agency (IPA). The agency has invited Farber to extend his work for another 18 months, which will cover two more groups of projects.

As a project manager, Farber uses his savvy as a computer network pioneer and



former chief technologist at the FCC to select applicants whose ideas he finds particularly promising. The IPA, a quasi-governmental organization charged with advancing Japan's software and information technology infrastructure, provides successful applicants funding and Farber serves as a mentor to help them reach their goals over a nine-month development period.

Farber has guided seven projects to date, including the development of a sensor system for monitoring people's health and a cell phone-based social networking system that helps connect people who are near each other. "It's been real fun," Farber said, "even though my Japanese doesn't get any better."

## \$2 Million Grant Endows Design Directorship

The School of Architecture has received a \$2 million grant from The Heinz Endowments with \$1.5 million of the award going to create an endowment for the directorship in urban design and regional engagement. The position will be named for masterful designer David Lewis, distinguished professor emeritus of urban design in the School of Architecture. The remaining \$500,000 of the grant will help to implement a program to increase the participation of underrepresented groups in the profession of urban design.

The David Lewis Directorship of Urban Design and Regional Engagement will lead the Remaking Cities Institute® (RCI), which recently was created to augment the impact of the Urban Laboratory®, the flagship urban design program in Carnegie Mellon's

School of Architecture. The directorship will emphasize Lewis' commitment to the people of southwestern Pennsylvania and will be the vehicle to steward a participatory urban design process.

## Forbes Property Purchased For Future Expansion

The university has purchased the property at 4626-4628 Forbes Avenue, which housed a vintage clothing shop and restaurant. Ralph Horgan, associate vice provost for Campus Design and Facility Development, said the property will be demolished but there is no timetable at this time.

The purchase is intended to give Carnegie Mellon some flexibility with regard to future development opportunities in the neighborhood. The university closed on the property on Aug. 14.

## Carnegie Mellon Ranks Among Best Universities By U.S. News

Carnegie Mellon continued to have a strong showing in the U.S. News & World Report 2009 Best Colleges edition, released in August. The university was ranked 22 in the Best National University category. The Tepper School of Business undergraduate business ranking improved one spot to sixth best in the country. College of Engineering undergraduate programs remained ranked at ninth best in the nation. The university was also recognized in the following categories: Great Schools, Great Prices; Undergraduate Research; Economic Diversity; and International Students.



## LECTURE SPOTLIGHT: WORKERS FEEL SQUEEZED AS BUSINESS BOOMS, WRITER SAYS

■ Kelli McElhinny

Many of America's biggest companies rake in record profits year after year, but their employees are no longer getting their fair share of that wealth.

In his book, "The Big Squeeze: Tough Times for the American Worker," Steven Greenhouse, The New York Times labor and workplace correspondent, examines the economic, political and business factors that have eroded wages and benefits for much of the country's workforce. As part of the University Lecture Series, Greenhouse will discuss his book — as well as the role of working-class voters in the presidential campaign — at 4:30 p.m. on Wednesday, Sept. 24, in Porter Hall 100.

"Recent developments, such as soaring fuel prices and rising unemployment, have drawn attention to the plight of the nation's workers, but in many ways this squeeze has been going on for decades," Greenhouse said. "Wages have been stagnant for years, and,

amazingly, the nation has lost more than one-fifth of its manufacturing jobs this decade."

During the golden age of American labor after World War II, employers and employees alike reaped rewards from company profitability. Both parties entered into a social contract in which workers were rewarded with generous wage and benefit packages that helped create the world's largest and richest middle class.

In the 1970s, however, the scales of fortune began to tip decidedly against workers, as companies scrambled to compete against a flood of cheaper imports by clamping down on wages, shutting factories and laying off thousands of workers.

Then followed a cascade of other developments that squeezed workers — an increased focus on shareholder returns, efficiency-boosting technologies that reduced the need for manpower, an influx of cheap immigrant labor and a

steady decline in the power of the nation's labor unions.

