Faculty Win Stimulus Funding

**Broad Range of Research Supported**

Bruce Gerson

More than 50 research projects at Carnegie Mellon have received nearly $30 million in federal funding through President Barack Obama’s American Recovery and Reinvestment Act (ARRA) of 2009, a massive effort aimed at revitalizing the U.S. economy by supporting university research.

“This is just the first wave of stimulus funding that will play out over the next two to three years,” said Associate Vice President for Government Relations Tim McNulty, who noted that $30 million is approximately 10 percent of the university’s annual research budget. “Our faculty are winning stimulus proposals in a nice mix of potentially high-impact areas, and the stimulus funding is helping to enhance our burgeoning life sciences efforts.”

McNulty also noted that several Carnegie Mellon faculty members are part of pending research funding proposals submitted by the Pittsburgh Public Schools.

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**We Want Your Feedback!**

Is the Piper helping to keep you informed of campus news and events? In our ongoing effort to keep you posted, we want to know how we’re doing, so be sure to check out the back page of the Piper for a readership survey.

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**Lighting His Legacy**

*With its abstract penguin cutout and dazzling LED-light display, the Pausch Bridge was dedicated during Homecoming and now connects the Purnell Center to the Gates and Hillman Centers. To read more about the bridge and dedication, see page eight.*

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**Presidential Reflections: A Q&A with Jared Cohon**

Heidi Opdyke

In late October, the Piper sat down with President Jared L. Cohon to talk about the start of the academic year, the impact of the G-20 Summit, his role as chair of a National Academy of Sciences committee that worked to uncover hidden costs of energy and more.

This academic year started with the opening of the Gates Center for Computer Science and the Hillman Center for Future-Generation Technologies, visits by Australia’s prime minister and Bill Gates, and more. What’s next?

Sleep! It was a very exciting beginning of the semester. You know, one of the things I admire about Carnegie Mellon is how unassuming and dedicated we are to the task at hand. There’s very little time for celebration and taking a breath. We just keep moving forward.

We have regional campaign events coming up in India, Singapore and Washington, D.C., and those will be exciting. We’re getting tremendous response already from people. I’m certainly looking forward to that.

We’ll see what the future holds. You never know what great inventions our colleagues will come up with or who just might stop by.

Continued on page two.
Did Carnegie Mellon benefit from the G-20 Summit being in Pittsburgh? There were the seminars, the webcasts and the daylong symposium we had with the Atlantic Council. I think the symposium was quite valuable and well attended by students, which I was pleased to see. And it’s a cool thing to hear a head of state. I doubt too many of our students would have ever had the chance to hear the Australian Prime Minister speak.

As for the color and hoopla, and protests and security that came along with the G-20 — I don’t think any of us could have imagined what that would have been like without seeing it, and our students and all of us got to see that first hand.

Less direct, but even more lasting, was the tremendous media coverage that Pittsburgh got, and Carnegie Mellon as well.

We learned that when the G-20 came town it brought 2,000-3,000 journalists. Every one of them had to file a story answering the question, “Why Pittsburgh?” Carnegie Mellon was generally a featured part of the answer. It’s a great story, and we’re proud of the role that we have played in Pittsburgh’s rebirth and transformation.

Having the prime minister of Australia on campus was certainly a big plus for us. We’ve already followed up with meetings with some of his ministers. As most of the readers will know, we have a campus in Adelaide, Austrlia, and having government support for that is important.

Finally, because of all of this, more people know about Carnegie Mellon — and that it’s in Pittsburgh — than knew before the G-20.


Probably even a more central role than with the G-20. Local institutions will play an active role in planning and delivering the event. We’re already in conversations with the University of Pittsburgh, West Virginia University and other organizations. We’ve got some good ideas, and I expect Carnegie Mellon will be prominently featured in that.

Pittsburgh is turning out to be the place to be.

A National Academy of Sciences committee that you chair recently reported that the hidden cost of energy on human health was $120 billion in 2005. How do you see this data and the 350-page report outlining the details affecting U.S. energy policy and research?

It’s going to be quite influential. The report was released Oct. 19, and the Friday before that the committee spent the day briefing White House, agency and Congressional staffs. There was a lot of interest, which was good to see.

There’s no news in the fact that energy has external effects and costs. What’s new is our success in quantifying some of those impacts as we indicated, although there was a lot we couldn’t. To have virtually all of the impacts one could think of collected in one place is very important in the policy process, and it hasn’t happened before.

This role was more related to being a scientist and policy advisor than an administrator. What was that like for you?

It’s a too-rare event for me to do what I was really trained to do, which is environmental science and policy. But it’s nice to have the opportunity to do it when I can. As chair, more than anything else what I did was convene, manage and develop a positive group dynamic. The committee did a phenomenal amount of work in producing the report without doing any new analysis it would have been impressive in that amount of time, but we did a lot of analysis.

Carnegie Mellon played a very big part in this. Not only did I chair it, but Scott Matthews, a professor in Environmental Engineering, was a member, and there were non-member consultants like Mike Chester, who received his Ph.D. from Carnegie Mellon and is a post-doc at Berkeley. Mike played a very valuable role in doing some of the modeling for the report. Carnegie Mellon fingerprints are all over this report, and it’s something to be proud of.

Do you see Carnegie Mellon having a hand in some of the research recommended in the report?

Indeed, we are already. There were topics in those recommendations that we were working on, and others were too, even before we made the recommendations. There are lots of opportunities for Carnegie Mellon to make more contributions.

What are some of the ways the American Recovery and Reinvestment Act of 2009, also known as the stimulus bill, has impacted campus?

The most direct way is through increased funding for research. Carnegie Mellon received about $30 million more in sponsored research that we probably wouldn’t have otherwise obtained. If you believe the stimulus helped stop the freefall of the economy, and I have no reason to doubt that it did, we certainly all benefited from that.

In a CNN.com opinion piece, you wrote about how Pittsburgh shows how the power of education and innovation can revitalize an economy in crisis. Are we starting to see the light at the end of the tunnel?

