



## Carnegie Mellon University

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## Armitage Recognized Among Best Educators

■ Heidi Opdyke

To see the impact Professor Bruce Armitage has had on chemistry education at Carnegie Mellon and across the country, one only needs to see the numerous letters of support that include former students who are now teaching their own chemistry courses.

Armitage, a professor of chemistry and co-director of the

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## Directing the Future



PHOTO BY TIM KAULEN

CMU ALUMNUS AND AWARD-WINNING HOLLYWOOD PRODUCER JOHN WELLS INTERACTS WITH STUDENTS DURING A RECENT EVENT CELEBRATING HIS TRANSFORMATIONAL GIFT TO THE SCHOOL OF DRAMA'S DIRECTING PROGRAM. FOR MORE INFORMATION ON THE GIFT AND WELLS, SEE PAGE 3.

## Students Hit the Road To Tackle Social Media Challenges

■ Ken Walters

The course "Measuring Social Initiatives" at Heinz College is taking students everywhere from executive boardrooms to truck stops.

Now in its third semester, the course is popular with students and gaining attention from major corporations. Student teams work with companies to create solutions to help businesses capitalize on social media trends and technology.

"Companies are investing resources into social communities and channels to help build and engage audiences, but find they don't always meet their objectives," said Ari Lightman, practice professor of digital

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## Spring Carnival

### Marketplace, Memory Lane Add to Midway Offerings

■ Maria Zayas

A time machine will be part of campus soon.

It won't hurl anyone into the distant future or the pre-historic past, but it will walk attendees through the 91-year history of Carnegie Mellon's annual Spring Carnival, which takes place April 14-16.

An entry into the Midway will sport collages of images from past Spring Carnivals as far back as 1920 in a fitting tribute to the Carnival theme, "When I Was Your Age."

"The entryway used to be this wooden card that just said 'carnival' and maybe had our opening hours," said Chun Yu, publicity co-chair on the Carnival Committee. "We wanted to bring something elaborate to Midway."

The display also will include icons representing student organizations and their booths.

The second major change attendees

will notice on Midway is the addition of the Midway Marketplace.

"This year, the focus was on making something completely new for Spring Carnival, rather than to augment it, and I think Marketplace was borne out of that," Yu said.

What used to be a small concert tent will have tables for student organizations and individual students to display and sell merchandise and creative work. Merchandise will include items such as student

artwork, jewelry and T-shirts. Organizations also may use the space for projects, discussions and more. For example, the Online Gaming Society is planning to host a video game competition.

Additional changes the student Carnival Committee implemented include updating booth construction guidelines, said Nick Harper, chair of the student Carnival Committee.

The Carnival Committee has worked

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# Q&A: Wallach, Staff Aid Students' Quest for Scholarship

■ Abby Houck

*Stephanie Wallach and her staff love working closely with students. And students love working with them.*

*Wallach is assistant vice provost for undergraduate education and has directed the Fellowships and Scholarships Office and Undergraduate Research Office since 2006. Since that time she and her staff have helped CMU students acquire more than 30 prestigious fellowships and scholarships, such as the Fulbright, Goldwater, Churchill, Udall, Truman and Marshall.*

*The Piper visited with Wallach to find out more about the role she plays.*

## **In October, you were selected to participate in a two-week trip to Germany through a Fulbright International Educators Award. How has the experience helped you?**

There was a great diversity of participants in this Fulbright opportunity, with 17 other administrators representing major research universities like the University of Pennsylvania to community colleges out West. Germany has a very rich research and higher education landscape, and it offers opportunities for our undergraduate research students and national fellowships.



STEPHANIE WALLACH HAS DIRECTED THE FELLOWSHIPS AND SCHOLARSHIPS AND UNDERGRADUATE RESEARCH OFFICES SINCE 2006.

There were a lot of different views of higher education, which present opportunities for our students. I learned about different university structures by visiting universities in Berlin and Leipzig. I also went with a group to Chemnitz University of Technology, which has grown tremendously but also struggles to attract students to its remote location. I also visited Universität der Bundeswehr München, outside of Munich, which primarily trains military officers and officer cadets.

## **How do you identify candidates for national and international awards?**

We have so many fabulous students, but on a decentralized campus it is difficult to find students and for students to find us. It's a combination of both an interest on the student's part and making a good fit. We have worked very hard at developing better ways to figure out who these students are and also to let them know about us.

The first thing that we did was join together undergraduate research and national fellowships. They have been under one umbrella for a while, but they didn't really function in a way that allowed them to draw on each other. Students who engage in undergraduate research now become part of the cohort of students that receives messages about scholarship opportunities.

We've developed the Odyssey program, which invites a select group of sophomores to participate in a three-day workshop before the spring semester. We also work closely with Student Affairs, the advising network, coaches, athletic directors and faculty members.