More recently, two trends have hurt educated, white-collar workers in particular: the repeated waves of downsizing by corporate America and the offshoring of hundreds of thousands of engineering and other jobs to India and other countries. Greenhouse will discuss how the next president will shape the future for the nation's workers.

"The next president will be in a position to take some important steps to turn things around for America's 140 million workers," Greenhouse said.

In addition to the Office of the Vice Provost for Education and the Division of Student Affairs, Greenhouse's lecture is co-sponsored by the Department of Statistics.

**WHO:** Steven Greenhouse

**WHEN:** 4:30 p.m., Wednesday, Sept. 24

**WHERE:** Porter Hall 100



### NASH LECTURE:

## Economist Suggests Dark Markets Cause Risks in Short-Run Returns

■ Jocelyn Duffy

Noted economist Darrell Duffie will delve into the science of analyzing Dark Markets during this year's Nash Lecture at 4:30 p.m., Thursday, Sept. 18 in McConomy Auditorium.

Duffie, the Dean Witter Distinguished Professor of Finance at Stanford University, will review evidence of Dark Markets from a growing body of empirical research, citing examples from insurance markets, bond markets, stock markets and money markets. He will suggest some conceptual approaches based on search theory.

Dark Markets occur when investors do not respond instantly to changes in financial markets. As a result, returns on short-run assets may be volatile. As well, markets may take more time to recover than previously assumed, depending on how long it takes investors to become aware of opportunities and execute trades.

An active and well-recognized financial economist, and the author of four books, including the classic text "Dynamic Asset Pricing Theory," Duffie has published more than 80 research articles that include mathematical models of interest rates, corporate defaults, optimal investment and equilibrium asset pricing.

A member of the American



Academy of Arts and Sciences and a fellow of the Econometric Society, Duffie was named Financial Engineer of the Year in 2003 by the International Association of Financial Engineering. He serves as a consultant to major investment banks, energy companies, federal agencies and fund managers. Duffie is president-elect of the American Finance Association.

"Darrell Duffie's application of advanced mathematics to solve seemingly intractable problems in finance has paved the way for the present era in which mathematics and finance are inextricably linked," said Steven Shreve, the Orion Hoch Professor of Mathematical Sciences. "Furthermore, without knowing it at the time, Darrell Duffie was my teacher. Twenty years ago his

superbly written books and papers provided me, a mathematician, a point of entry into the theory of financial asset pricing."

This annual lecture is named after John F. Nash Jr., who in 1948 earned his bachelor's and master's degrees in mathematics from the Carnegie Institute of Technology before receiving his doctoral degree from Princeton in 1950. In 1994, Nash, along with John Harsanyi and Reinhard Selten, received the Nobel Prize in Economic Sciences for their pioneering analysis of equilibria in the theory of non-cooperative games. This work, sometimes called the Nash Equilibrium, has greatly influenced research in economics and finance.

The lecture is free and open to the public.

## Orientation Takes Global Spin

■ Heidi Opdyke

The Information Networking Institute (INI) turned orientation into a destination for many of its students.

"Destination 2008" brought more than 140 members of the incoming class from six campus locations to Pittsburgh for 10 days. Besides the Pittsburgh students, programs from Silicon Valley; Athens, Greece; Kobe, Japan; and Aveiro and Lisbon, Portugal were represented.

"It not only let us international students get a feel of what it is like to be part of Carnegie Mellon but it also really let us see and meet our other international peers found worldwide," said Sally Yanagihara, a graduate student in Information Technology-Information Security at Carnegie Mellon CyLab Japan. "Destination 2008 really took away the borders and boundaries, and I really hope this will continue."

Students visiting Pittsburgh attended classes for a week before starting the terms on their home campuses. The class enjoyed a boat cruise, cultural immersion sessions and learned about courses. A group of more than 30 students met independently to socialize and share ethnic dishes.

"The 'Carnegie Mellon experience' encompasses more than a high quality and rigorous education," said Dena Haritos Tsamitis, INI director. "Destination 2008 is an opportunity to include our students enrolled at our international locations in the unique cultural, interdisciplinary and co-curricular aspects of the student experience that we simply can't replicate at our locations around the world."