Our tunnel has not been as long or as dark as the rest of the country. That in and of itself says a lot about Pittsburgh today and the diversity and robustness of its economy. Our unemployment rate, though higher than it was, is much lower than the national average. We continue to grow in certain areas, including at Carnegie Mellon, Pitt and UPMC. So the knowledge industries and the role the universities play in that, I think are absolutely crucial to Pittsburgh’s success to date and will be perhaps even more so in the future.

Carnegie Mellon was recently named a Top 25 “Best Neighbor” university for its economic and social impact on Pittsburgh. Is Carnegie Mellon’s success tied to Pittsburgh and vice versa?

We’re proud of that. We’re proud of the fact that the University of Pittsburgh was high on that list. I think among universities, Pitt and Carnegie Mellon are especially committed and active to local economic and artistic vitality. Much of that we do together through organizations like the Life Sciences Greenhouse and through the many technology and research collaborations that we have created. It’s been very good, and we’re pleased it’s been recognized.

What’s good for Pittsburgh is good for us. It certainly helps us with recruitment and retention of faculty and students.

Will our impact on the city change as we become a more global university?

I don’t think our relationship with Pittsburgh will change at all. If anything, it will get richer in the sense of what we can contribute to Pittsburgh’s success. I hope and expect that the university’s global footprint and our activities around the world will yield more benefits directly to Pittsburgh by bringing people and jobs from other countries here.

What were some of your key messages to alumni during Homecoming?

One thing that is certainly on their minds is the economy, how Carnegie Mellon has fared during the recession and how we’re doing now. Recessions are never good for anybody, including us, but we weathered the storm and we’re doing OK.

I always try to convey to alumni that they should be comforted by the fact and pleased that however much we may have changed, whether they were here 10 years ago or 50 years ago, we are the same university when it comes to the core values on which we are based: hard work and rigor, problem solving, inter-disciplinary collaboration, innovation. That’s what we were a century ago, and we are still. We always appeal to those core values whenever we think about what we are doing, and what we want to do next. And if anything, those values are more strongly expressed today than they have ever been.
Hollywood Alums Come Home, Share Experience with Students

By Abby Ross

Students got a pre-Homecoming visit from Paula Wagner and Steven Bochco, two of Carnegie Mellon’s most notable alums in Hollywood. Their insights, wisdom and advice add to the School of Drama’s educational mix.

“Interfacing with industry leaders is an essential part of keeping abreast of best professional practice in the arts,” said Peter Cooke, head of the School of Drama.

Wagner and Bochco were two of the many alumni who were seen on campus this semester. Cooke said Mary Rogers, the daughter of composer Richard Rogers, and playwright Mac Wellman also made recent appearances.

“Having lots of really wonderful people coming in adds value to the expertise of the fabulous faculty,” Cooke said.

Wagner became the first female agent at the Creative Artists Agency (CAA), producing numerous blockbusters with partner and star Tom Cruise, including “Mission: Impossible” and its two sequels, “The Others” and “The Last Samurai.” She is currently developing and producing films through her company, Chestnut Ridge Productions.

A writer and executive producer, Bochco is best known for his groundbreaking television work including “Hill Street Blues,” “LA Law” and “NYPD Blue.” Together, they talked to students about the business of acting and hosted a playwrights forum, as well as workshops with designers, directors and dramaturgs. The sessions provided students with the opportunity to receive candid, first-hand knowledge from leaders in the entertainment industry.

“Talking with alumni like Paula and Steven only solidifies the idea that there are limitless possibilities,” said Kevin Service, a stage management/production management junior. “The education in the School of Drama doesn’t just prepare us for the real world in terms of the theatre, but in all areas of the entertainment industry.”

Bochco told students that he considers his education as a writer invaluable.

“But my world education — in terms of learning about a community of like-minded artists — was probably the singularly most important thing I took away from my years here on campus,” he said.

Wagner, who is a member of the Board of Trustees, said the most important thing she learned here was how to learn.

“So much of my education came after college when I was thrown into the real world, but learning how to learn is a very important quality that I got from this school,” Wagner said.

Platzer Named to Popular Science’s “Brilliant 10”

By Byron Spice

Andre Platzer, assistant professor of computer science, was one of 10 young scientists chosen by the editors of Popular Science for the magazine’s annual “Brilliant 10” list.

Platzer, 30, who the magazine dubbed the “Crash Test Anti-Dummy,” was cited for his work on verification software for hybrid, or cyber-physical, systems, such as collision avoidance systems in flight control and railway control systems. Systems like these are important in many domains, including robotic surgery devices and nano-level manufacturing equipment. Like seatbelts, antibiotics and fire hoses, a method for detecting potentially critical errors in safety systems is an innovation so vital “that it’s hard to imagine how we got along without it,” states the profile of Platzer that appears in the magazine’s November issue.

He is among the researchers participating in the new Institute for Computational Modeling and Analysis of Complex Systems, which is developing new tools for analyzing models of complex embedded computer systems, as well as biological systems. The institute, headed by Edmund M. Clarke, University Professor of Computer Science, was established this year as part of a $10 million grant from the National Science Foundation.

University Honors

Congratulations to the October trivia winners Jon McIntire, Beth Meiser and Rosemary Frollini for visiting Piper+ at www.cmu.edu/news/news-notes/piper/index.shtml and knowing that Gloriana St. Clair is leading a digital research initiative for University Libraries. Be sure to go online to Piper+ for this month’s question.
Rudman Parleys Physics, English Into 50-Year Career

Bruce Gerson

A man of many passions, Joseph Rudman is certainly no “ordinary Joe.” The multi-talented staff and adjunct faculty member’s 50-year track record at Carnegie Mellon is as diverse as it is long. Consider his interests, which range from high-energy physics and 18th century author Daniel Defoe, to dining etiquette and golf, and you may want him by your side at your next cocktail party.

Rudman is a scientific project administrator in the Physics Department, where he started his Carnegie Mellon career at the age of 19 after high school and two years of college at St. Fidelis Seminary in Herman, Pa., where he was studying to be a priest. He started here working as a scanner-measurer, who worked with bubble chamber film, and then progressed to a lab supervisor and foreman before eventually moving into his current role.