## **Who supports students through the application processes?**

There is the staff at my office that includes Jennifer Keating-Miller, assistant director of undergraduate research and national fellowships, and Jen Weidenhof, our program coordinator. We also have Elisa Tragni Maloney, who is our Fulbright adviser and a part-time instructor in the Modern Languages Department. In addition, we draw on Therese Tardio, associate teaching

previous award winners to help current students. We often have them read the applications, and they advise students before they are interviewed. For example, we draw on the Truman experiences of alumni such as Terry Babcock-Lumish, Amy Cyphert, Cameron Brown and Amy Nichols.

Swati Varshey, who won the Churchill last year, spoke with Rebecca Krall about what to expect during phone interviews. Swati is in Cambridge this year and connected two of our finalists for the Gates-Cambridge Scholarship with previous award winners she met abroad. Although our candidates did not win, being a finalist is a big deal.

## **What scholarship and fellowship announcements will take place soon?**

We had 22 applicants for Fulbright scholarships this year, and 11 are finalists. The Fulbright is a good fit for us because it is research driven. This is the largest group of Fulbright finalists we've ever had, and I think it's really a result of a better-managed process on our

## **STELLAR SCHOLARS**

**Stephanie Wallach's team advises students throughout the application process for national and international fellowships and scholarships. Her team has celebrated the success of nine award winners this academic year and is awaiting the results of the Udall competition and additional Fulbright announcements.**

**So far this academic year, winners include:**

**Rebecca Krall, MCS senior  
Churchill Scholarship**

**Mackenzie Smith, H&SS senior  
Luce Scholarship**

**John Cooper, H&SS senior  
German Chancellor's Award**

**Jane Herriman, H&SS/MCS senior  
(Science and Humanities Scholar)  
Fulbright Scholarship  
to Switzerland**

**Eda Akyar, H&SS/MCS senior  
(Science and Humanities Scholar)  
Fulbright Scholarship  
to Indonesia**

**Marianna Sofman, CIT senior  
DAAD Scholarship  
Fulbright Scholarship  
to Germany**

**Benjamin Cowley, CIT junior  
Goldwater Scholarship**

**Stephanie Guerra,  
H&SS/MCS junior (Science  
and Humanities Scholar)  
Goldwater Scholarship**

**Robert Tisherman, CIT junior  
Goldwater Scholarship**

candidate. We bring in research and teaching faculty who have expertise in the areas of interest to the student. Faculty can comment substantively on the student's application and also help him or her make connections and research placements abroad.

When students make it to the finalist rounds, which include interviews, we involve faculty and the Career and Professional Development Center's consultants. I would say that it is genuinely a campus-wide effort.

## **How do scholarship winners share their experiences?**

We are always looking for intersections where we can use the expertise of

end. We've helped students determine country placements that fit their needs and interests. Students are now working substantively on their proposals over a longer period of time. The involvement of the faculty committees also has translated into more Carnegie Mellon finalists.

We also are waiting to hear the results of the Udall Scholarship selection.

## **What are some recent additions to the URO regarding programs and funding opportunities?**

We are continuing the Semiconductor Research Corporation Undergraduate Research Opportunities (SRC-URO)

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## the PIPER

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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 Campus 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/](http://www.cmu.edu/police/). Obtain general information about Carnegie Mellon University by calling 412-268-2000.

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## Wallach's Team Guides Scholars

CONTINUED FROM PAGE TWO

program. We have 12 students conducting semiconductor and information technology research in the program. It starts in the second semester of the sophomore year, continues through the summer and concludes at the end of the junior year.

We continue to have interest in I-SURG, which is the International Small Undergraduate Research Grant program. Students already planning to study abroad propose research projects to conduct either while they are abroad or when they return.

In addition, we have the Jennings Brave Family Companions Fund. Larry Jennings, a trustee at Carnegie Mellon, has created this opportunity to support students who may not have the resources to go abroad in the summer. He is especially interested in students who want to go to underdeveloped countries. H&SS sophomores Prisca Ohito and Kimberly Josephson are this year's recipients.

### Can you give us a sneak peak at Meeting of the Minds?

It's so hard to choose, because there are so many great projects.

We funded a SURG in Spring 2010 for Pigpen, a group of seven acting students who performed in New York last summer. They have spent the past two years exploring how to create highly atmospheric theater using shadow play, simple lighting effects, puppetry, live music and group music.

There's also a research project in computer science on robot soccer.

Another student, Rebecca Potash, researched inkjet electronics with Vice President for Research Rick McCullough. She became a contributing member of an entrepreneurial spinoff, and she is learning about patents and business start-up methods.

CIT student Heather Dolan did research on DNA sequencing with Professor James Schneider, and she's about to have a potential article in Science based on her findings in the lab. Kelly Bescherer is working with History Professor Donna Harsch to explore the feminist squatting movement in Germany in the late '70s and the early '80s.

Finally, Rachel Inman worked on a design project called "My City, My Block," which advances design solutions for public spaces in Pittsburgh. CFA faculty members Donald Carter, Dylan Vitone and Joshua Welsh supported her project.

## School of Drama Renames Directing Program After Hollywood Producer John Wells

■ Heidi Opdyke

Hollywood executive producer John Wells has made giving back to his alma mater a priority in his life.

He credits Carnegie Mellon and the School of Drama as a central component of his success as an executive producer.