“It’s a catch-all title. I do anything that they need me to do,” said Rudman, who was recognized for his 50 years of service to the university at the Andy Awards ceremony in early September. “Over the years, I’ve done cryogenic electronics, machine shop work, programming, data analysis, whatever is necessary.”

Rudman’s work in Physics has taken him to the Argonne National Lab, southwest of Chicago, and to CERN on the border of France and Switzerland.

“By working in physics here, you’re at the cutting edge of what’s going on right now, all the new computing,” he said. “The Web started in the group that we collaborated with at CERN. The cyclotron there is 17 miles around and it goes under the Jura Mountains in France and comes into Switzerland. At one point the department had three apartments in France and two automobiles because we were over there so often.”

While working in the Physics Department in the 1960s, Rudman completed his coursework for a bachelor’s degree in English at Carnegie Mellon, but he had to take graduate courses at the University of Pittsburgh to finish his degree.

“At that time you had to be a female at Margaret Morrison Carnegie College to get an English degree here. I could take all the courses but they wouldn’t give me the degree. So I went over to Pitt,” Rudman explained.

Rudman, however, did receive his master’s degree in English — his oral topic was “Satire in the 18th Century” — and his doctor of arts from Carnegie Mellon. His dissertation topic discussed designing and teaching a course on how to teach humans about computers.

With a doctorate in English, Rudman began parlaying his passions.

“It was funny, by the time I got my doctorate I was making more money in the Physics Department than I could have as a beginning English teacher. So, I combined physics and English,” Rudman said. “I had offers to go places, but they weren’t as good as what I had here.”

He joined the Tepper School of Business and the College of Humanities and Social Sciences as an adjunct faculty member. He has taught several courses, including Computer-Assisted Text Editing, Business Communications and Writing for Economists, as well as his specialty course, Computer and Literary Linguistics Studies, for which he became highly and widely regarded.

In addition to his work as a physics administrator and teacher, Rudman has become an expert in yet another field — authorship attribution. He’s given about 40 talks on the subject in 26 U.S. cities and 10 countries. He’s been quoted in many international and national publications, including The New York Times, and he’s written several articles, including two encyclopedia entries, on the topic. Many individuals and organizations, even the CIA, have sought his counsel.

“It’s a scientific look at literature to verify authorship. You look at stylistics and statistics,” said Rudman whose specialty is 18th century author Daniel Defoe. “Everyone has a unique and verifiable writing style. You use neural networks, support vector machines and Bayesian techniques to verify authorship.

“I use my physics background to help me conduct experiments relating to authorship attribution. It’s a science I’ve been working on since the early ’70s,” Rudman said he became interested in Defoe during his undergraduate days.

“Defoe was also an accountant, economist, journalist, spy and a counterespionage. He wrote so many different things. He was one of the first people to write for money. He cranked stuff out everyday. He was fascinating,” he said.

Also fascinating is the time Rudman spends on other university activities, including hosting hundreds of meals in which Carnegie Mellon students learn proper dining etiquette, and working as an assistant coach for the Carnegie Mellon golf team. He’s also given talks for Alumni Relations and served on the University Disciplinary Committee and the Fullbright Scholarship Committee, among many others.

In his 51st year at Carnegie Mellon, Rudman stresses the importance of being flexible.

“You have to adapt and change. You just have to,” he said.

And how long will he continue to work?

“As long as I feel myself being productive,” he said.

That could be a while.

Upcoming Events

Experimental Geography

Check out the new art exhibit by 19 artists and teams from seven countries that explains the differences between geographical study and artistic expression of the earth. Through Jan. 31
Miller Gallery, Purnell Center

Botanicals: Environmental Expressions in Art, the Alpsa and Isaac M. Sutton Collection

One of the finest private collections of contemporary botanical art in America, these 54 artworks are expressions of the purely aesthetic forms found in nature. Through June 30
Hunt Institute

University Lecture Series

“The Global Rise of Social Enterprise” Jerr Boschee of The Institute for Social Entrepreneurs has been an advisor to social entrepreneurs in the United States and elsewhere for more than 30 years. 4:30 p.m., Monday, Nov. 23
Porter 100, Gregg Hall

School of Design Lecture

Laurene Vaughan of RMIT University in Austra-
la will lecture on “Design outside of Design.” 5-6:30 p.m., Tuesday, Nov. 24
Bread Hall, Margaret Morrison 1103

Healthcare@Heinz Lecture

Stephen Parente of the University of Minnesota will discuss “Meaningful Market-based Health Reform: The Journey Thus Far.” Noon – 1:15 p.m. Monday, Nov. 30
Hamberg Hall 1001

Open Forum with President Cohen

Staff Council will host an open forum with President Cohen. Noon-1 p.m., Monday, Nov. 30
Rangos 2 & 3, University Center (UC)

UniverSoul Leadership

The university’s growing presence in the world requires the ability to lead and manage in new ways. This interactive workshop will challenge assumptions, analyze traditional leadership models, and explore non-traditional leadership styles. Visit www.cmu.edu/ep/learning/leader-
ship/index.html to register.
9 a.m., Wednesday, Dec. 2
Conlon Room, UC

Building Virtual Worlds Show

From virtual reality to audience interaction and everything imaginable in between, this live showcase of the most impressive student work from the semester is truly a must-see event.
Doors open at 2 p.m.
2:30 p.m., Wednesday, Dec. 2
Chosky Theater

University Lecture Series

Nadine Aubry, the Raymond J. Lane Distinguished Professor and head of the Department of Mechanical Engineering will discuss “Lessons from Living Life on the Boundary.”
4:30 p.m., Dec. 3
Porter 100, Gregg Hall

School of Music Holiday Concert

Robert Plage, conductor
8 p.m., Wednesday, Dec. 2
Phipps Conservatory

Guitar Ensemble Concert

Jim Faris, director
8 p.m., Wednesday, Dec. 9
Alumni Concert Hall, College of Fine Arts

Holiday Tour at Phipps Conservatory and Botanical Gardens

Please join Carnegie Mellon’s Women Association members and friends for a self-guided tour of Phipps Conservatory. The cost is $10 for adults, $9 for seniors (64+), $9 for students and $7 for children (9-12). RSVP by Dec. 4 to Tricia Dugan at piphps@andrew.cmu.edu Checks may be written to CMWA and mailed to: CMWA Box 1269 5032 Forbes Ave., Pitts-
burgh, PA 15289.
6 p.m., Thursday, Dec. 10
Phipps Conservatory

Faculty Artist Recital:
Cynthia DeAlmeida, oboe
2 p.m., Sunday, Dec. 13
Kroon Recital Hall, College of Fine Arts
Stimulus Funding Supports a Broad Range of Research

and the Port Authority Transit. “The story will continue to unfold,” he said.