"It's the people who make the difference," he said in an interview during a visit in March. Wells was on campus to announce a transformational gift to the university.

Because of his generosity to CMU, the School of Drama has renamed the directing program in his honor. His gift, the amount of which is private, includes The John Wells Visiting Professorship in Directing, support for student fellowships in directing, called "Wells Fellows," and a discretionary fund for the head of the School of Drama to subsidize the costs of visits from guest artists, cross-disciplinary symposia and other activities to enrich the school's theater training. School of Drama Head Peter Cooke said the first visiting guest artist would be Peter Kleinert of the Ernst Busch School of Performing Arts in Berlin, Germany.

The university has changed since Wells graduated in 1979. At the time, the Purnell Center for the Arts was only a hill, and drama students shared quarters with musicians in the CFA building.

Pittsburgh's culturally rich environment also was important for him in shaping his studies.

"The thing that made it special then and now is it's a very intensive, creative and academic experience. It's completely focused on drama and storytelling and design and theater, and theater is what feeds into television, which is what I ended up doing," he said comparing Pittsburgh to locations such as Los Angeles, Chicago and New York. "What I wanted was some place where I could grow the craft. You need a conservatory experience to be the basis to start. It's the edge of the pool you push off of."

One thing that has stayed similar is the small selective nature of the school.

"There's more opportunity to be hands on," he said. "You're not sharing the play with 20 people but rather two or three."

As a student, Wells struggled with tuition. He said he was from Arapahoe County outside of Denver where there were "a lot of people living hardscrabble lives." One of his professors, Bill Nelson, found a benefactor "and he would write a check that would keep me in school when I thought I was going to have to go. And I never forgot that. I never would have been able to do any of the things in my career that I did without the education I received here."

Shows produced by Wells have received more than 200 Emmy Award nominations and have won more than 50 Emmy Awards. His shows also have received 50 Golden Globe nominations and have won four Golden Globes, and Wells has won five Peabody Awards and the Humanitas Prize. Current projects include "Southland" and "Shameless," and he's working to direct Meryl Streep and Julia Roberts in a film version of "August: Osage County."

Wells returns often to talk to students about the industry and his career. He spoke of the classical underpinnings that the School of Drama reinforces, which he said set the basis for how he approached his career, as well as how to work with other people. Having that foundation, he added, is more important than learning the newest technology and keeping up with equipment changes.

"Once you have that, you're prepared to do any project out there," he said.

One thing Wells hopes is that students talk to guest artists and visiting lectures and connect those experiences to their education.

They may not yet appreciate the level of professional of their professors," he said. "There's terrific faculty, and ultimately it's about the quality of the professors and the students."

## CMU, Shrinivas Dempo Announce \$3 Million Gift

Shrinivas V. Dempo, chairman of the Dempo Group of Companies in Goa, India, has made a \$3 million gift to endow a professorship at the Tepper School of Business. Dempo earned a graduate degree in industrial administration from CMU in 1998.

The gift will be used to endow the Vasant Rao Dempo Reflective Chair, named in honor of Shrinivas Dempo's grandfather. The reflective chair formal-

ly links faculty at Carnegie Mellon and at leading universities in India. Thus, there will be two Vasant Rao Dempo professors at all times — one at Carnegie Mellon and one in India. The selected Carnegie Mellon faculty member will be appointed to the chair for a tenure of four years, which can be renewed for one additional four-year term, after which a different faculty member will be chosen. The Indian scholar who partners

with the chair will be a senior, tenured faculty member of an Indian university.

The partnership continues Carnegie Mellon's important connections to India. More than 30 percent of Carnegie Mellon students are from outside the U.S., and the majority of those students are from India. In addition, the largest concentration of CMU alumni outside of the U.S. lives in India.

**\$1 BILLION**

3/15/2011  
**\$696.8M**



WE CAN MAKE A DIFFERENCE. CARNEGIE MELLON UNIVERSITY IS ON TRACK TO REACH THE \$1 BILLION GOAL OF THE INSPIRE INNOVATION CAMPAIGN. THANKS IN PART TO THE SUPPORT OF OUR CAMPUS COMMUNITY, THE UNIVERSITY IS IN THE HOMESTRETCH TO ACHIEVE THIS HISTORIC MILESTONE. VISIT CMU.EDU/CAMPAIGN FOR THE LATEST CAMPAIGN NEWS AND PROGRESS, OR TO MAKE YOUR GIFT TODAY. PROGRESS SINCE JANUARY 31, 2011: \$5,389,673.

# Reveling in Robot Innovations

■ Byron Spice

Robots come in all shapes and sizes. Some look like cars or toys — others like humans — and their diversity will be celebrated at Carnegie Mellon during National Robotics Week, April 11-15.

During that time, there will be research project demonstrations at the Robotics Institute, the annual Mobot races and the annual Teruko Yata Memorial Lecture, featuring William Swartout of the University of Southern California. The celebration overlaps with Spring Carnival, April 14-16.

The week's aim is to highlight the growing importance of robotics in a wide variety of application areas, recognize robotics technology as a pillar of 21st century American innovation and to emphasize robotics' ability to inspire.

"Now in its second year, National Robotics Week continues to be a tremendous success in educating the public on how robotics impacts society, both now and in the future," said Rep. Mike Doyle of Pennsylvania's 14th District, co-chair of the Congressional Caucus on Robotics. "Robotics provides an exciting, hands-on way for students to learn science, technology, engineering and math subjects, and the industry is poised to create many high-tech jobs in the U.S. in areas ranging from manufacturing to health care."

Swartout, director of technology for the USC Institute for Creative Technologies (ICT), kicks off the celebration by presenting the Yata Lecture at 3:30 p.m., Thursday, April 14 in the Rashid Auditorium of the Gates and Hillman centers. Swartout has been involved in the research and development of artificial intelligence systems for more than 30

years, and his research interests include virtual humans.

At ICT, Swartout provides overall direction for the institute's research programs and leads the National Science Foundation-funded museum guides project, which is bringing ICT-created virtual humans to the Museum of Science in Boston. In 2009, he received the Robert Engelmere Award from the Association for the Advancement of Artificial Intelligence for seminal contributions to knowledge-based systems and explanation, groundbreaking research on virtual human technologies and their applications, and outstanding service to the artificial intelligence community.

On Friday, April 15, the Robotics Institute will host demonstrations from noon to 4 p.m. in the Planetary Robotics Lab highbay on the first floor of the Gates and Hillman centers. A limited number of openings are available for hourly demonstrations of balance experiments with a life-sized Sarcos humanoid robot. A reception in the highbay will follow from 4 to 6 p.m.

Pre-registration is requested by April 11 for the April 14 Yata lecture and reception as well as the April 15 humanoid tours and robotics reception. More information and links to the pre-registration form are available in the Events and Activities section of the Robotics Institute website, [www.ri.cmu.edu](http://www.ri.cmu.edu).

Also on Friday, April 15, the School of Computer Science will host the 17th annual Mobot races, [www.cs.cmu.edu/~mobot/](http://www.cs.cmu.edu/~mobot/), from noon to 2 p.m. on the mall. Participants will race their small autonomous vehicles they created through a slalom course on the paved walk outside Doherty and Wean halls.

# Spring Carnival Celebrates 91 Years

CONTINUED FROM PAGE ONE

with the booth organizations on the plan review process and guidelines for erecting structurally sound buildings. The Carnival Construction Standards have been rewritten and the new codes are based on the International Building Code and guarantee a safer Spring Carnival.

This will be the second year that all of the decade-based reunions will gather at Spring Carnival. With more alumni than ever coming back, the weekend promises a bustling and full campus.

"Spring Carnival traditionally has been a student-run event," said Dan Barnett, director of alumni on-campus programs. "In recognizing that more alumni were attending the events surrounding the weekend, reunions and additional programming have been layered onto what the students had typically planned."



**SPRING CARNIVAL COMMITTEE'S WEBSITE:**

**[WWW.SPRINGCARNIVAL.ORG](http://WWW.SPRINGCARNIVAL.ORG)**

**SPRING CARNIVAL & REUNION WEBSITE**

**(INCLUDES EVENT REGISTRATION):**

**[WWW.CMU.EDU/ALUMNI/INVOLVED/EVENTS/CARNIVAL/](http://WWW.CMU.EDU/ALUMNI/INVOLVED/EVENTS/CARNIVAL/)**

"It is an exciting opportunity to showcase the efforts of Carnegie Mellon students. We are seeing more participation by the colleges and various departments around campus. I know that the student committee is also working hard to enhance the programming and events that they coordinate," Barnett said.

With that in mind, the committee hopes more of the campus community takes advantage of activities.

"I would like to see more involvement from graduate students in the future. Right now, graduate schools don't get the days off for Carnival and there is generally a bit of a disconnect between graduate and undergraduate students in terms of involvement in student activities," Harper said. "I think Carnival would be great for grad students to get involved with, considering how many people from the Carnegie Mellon community and the surrounding Pittsburgh community come to attend."

## Calendar of Events

### "The Alice Project"

This innovative production has been developed through a yearlong interdisciplinary collaboration.

April 14-23  
Phillip Chosky Theater  
[www.drama.cmu.edu](http://www.drama.cmu.edu)

### Pittsburgh Supercomputing Center Open House

1 p.m., Friday, April 15  
300 S. Craig Street  
See pages 6-7 for more information.  
RSVP at [www.psc.edu/discover11/rsvp.php](http://www.psc.edu/discover11/rsvp.php)

### School of Art Lecture

Craig Dykers, co-founder of Snøhetta, a transdisciplinary architecture, landscape and interiors firm with offices in Oslo and New York, will discuss "Snøhetta: Works."  
6 p.m., Monday, April 18  
Carnegie Museum of Art Theater

### "A Dream Play"

Caryl Churchill's new version of August Strindberg's "A Dream Play," which follows the vision of a divine daughter's visit to Earth.  
April 20-23  
Helen Wayne Rauh Studio Theater  
[www.drama.cmu.edu](http://www.drama.cmu.edu)