The majority of Carnegie Mellon’s ARRA funding, nearly $21 million, has been appropriated through the National Science Foundation (NSF) to support nearly three dozen research projects in robotics, engineering, computer science, business, biological sciences, and social and decision sciences.

The largest NSF awards went to University Professor of Computer Science Edmund Clarke; Associate Professor of Electrical and Computer Engineering Rohit Negi; Robotics Professor Jessica Hodgins; Assistant Mechanical Engineering Professor Alan McGaughey; Associate Teaching Professor Maxine Eskenazi in the Language Technologies Institute; and Computer Science Professor Tuomas Sandholm.

Clarke’s $3.8 million award will support his team’s work to create revolutionary computational tools and models to advance science in several areas, from helping to develop new treatments for pancreatic cancer and atrial fibrillation to building safer airplanes and automobiles. The researchers will use Model Checking and Abstract Interpretation, methods that are successful in finding errors in computer circuitry and software, and apply them to their work in biological and electronic complex systems.

Sandholm and his research team will use $855,259 in stimulus funding to build on the existing algorithms they developed for matching living kidney donors with unrelated kidney recipients. Among the advances the team hopes to make is to develop faster algorithms for matching donors and recipients, and to create algorithms that yield solutions to last-minute discoveries that the donor’s kidney and recipient are not compatible.

The grant will enable Sandholm’s research group to apply their current algorithms to multiple kidney exchanges — including the nationwide one that United Network for Organ Sharing plans to create — and to develop better algorithms and processes for the kidney exchange problem.

“The proposed research will immediately help save hundreds of lives annually in the U.S. alone,” Sandholm said. “Once the nationwide kidney exchange reaches steady state, that number can be over 5,000 per year. The approach also leads to dramatic improvements in the quality of life by moving patients off dialysis and back into the productive workforce.”

In addition to the NSF grants, Carnegie Mellon has received more than $5 million in stimulus funding from the National Institutes of Health (NIH) to support a variety of scientific research that holds promise for positively impacting human health.

“Now, we know these investments in research will improve and save lives for generations to come,” President Obama said of the NIH’s recent announcement of $35 billion in national stimulus funding.

“But we also know that these investments will save jobs, they’ll create new jobs — tens of thousands of jobs — conducting research, and manufacturing and supplying medical equipment, and building and modernizing laboratories and research facilities all across America.

“And that’s also what the Recovery Act is all about. It’s not just about creating make-work jobs; it’s about creating jobs that will make a lasting difference for our future,” Obama said.

“These grants bring both societal and economic benefits to the region,” McNulty said. “Some of this research will provide life-saving innovations to the medical field, while helping to create new companies and new jobs. This is something that we’ve done with great success at Carnegie Mellon, and we look forward to future breakthroughs thanks to these generous grants.”

The largest of the NIH awards went to Dr. Joel Stiles, an associate professor in the Biological Sciences Department and the Ray and Stephanie Lane Center for Computational Biology; Robert Murphy, the Ray and Stephanie Lane Professor of Computational Biology; and Eric Ahrens, associate professor of biological sciences.

Stiles and his research team at the National Resource for Biomedical Supercomputing received a $1.3 million award to make new supercomputing technology available to researchers across the United States, allowing them to model and simulate the structure and function of molecules. The technology is 100 times faster than currently used resources and will dramatically accelerate research that visualizes and predicts the chemical interactions that underlie health and disease. The work will provide information very important to drug discovery.

Chief of Naval Operations Visits Carnegie Mellon

Chief of Naval Operations Admiral Gary Roughead, the top naval advisor to President Obama, visited Carnegie Mellon’s Pittsburgh campus in October to discuss his vision of the current and future U.S. Navy. He mentioned that the Navy’s goal is to be a global navy by being in and around the areas that “we have interest and responsibilities.”

“International naval cooperation is the cornerstone of America’s maritime strategy,” Roughead said. “We have to be driving toward a Navy that reflects the face of the nation, a Navy that when the American people and American leaders look at it, they see themselves reflected back. And, we have to start now.”

He said it is the Navy’s aim to project power, be a deterrent force, and to provide sea control, maritime security, humanitarian assistance and disaster response. Roughead also mentioned how counter-piracy is a great example of how the Navy stands on a global stage by working with friends and allies from different nations to keep the sea lanes of communication open.

Kiron K. Skinner, an associate professor of international relations, director of the International Relations and Politics Program, and a member of the Chief of Naval Operations Executive Panel, believes Roughead’s message came at a crucial moment.

“With the U.S. involved in two wars in the broader Middle East and the Obama administration reassessing its Afpak (Afghanistan/Pakistan) policy, it’s imperative to understand how our military plans to manage everything,” she said. “It’s also important to realize that the U.S. is not operating on its own accord but in the interest of the global community and with international cooperation.”


Roughead’s lecture was part of the International Relations and Politics Program’s Speaker Series and was co-sponsored by the College of Engineering and Heinz College.
Building Projects Earn Accolades for Sustainability and Design

Bruce Gerson

The renovation to Porter Hall 100, also known as Gregg Hall, and the building addition to the Tepper School of Business recently earned accolades from the U.S. Green Building Council and the Pittsburgh chapter of the American Institute of Architects (AIA).

Porter’s “Lofty” Gregg Hall Renovation

The Gregg Hall renovation project in 2007-08 received a Silver Leadership in Energy and Environmental Design (LEED) certificate from the U.S. Green Building Council for its energy efficiency, sustainability and use of green design principles. The project included renovations to the Gregg Hall auditorium, the creation of a 3,200-square-foot second floor above the auditorium and the restoration of Gregg Hall’s exterior and windows. That space above the auditorium, completed in summer 2008, houses the Information Systems program in the College of Humanities and Social Sciences.

The Gregg Hall project’s green elements include energy efficient lighting, appliances and computers; regionally manufactured materials that contain recycled components; environmentally friendly paint, coatings, adhesives and sealants; and composite wood and doors that contain no urea-formaldehyde. In addition, 60 percent of the construction waste was recycled.

“Porter 100 had multiple and lofty goals from the start,” said Ralph Horgan, associate vice provost for Campus Design and Facility Development. “The first goal was to gut and rehab one of the largest, most heavily used and most tired-looking lecture hall on campus. Second, to somehow shoehorn a new home for the Information Systems program in the air space of that old lecture hall. Third, to restore the original Hornbostel exterior of the building. And lastly, to do all of this but only take the lecture room off-line for one semester.”

Horgan said the project also recaptured old basement space for office use by graduate students in the Mechanical Engineering Department.

“It is a testament to the whole team, and our team leader Harold Major that we were able to accomplish all of these goals for the project,” Horgan said.

Tepper School Addition

The 7,100-square-foot building addition to the west entrance of the Tepper School, adjacent to Hunt Library, recently received the Honor Award, the highest award given annually by AIA Pittsburgh, and garnered glowing reviews by local and national designers.

The addition, which is seeking a Gold LEED rating, houses a new suite of faculty offices and a conference room with great views of the adjacent Peace Garden and Schenley Park. Its exterior consists of glass, aluminum metal and dark fiber cement board panels.

Green elements to the Tepper School addition include a retention pit to control storm water runoff, lighting sensors and timers based on room occupancy and the amount of natural light, and the use of regionally manufactured materials and certified wood from forests in which trees were replanted.

“I think that the new Tepper addition project is really special,” Horgan said. “We did a lot of hard work with the school, Dean Dunn, Lynn Lalone, Joseph Pastorik and with our architect, EDGE Studios, to produce a space that worked for the users but that also made a special statement to the campus and to the city about the new and exciting work taking place in the Tepper School.”
Alumni Honored During Homecoming

Alumni, students and faculty were honored for their achievements and service to the university as part of Homecoming Weekend. In the front row, from left are: Jeffrey L. Zaslow (HS’80), Wayne S. Balta (E’82), Sarah Sheikh (TPR’10), Carol Dudley-Williams (E’80), Deborah C. Kelly (HNZ’94), Benjamin A. Pontano (E’65), Saad Rashid Al-Matwi (TPR’10) and Edwin Mieczkowski (A’59). Standing are: Ram K. Krishnamurthy (E’98), Markus Klausner (E’98), Duquesne Light Company Professor of Engineering Chris T. Hendrickson, Alumni Association Board President Rick Creech (E’84), Carnegie Mellon President Jared Cohen, Interim Associate Vice President and Director of Alumni Relations Jay Price, (S’66), William Thomas Wood II (E’74), Shree K. Nayar (E’91) and Fredkin University Professor of Robotics William ‘Red’ Whittaker (E’75, 79). Not pictured is Alumni Achievement Award winner Ralph Guggenheim (HS’74, MCS’79).
Pausch Family Dedicates Bridge During Homecoming

Byron Spice

The Randy Pausch Memorial Bridge had a rambunctious coming-out party thanks to Randy’s children, who stood in for their laryngitis-stricken mother, Jai, during the Oct. 30 dedication ceremony.

Seven-year-old Dylan, taking the microphone from President Jared L. Cohon and promptly startling several hundred listeners with a loud “Hello! said his daddy was like the bridge in at least one way: “He was always lighting up — with hope.” Once he and brother Logan, 5, and sister Chloë, 3, helped Cohon cut the ribbon on the Purnell Center side of the new bridge, they punched a ceremonial button to initiate the bridge’s light show and then ran happily shrieking down the bridge toward the Gates Center for Computer Science as the sidewalk pulsed with colored light.

The 230-foot pedestrian bridge, which links the north end of the Purnell Center for the Arts with the fifth floor of the Gates Center, is the last major component of the new Gates and Hillman centers, Cohon noted.

“Without question, this will be a major thoroughfare,” he said, noting that it connects The Cut and what may come to be known as “the upper campus” with the new west campus quad below.

But the bridge, connecting the new computer science buildings with an arts building, also symbolizes how Pausch encouraged computer scientists and artists to work and learn together, Cohon said. Most notably, Pausch created the Building Virtual Worlds course, which remains one of the most popular on campus, and co-founded the Entertainment Technology Center.

As designed by the Gates and Hillman centers architects, Mack Scogin Merrill Elam Architects of Atlanta, the south sidewalk of the bridge has a theme derived from “The First Penguin Award.” Pausch would present the award to students whose projects took big conceptual or technological gambles, but failed. The idea was that when a group of penguins jumps into perilous waters, someone has to be first.

The sidewalk consists of aluminum panels with cutouts in abstract shapes that evoke leaping penguins and splashing water. At night, the sidewalk will be backlit by programmable light-emitting diode (LED) technology from Philips Color Kinetics, a unit of Philips Electronics that originally was a spin-off of Carnegie Mellon.

At the Gates Center end, the aluminum screens cover a brick wall. Pausch mentioned brick walls as a metaphor throughout his lecture to describe obstacles that stand between people and their dreams and also help people realize how badly they want those dreams. Behind the wall is the Microsoft Alumni Outdoor Classroom, a small area for open-air classes.

P J Dick Inc. was the general contractor, with Hanlon Electric Co. and Keystone Metals Inc. serving as key subcontractors for the bridge.