### Earth Day

The College of Engineering and Steinbrenner Institute present "Flying High" and "Heels on Wheels." Come see birds of prey and the launch of a new drive to ride bicycles to campus to save fuel.  
Noon - 3 p.m., Thursday, April 21  
Scaife Hall Garden

### University Lecture Series

Nancy Klancher, a doctoral candidate in religious studies at the University of Pittsburgh, will discuss "A Massacre Averted: An Armenian Town, an American Nurse, and the Turkish Army They Resisted."  
4:30 p.m., Monday, April 25  
Porter Hall 100 (Gregg Hall)

### Buhl Lecture

Scott Aaronson, an associate professor of electrical engineering and computer science at the Massachusetts Institute of Technology, will speak.  
4:30 p.m., Friday, April 29  
Mellon Institute Auditorium  
For more information, visit page 5.  
[www.cmu.edu/physics/seminars-and-events/buhl-lectures/](http://www.cmu.edu/physics/seminars-and-events/buhl-lectures/)

### The Adamson Awards Ceremony

Keynote reading by visiting author Wang Ping, followed by a presentation of the annual Adamson Awards for student writing.  
8 p.m., Friday, April 29  
Adamson Wing, Baker Hall 136

## SPRING CARNIVAL EVENTS

For the full list of events, visit

**[www.cmu.edu/alumni/carnival](http://www.cmu.edu/alumni/carnival)**

### School of Drama Production: "The Alice Project"

Thursday and Friday: 8 p.m.  
Saturday: 2 p.m. & 8 p.m.  
Phillip Chosky Theater, Purnell Center  
For tickets and additional information please visit: [www.cmu.edu/cfa/drama/](http://www.cmu.edu/cfa/drama/)

### Scotch'n'Soda Production: "Cabaret"

Thursday: 8 p.m.  
Friday: 3 p.m. & 11 p.m.  
Saturday: 3 p.m. & 8 p.m.  
Rangos Hall, UC  
Tickets can be reserved online at [tickets.snstheatre.org](http://tickets.snstheatre.org)

### Spring Carnival Midway Opening Ceremony

3 p.m., Thursday, April 14  
Spring Carnival Midway

### Kiltie Band Concert

4 p.m., Thursday, April 14  
Spring Carnival Midway Tent

### Activities Board Spring Carnival Concert

8 p.m., Thursday, April 14  
Spring Carnival Midway Tent

### Preliminary Sweepstakes Races & KidZone Activity Area

8 a.m. - Noon, Friday, April 15  
Schenley Park (Course is on Tech Street, Frew Street & Schenley Drive)

### Alumni Association All Campus BBQ

11:30 a.m. - 2 p.m., Friday, April 15  
Merson Courtyard & Loggia, UC

### Final MOBOT Slalom Races

Noon, Friday, April 15  
Race courses in front of Wean Hall

### Alumni Association Spring Carnival Golf Outing

Shuttle will leave from UC Circle at Noon, Friday, April 15  
3 Lakes Golf Course, Penn Hills, PA  
Registration Required/ Event Fee: \$50  
Register online, visit: [www.cmu.edu/alumni/involved/events/carnival/registration-golf/index.html](http://www.cmu.edu/alumni/involved/events/carnival/registration-golf/index.html)

### The 15th Gate: MOBOT Award Ceremony & Wrap Up

3 p.m., Friday, April 15  
Rashid Auditorium, Gates & Hillman centers

### Activities Board Spring Carnival Comedy Show with Eddie Griffin

8 p.m., Friday, April 15  
CFA Lawn (Rain Location: Wiegand Gym)

### Sweepstakes Final Races & KidZone Activity Area

9 a.m. - Noon, Saturday, April 16  
Schenley Park (Course is on Tech Street, Frew Street & Schenley Drive)

### Holi

Noon - 4 p.m., Saturday, April 16  
Flagstaff Hill  
[www.cmu-om.org](http://www.cmu-om.org)

### President's Address & Student Life Panel

1 - 2:30 p.m., Saturday, April 16  
Connan Room, UC

### Alumni Sing

3:30 - 5 p.m., Saturday, April 16  
Great Hall, College of Fine Arts

## LECTURE SPOTLIGHT: BUHL LECTURER LOOKS FOR LIMITS TO QUANTUM COMPUTING

■ Amy Pavlak

For years science fiction writers have dreamed up fanciful possibilities for what quantum computers can do, including jettisoning characters into parallel universes or creating their own alternate realities.

Computer scientist Scott Aaronson is more interested in what quantum computers can't do.

"In my opinion, the most exciting possible outcome of quantum computing research would be to discover a fundamental reason why quantum computers are not possible," wrote Aaronson in a 2008 *Scientific American* article. "Such a failure would overturn our current picture of the physical world, whereas success would merely confirm it."

Aaronson, an associate professor of electrical engineering and computer science at MIT, will discuss "Quantum Computing and the Limits of the Efficiently Computable" during the annual Buhl Lecture at 4:30 p.m., Friday, April 29 in the Mellon Institute Auditorium.