The bridge’s lighting designers, Christopher Popowich and Cindy Limauro, professor of lighting design in the School of Drama, developed a 15-minute light show for the bridge that premiered Oct. 30 and now runs in a continuous loop. They used the bridge’s 7,000 LEDs to interpret several visual metaphors from Pausch’s famous Last Lecture:

- **Fun with Crayons** — The bridge panels start in darkness and fade up to white light, referencing Pausch’s early preference for black and white crayons; the bridge then changes to colors favored by his family members.
- **Space, the Last Frontier** — The lighting simulates a rocket blast off on the brick wall and the bridge panels create a panorama of space.
- **The Elevator** — Pausch spoke of the elevator stopping at floors.
- **The First Penguin** — Imagery and motion suggest penguins jumping into water.
- **Disney and the Circus** — The grand finale shows off the possibilities of the cutting-edge LED technology.

Like the bridge, Cohon said, “Randy was a bright, shining light in our lives. That’s why this bridge means so much to us.”

EHS Burns Mock Dorm

Byron Spice

Carnegie Mellon Environmental Health and Safety (EHS) held an Emergency Awareness Day last month in which firefighters demonstrated how quickly a dorm room could be engulfed in flames. Rick Caruso, fire safety manager for EHS, explained the fire risk in dorm housing and gave some precautionary tips as a mock dorm room was set on fire in the Donner Ditch. In less than 2 minutes, the room, which had been constructed with one open wall, was engulfed. To view the demonstration, visit the Piper+ at www.cmu.edu/news/news-notes/piper/index.shtml.

Von Ahn Wins Packard Fellowship

Byron Spice

Luis von Ahn, assistant professor of computer science, was one of 16 promising young scientists chosen by the David and Lucile Packard Foundation as a 2009 recipient of a Packard Fellowship for Science and Engineering. Each fellow receives an unrestricted research grant of $875,000 over five years.

Von Ahn, who earned his Ph.D. in computer science at Carnegie Mellon in 2005 and joined the faculty in 2006, has pioneered an area of computer science that he calls “human computation” — combining human abilities with those of computers to solve problems that would be impossible for humans or computers to solve by themselves. Online, multi-player games are one method he has used to harness human brainpower; some of these Games With A Purpose (GWAPs) are available at http://gwap.com.

Von Ahn also developed reCAPTCHAs — distorted word puzzles that people must solve to gain entry to certain Web sites or to register for certain Internet services. Like similar CAPTCHA puzzles, they are a security device for Web sites, but because reCAPTCHAs are made using text from pre-computer-age books and periodicals, solving them also aids in the digitization of old texts. In September, Google Inc. acquired reCAPTCHA Inc., the Carnegie Mellon spin-off company that produced the puzzles.

The Packard Fellowship Program is among the nation’s largest nongovernmental programs designed to seek out and reward the pursuit of scientific discovery with “no strings attached” support.

Previous Carnegie Mellon faculty winners of Packard Fellowships include Dannie Durand, associate professor of biological sciences and computer science, and Jessica Hodgins, professor of computer science and robotics.
Two Nobel Laureates Made Early Stops at Carnegie Mellon

Two of this year’s Nobel Prize laureates spent time at Carnegie Mellon early in their careers. Oliver Eaton Williamson (TPR’63), who earned his Ph.D. in economics at Carnegie Mellon, shares this year’s Nobel Prize in Economic Sciences. Ada Yonath, a post-doctoral fellow at the Mellon Institute in 1969, was named one of three winners of the Nobel Prize in Chemistry.

Williamson and Yonath join 16 other Nobel Prize winners with ties to Carnegie Mellon — most recently Ed Ruben, who shared the Nobel Peace Prize as a member of the Intergovernmental Panel on Climate Change along-side former Vice President Al Gore.

Oliver Eaton Williamson

Williamson is currently the Edgar F. Kaiser Professor Emeritus of Business Economics and Law at the University of California, Berkeley. While he started the Ph.D. program at Stanford business school, Williamson came to Carnegie Tech at the suggestion of Charles Bohni (GSIA’59), an assistant professor with whom three Ph.D. students shared an office.

“Chuck and I would converse about this and that, but he always came up with a final remark: ‘You should be at Carnegie,’” Williamson said. “Frankly, I had never heard about the Graduate School of Industrial Administration (GSIA) program, but I eventually followed up on Chuck’s advice and inquired about the Ph.D. program. One thing led to another, and I left Stanford after two years to join the Ph.D. program at Carnegie. Stanford is a great university, but GSIA was unique and over fulfilled my expectations.”

The Nobel Foundation announced that Williamson was selected for: “his analysis of economic governance, especially the boundaries of the firm.”

Williamson developed focus for his research under the instruction of several academic pioneers who, during the 1960s, were revolutionizing the principles of accepted economic theory. While at Carnegie, he especially learned from Richard Cyert, James March, Allan Meltzer, Herbert Simon, Jack Muth and fellow Ph.D. candidates.

“I am forever grateful to the education that I received at GSIA between 1960 and 1963. And Pittsburgh is a great town.” Williamson said. “It was an incredibly exciting experience. I suspect that I had latent interdisciplinary interests. GSIA brought such interests to the fore. I summarize these in what I have referred to as the Carnegie Triple: Be disciplined; be interdisciplinary — if, and as the problems cross interdisciplinary lines — and have an active mind.”

Chester Spatt, the Pamela R. and Kenneth B. Dunn Professor of Finance and director of the Center for Financial Markets at the Tepper School of Business, said Williamson was selected for: “his analysis of economic governance, especially for the commons.”

Williamson spent time at Carnegie Mellon early in his career. Stanford is a great university, but GSIA was unique and over fulfilled my expectations.”

Heidi Opdyke

Golden Opportunity

Pople Family Provides

At the inaugural John A. Pople Lectures in Theoretical and Quantum Chemistry held on Oct. 5, the children of the late John A. Pople presented the former chemistry faculty member’s Nobel Medal to the University. Pople received the 1998 Nobel Prize in Chemistry for his contributions to the field of quantum chemistry. The gold medal, which will be displayed in Hunt Library beginning this spring, will become one of only a few to be displayed at a university. Pople bequeathed his medal to Carnegie Mellon, the place where he completed his prize-winning research.

“My father was a brilliant man in many ways. And one of the things that he was wise enough to know is that no scientist is an island. In order to achieve great results you need a good environment, a supportive department and administrators, and the best technology,” said Andrew Pople, the laureate’s son. “All this and more he found at Carnegie Mellon.”

Ada Yonath

Yonath received the Nobel Prize this year for working in generating X-ray crystallographic images of the ribosome structure as early as the 1970s, a task the Nobel committee said was then considered “impossible.” She currently is the Martin S. and Helen Kimmel Professorial Chair at the Weizmann Institute of Science in Israel.

During her time in Pittsburgh, the Israeli scientist worked with Gerald Elliott, a visiting scientist from Kings College in England in Rice’s lab. Yonath helped Elliott develop a low angle X-ray lab for studying muscle in the Mellon Institute and in Rice’s lab at the Marine Biology Laboratory in Woods Hole, Mass.

“It was my first time in the USA, and I had a 1-year-old baby,” Yonath said. “The scene was certainly different from all I experienced earlier, and I learned a lot scientifically and also about science policy.”

While the work done at the time wasn’t as revolutionary as Yonath’s later work which earned her the Nobel Prize, Rice said that she and Elliott helped the college venture into small angle X-ray diffraction research. “We were just entering a new era, and it was very tricky,” he said.

Yonath said that her Ph.D. thesis at the Weizmann Institute was on collagen, and during her work she developed an integrated biochemical/computerized approach that allowed high-resolution structure determination of collage. She extended her knowledge about fiber and power diffraction during her time in Rice’s lab.

“The combined experience was vital for detecting the potential of my initial diffraction from the ribosome micro crystals,” she said.

Rice said the work was paid for by a National Institutes of Health grant, which was devoted to muscle biochemistry and biophysics.
Joseph Mertz knows where Babeldaob is. He’s been to the largest island in the Pacific Island nation of Palau and is hoping more people will want to visit there or other far-flung destinations.

“We’ve had students working there for five years now,” Mertz said. “They work in the ministry of health and education, and they come back with nice photos of waterfalls and stories about snorkeling and scuba diving.”

Mertz, an associate teaching professor in the H. John Heinz III College and the School of Computer Science, has sent 49 students from all seven colleges to provide assistance to governmental departments, schools and non-governmental organizations in technologically underserved nations. Internships have occurred in places such as Niue, Palau, Ghana, India, Sri Lanka and the Philippines.

Mertz designed and teaches Technology Consulting in the Community in Pittsburgh and Qatar. Students develop technical consulting and management skills while collaborating on site with a leader of a local organization. The international Technology Consulting in the Global Community summer program is an outgrowth of the course.

The students who take on the internships have to be able to be flexible and resourceful, Mertz said.

“The difficulty is not in the technical skills. You can bring that in,” Mertz said. “It’s dealing with ambiguity. No one is telling the students what to do. Their first task is to bring structure to this very unstructured project and assess what needs to be done.”

There’s also the issue of handling new experiences, students maintain a blog at http://ticegc.org/about their experience that include everything from bus trips to dining on fruit bat soup. He said he also finds they miss media-rich Web sites in areas where connection speeds are more like those of dial-up connections.

“They have transformative experiences. They use their skills, but they also build confidence by going to these far-away places,” Mertz said.

In his recent university lecture, Mertz explained the capacity-building consulting model the program is built on and described the outcomes the students have achieved. He hopes to exponentially expand the program to involve more students and faculty advisors.

“All of the pieces are in place,” Mertz said. From the partners’ view, the programs have been successful as well. Projects have included Web sites, design templates and databases. The Carnegie Mellon students have trained local staff to update and sustain the programs on their own. One example is a Web site created for the Ministry of Health in the Cook Islands. Since it was created in 2004 by a student, Ministry of Health officials have continually added additional sections and updated content.

Not only are the project partners gaining value from the technical skills supplied by the students, but the students come away with new perspectives.

“They learn to slow down enjoy, and act more deliberately in life,” Mertz said.

Mertz, a lifelong Pittsburgher, said he wishes a program like this would have been available when he was in school.

“The beauty of that I get to make an impact around the world through these students,” Mertz said.

Support for the project comes from a variety of sources. The Egerman Family Foundation has been the primary supporter. Additional support has come from the Secretariat of the Pacific Community, the United Nations Association of the United States, the Pacific Telecommunications Council and the university.
Soap Stars Seen on Campus

"As the World Turns" Executive Producer and Director Christopher Goutman (CFA ’76) watches Maura West and Michael Park rehearse a scene for the long-running soap opera in front of the College of Fine Arts on Nov. 2. The show was on a three-city tour, and Pittsburgh stops included Carnegie Mellon, Charles Spiegel for Men in Squirrel Hill, New Hope United Methodist Church on the North Side and the Clark Bar & Grill on the North Shore. Scenes from Pittsburgh are expected to air on CBS on Nov. 20.

ARRA-Funded Projects

Maxine Eshkenazi and her co-PI Alan Black were awarded an $897,502 grant to create the Dialog Research Center, which will aid spoken dialogue researchers worldwide by distributing data collected through "Let's Go," an automated phone line for Port Authority schedules. The center also will conduct tutorials on spoken dialogue systems and sponsor competitions to spur research. In addition, the center will develop a 311 phone line to handle citizen complaints and service requests for the City of Pittsburgh.

National Institutes of Health Awards

Robert Murphy received $510,300 to expand current methods of computational proteomics. Murphy and his colleagues use automated fluorescence microscopy and machine learning techniques to determine the location of proteins within cells. The new funding will enable the researchers to further study the subcellular proteins and how they change locations in response to varying conditions, such as exposure to therapeutic drugs, providing new methods and targets for drug discovery.