**WHAT:** 2011 BUHL LECTURE

**WHO:** SCOTT AARONSON, ASSOCIATE PROFESSOR OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE AT MIT

**WHEN:** 4:30 P.M., FRIDAY, APRIL 29

**WHERE:** MELLON INSTITUTE AUDITORIUM

**ONLINE:** [WWW.CMU.EDU/PHYSICS/SEMINARS-AND-EVENTS/BUHL-LECTURES/](http://WWW.CMU.EDU/PHYSICS/SEMINARS-AND-EVENTS/BUHL-LECTURES/)

The Buhl Lecture, sponsored by the Department of Physics, brings an internationally recognized scientist to campus to give a public lecture on a topic of current interest in physics.

Quantum computing, an idea proposed nearly 30 years ago by the famous physicist Richard Feynman and others, exploits the physical properties of particles in the quantum world to solve certain computational problems dramatically faster than today's computers. While a standard computer obeys the laws of classical physics, a quantum computer adheres to the laws of quantum mechanics — which are significantly different.

"Quantum computing experiments focus attention directly on the most mystifying features of quantum mechanics — and I hope that the less we can sweep those puzzles under the rug, the more we will be forced to understand them," Aaronson wrote.

During his talk, Aaronson will discuss what quantum computers are, whether they can be built on a large scale, and what's known today about their capabilities and limitations. He'll even go beyond quantum computers to touch on speculative models of computation, including closed timelike curves and nonlinearities in the Schrodinger equation.



SCOTT AARONSON

Aaronson's work on the subject of quantum computing has included limitations of quantum algorithms in the black-box model, the learnability of quantum states, and quantum versus classical proofs and advice. He writes a popular blog ([www.scottaaronson.com/blog](http://www.scottaaronson.com/blog)), and is the creator of the Complexity Zoo ([www.complexityzoo.com](http://www.complexityzoo.com)), an online encyclopedia of computational complexity theory.

## CMU Responds to Japan Crisis

■ Staff Reports

The trip to the Tokyo stock exchange wasn't quite what they expected.

A group of students from the Tepper School of Business was in Tokyo when the massive earthquake struck Japan's northeastern coast on March 11.

"At first, we didn't have strong reactions," said Rami Saad, 28, who had experienced minor quakes while living in California. "But then it started building up, and we realized, 'This is serious, let's get under the table.' It took about a minute or so, which is a long time for a quake."

Members of the Carnegie Mellon community quickly rallied to assist in response efforts in whatever ways they could.

Led by Daisuke Tanaka (TPR'12), Hiroshi Higuchi (TPR'12) and Aki Shiraishi, the students had set aside their Spring Break to visit several Japanese cities, experience Japanese culture and make several corporate visits.

"More than 300,000 people have been forced into refugee life. That is about the same number of people as the entire city of Pittsburgh," Tanaka said during a recent panel discussion about the trip with an update on the crisis. The panel is just one way that students, faculty and staff have been reaching out to assist victims.

"We extend our deepest condolences to the people of Japan, particularly those who lost loved ones or were harmed in the devastating earthquake and tsunami that struck the country today," CMU President Jared L. Cohon said in a statement to the university community the day the earth-

quake struck. "As always, the Carnegie Mellon community stands ready to help in any way during times of crises."

Keiji Matsunaga (TPR'11) and Masami Shibata (TPR'11) took the Japan Trek during Spring Break the previous year. Compelled by video footage of the devastation, they worked quickly to organize fundraising efforts on behalf of the campus community.

Aki Iijima (HNZ'11), who is pursuing her master's degree in public policy and management, had already begun a fundraising effort for Heinz College. Daiji Kano (MCS'11), community liaison of the Japanese Student Association at CMU, had also started planning for similar actions in the undergraduate community.

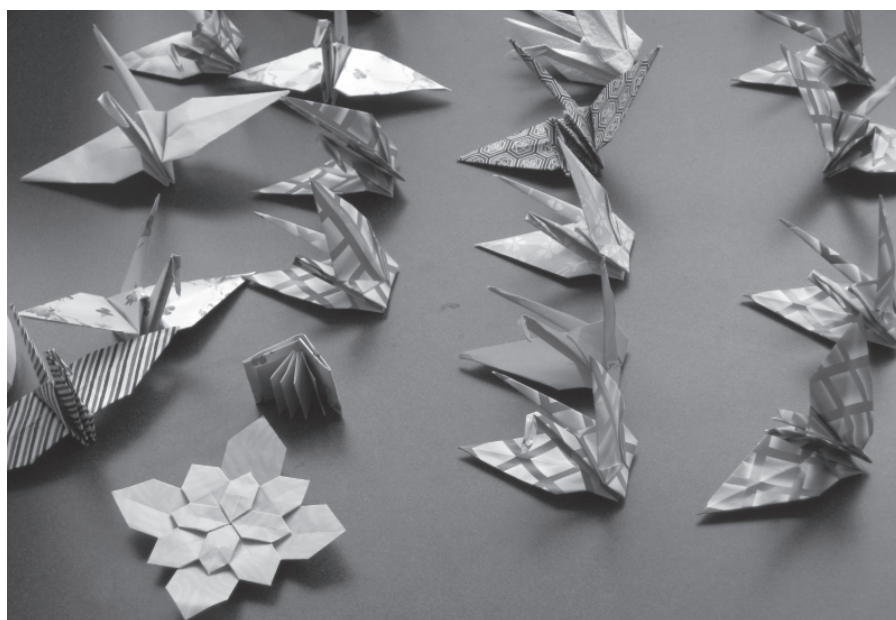
Other groups that have reached out include the Multicultural Greek Council, Panhouse and International Student Union, Japanese Student Association, Mayur-SASA, Alpha Phi Omega and more.