A grant for $492,081 will allow for continued development of cellular MRI technology that will allow Eric Ahrens and his research team to track therapeutic cells, such as those used in vaccines or gene therapies, as they travel through the body. A major bottleneck to approval of cell-based therapies has been the inability to prove where therapeutic cells go after they are introduced to the body. Ahrens’ technology addresses this problem and is hoped that the technology will be used to monitor a colorectal cancer dendritic cell vaccine in clinical trials at the University of Pittsburgh Cancer Institute. CelSense, a Carnegie Mellon spin-off company, will manufacture the markers used in Ahrens’ study.

National Endowment for the Arts Award

The College of Fine Arts (CFA) also has received ARRA funding. CFA Dean Hilary Robinson and her co-PI Courtney Ehrlichman garnered a $50,000 award from the National Endowment for the Arts for their “Creative Entrepreneurs” project. The effort aims to support the retention of individual artists and to develop their careers in the local arts community.
Carnegie Mellon Purchases Additional Properties for Future Development Along Forbes-Craig Corridor

Bruce Gerson

Carnegie Mellon has purchased three nearby Forbes Avenue properties, including the former site of an Exxon service station at 4621 Forbes, from Museum Park Partners, a land development firm, for future development in the Forbes Avenue and Craig Street corridors. In addition to the former service station, the purchase includes a hillside just east of 4621 and a house on Filmore Street, which sits behind 4621 and adjacent to a parking lot for the Graphic Arts Technical Foundation (GATF) building. Carnegie Mellon and Museum Park Partners completed the closing Nov. 9.

“We are pleased to have come to this recent purchase, as it will allow Carnegie Mellon to plan for a holistic redevelopment of a property that is critically important to the university,” said Ralph Horgan, associate vice provost for development, who noted that property is at a very high premium in the Oakland section of Pittsburgh, especially near Craig Street, which has one of the lowest property vacancy rates of any area in the country.

“This recent purchase completes our strategic assembly of large parcels along the Forbes-Craig corridor,” said Horgan, who noted that Carnegie Mellon now owns the majority of land along Forbes from Craig Street to Margaret Morrison Street. “In the future, this corridor will provide a ‘front door’ to our campus from Oakland.”

Horgan also said the redevelopment of this latest purchase will enhance the university’s other investments on campus, such as its Collaborative Innovation Center — the only building in the world where Google, Intel, Apple and a Microsoft Research Lab live under one roof — and the recently completed Gates Center for Computer Science and Hillman Center for Future-Generation Technologies. “Our students are benefiting from the increased instructional space, and our corporate partners value our quality development,” he said. “For this Forbes-Craig corridor, the university believes that mixed-use development provides the best economic model for the university, the city and our corporate partners.

The university will work from a plan that allows for the orderly coordination of uses, parking, traffic and design.”

The recent acquisition follows the purchase of three acres of land along Forbes Avenue this past summer, which included a lot in Junction Hollow on the south side of Forbes Avenue, the GATF building at 4615 Forbes, a parking lot behind the GATF building, and the National City Bank property and building at 4612 Forbes.

In an email to the campus community last summer, Carnegie Mellon President Jared Cohon said these contiguous properties were strategically located to enable future growth that will benefit the university and the region. He said the investment was of compelling importance to the university’s future growth, even in such a challenging economic time.

These properties, which were purchased for approximately $25 million, and the recent purchase of the three additional Forbes Avenue properties for $7.5 million are being funded from working capital reserves of the university.

In 2008, Carnegie Mellon purchased the properties at 4620, 4622 and 4626-4628 Forbes Avenue, which housed a bar, vintage clothing shop and restaurant.

Piper Readership Survey: We Want Your Feedback

Is the Piper helping to keep you informed of campus news and events? Is it something you enjoy receiving and reading? In our ongoing effort to keep you posted, we want to know how we’re doing. Please let us know by completing this confidential survey and returning it in campus mail to Bruce Gerson, 209 Alumni House. It should only take you about 10 minutes to complete. Provide as much detail as possible in your responses — the more you share, the more we can learn about how the Piper can best serve you.

If you’d rather complete the survey online, please visit the Piper at www.cmu.edu/news/news-notes/piper/index.shtml. For planning purposes, please send us your responses by Dec. 11.

Thank you in advance for your feedback.

1. Which category best describes your affiliation with Carnegie Mellon?
   - Faculty
   - Staff
   - Other

2. Which of the following categories best describes your age?
   - 18-29
   - 30-39
   - 40-49
   - 50-59
   - 60-69
   - 70+

3. In what academic department or administrative unit do you work?

4. When you receive the Piper in campus mail, what do you normally do with it?
   - Read it thoroughly
   - Skim it
   - Take it home to read
   - Pass it on to a friend

5. How satisfied are you with the Piper? Why?
   - Very Satisfied
   - Somewhat satisfied
   - Somewhat dissatisfied
   - Very dissatisfied

6. Do you feel the Piper adds to your knowledge of the university and helps to keep you informed of major happenings on campus?
   - Yes
   - No
   - Not sure

7. What do you like most about the Piper?
   - The Q&A column
   - Calendar of events
   - The lecture spotlight

8. What do you like the least?
   - The Q&A column
   - Calendar of events
   - The lecture spotlight

9. What improvement(s) would you like to see made in the Piper?
   - Faculty stories
   - Student stories
   - News stories from the university’s administration

10. What kind of stories would you like to see more of in the Piper?
    - Faculty stories
    - Student stories
    - News stories from the university’s administration

11. What kind of stories would you like to see less of in the Piper?
    - Faculty stories
    - News briefs
    - Staff stories

12. The Piper currently appears once a month. How often should the Piper be published?
    - Weekly
    - Monthly
    - Every other month
    - Quarterly

13. Have you ever visited the Piper’s Web site (www.cmu.edu/news/news-notes/piper/index.shtml) to access videos, slide shows or see more images in relation to a story you’ve read in print?
    - Yes
    - No
    - Didn’t know about it

14. If yes, how would you rate the online components?
    - Excellent
    - Below Average
    - Good
    - Poor
    - Average

15. If yes, what improvement(s) would you like to see made to the Piper Web site?

16. Would you like to receive an email alerting you when the new issue is available online?
    - Yes
    - No
    - Already receive one

If yes, please provide your email address:

Thank you for completing the survey.