At Tepper, Shibata encouraged the community to participate in the "1000 Origami Cranes" project.

"The paper crane is a symbol of best wishes for our families and friends," explained Shibata.

"So I came up with the idea that we can make paper cranes to ask CMU students to wish for Japan's recovery against the on-going earthquake, tsunami and nuclear plant problems."

In California, CMU's Disaster Management Initiative sprang to work and led CrisisCampSiliconValley the same day



STUDENTS AT THE TEPPER SCHOOL OF BUSINESS FOLDED 1,000 PAPER CRANES AS SYMBOLS OF BEST WISHES FOR JAPAN'S RECOVERY.

that the earthquake and tsunami struck.

Jeannie Stamberger, associate director of DMI, led the initiative, in which volunteers arrived to develop country profiles and compile data streams for the United Nations Office for the Coordination of Humanitarian Affairs. Volunteers can continue to aid virtually by data mining and processing information at [http://wiki.crisiscommons.org/wiki/Honshu\\_Quake](http://wiki.crisiscommons.org/wiki/Honshu_Quake).

Also in Silicon Valley, Trey Smith, systems scientist and a member of the Intelligent Robotics Group at NASA Ames Research Center, was able to work with Urban Search and Rescue (USAR) teams to get accurate maps from Google physically into the hands of USAR deployed teams to better assist those on the ground in the rescue efforts.

Because of the many tweets requesting help, medical care and searching for

loved ones, a group has begun to implement automated parsing of Japanese tweets for input into Google People finder. Assistant Research Professor Ian Lane, and Adjunct Professor Jike Chong were able to work with the group to help accumulate keywords to extract geographical location from the text and address technical difficulties, such as format and characters in Japanese addresses.

"With the help of volunteers, within a few hours we had developed an architecture for the live monitoring of Twitter as well as a basic system to automatically identify the most critical tweets from the huge volume that were being generated," Lane said.

Jibbigo, the speech-to-speech translation app developed by researchers at CMU, is also being used in Japan. The smartphone app will function in areas that lack phone and Internet connections.

# Pittsburgh Supercomputing Center Celebrates

■ Michael Schneider

The Pittsburgh Supercomputing Center (PSC) started from an idea over lunch in 1984.

Carnegie Mellon Physics Professor Michael Levine knew that the National Science Foundation was soliciting proposals for something that didn't then exist: supercomputing centers to serve U.S. science and engineering research.

"Why don't we submit a proposal?" he said to his research collaborator and friend across the table.

"Why would they want to give a supercomputer to us?" asked University of Pittsburgh Physics Professor Ralph Roskies.

"Who else should they give it to?"

The two physicists soon teamed with Jim Kasdorf, then director of supercomputing at Westinghouse, now PSC director of special projects, and more than a few sleepless nights later, in the spring of 1985, their proposal flew by special courier to Washington — on the day of the deadline. After many suspense-filled months, on Jan. 17, 1986, the National Science Board approved funding for the PSC, with Levine and Roskies as co-directors.

Twenty-five years later, PSC is a nationally leading center in providing the best possible computing environment for scientists and engineers doing unclassified research.

Researchers who use PSC resources — numbering in the thousands each

year — include government and industry scientists as well as universities.

"We're a service organization," Levine said. "We buy supercomputers and make them available along with the expertise required to use them productively."

Partnership with Westinghouse was a key to PSC's winning proposal. While administrative offices are at 300 S. Craig St. (having moved from the Mellon Institute Building in 2006), PSC's supercomputers are at Westinghouse Energy Center in Monroeville and are linked to Oakland by high-speed fiber. Rather than building from scratch a facility for high-performance scientific computers, PSC has been able to leverage Westinghouse's infrastructure. Westinghouse in 1984 was running two Cray systems, and their experience and credibility reassured skeptics that the Pittsburgh team could operate supercomputers productively for the national research community.

Perhaps even more important to PSC's proposal and to its staying power as a world-class research center is the partnership between CMU and Pitt.

## Forefront of Innovation

Beginning with Levine and Roskies' lunchtime brainstorm, PSC was one of the first major research efforts — there have been others since — to receive official backing from both CMU and Pitt.

"Affiliation with two great universities," Levine said, "has certainly helped in attracting talent."

Currently numbering about 90 scientists and computing and communications professionals, PSC's staff, Levine said, takes a backseat to no one as an assemblage of skill and experience in supercomputing.

It should be no surprise that PSC participated in breathtaking technological change. It's built into the idea of a supercomputer, which — by common definition — means the most powerful scientific computer available at a given time, and times change rapidly. The useful life of a supercomputer, Roskies noted, has been three to four years.

"In cost effectiveness, the evolution from 1986 to now is nearly 100,000-fold," he said. "Our first machine was a CRAY X-MP that cost \$18 million dollars. A 2011 laptop is more powerful."

To bring home the point about cost-effectiveness, he analogizes to cars. A car today of similar quality to one that cost \$30,000 in 1986 would be 30 cents. "You wouldn't pay to park it."

Beginning with that CRAY X-MP, PSC has implemented 13 systems for research use, most of them "serial number one" — first of their kind released by the vendor. PSC has a reputation for taking the plunge with new technologies and quickly transforming them into productive research tools.

"The advantage," Levine said, "is the payoff to the scientific community. If you get new machines into use early in their cycle, you can use them longer. We're experienced and skilled at this

shakedown process with new systems. It allows us to have more influence with the vendors for the course of development of the system."

## Latest Acquisition

PSC's current lead system is Blacklight (an SGI Altix UV1000), acquired in 2010 with a \$2.8 million award from the NSF. Featuring 512 eight-core processors (4,096 cores) with 32 terabytes (a trillion bytes) of memory, Blacklight is partitioned into two 16-terabyte systems — the two largest "shared-memory" systems in the world, a significant advantage for many kinds of scientific applications. Shared memory, as opposed to distributed memory, means all of a system's memory can be accessed from all of its processors, making it — relatively speaking — easy to program and use, and useful for applications that require large amounts of data to be resident in memory.

Early this year, Blacklight became available for research as part of the TeraGrid, the NSF cyberinfrastructure program that links resources at 11 computational centers across the country.

Through funding from the National Institutes of Health, PSC's biomedical group, the National Resource for Biomedical Supercomputing (NRBSC), carries out a research program of its own and provides outreach and training in supercomputing for biomedical research. With a \$2.7 million "grand opportunities" grant from NIH in 2009, NRBSC

## PSC Aids CMU Researchers in Multiple Disciplines

Many Carnegie Mellon researchers use the Pittsburgh Supercomputing Center in their projects. Here's a snapshot of some recent work done in conjunction with the PSC.

Learn about more projects at:

**DISCOVER11, From Scientific Vision to Scientific Discoveries**  
**PSC Open House**  
**1 p.m., April 15**  
**300 South Craig Street**

The PSC will highlight achievements over the past 25 years and present Blacklight, its newest computing resource, along with remarks from PSC partners.

For more information: [www.psc.edu](http://www.psc.edu)

### Wake-up Call for Public Data

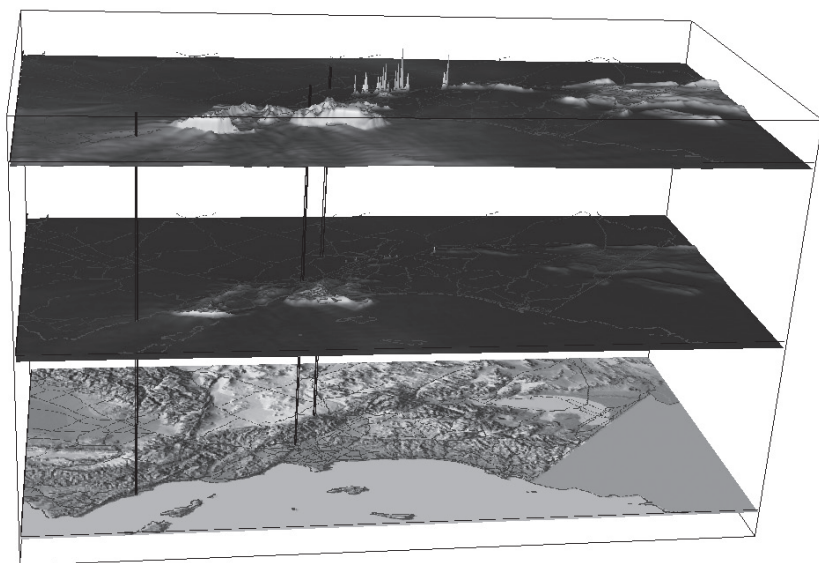
In 2009, The New York Times and other national media reported that Alessandro Acquisti, a CMU professor of information systems, had exposed a potentially serious vulnerability in online information.

The information age has changed commercial life irrevocably in favor of rapid transactions at high volume, and inherent in this transformation is the risk that highly skilled, dishonest people can obtain identity information and use it fraudulently. Further complicating the situation are social networks such as Facebook. As much as they add to our ability to communicate, they also make information public that exacerbates the potential for criminals to create financial chaos.

Relying on PSC's Pople system, Acquisti and post-doctoral researcher Ralph Gross showed that with information gleaned from online sources it's possible to predict most — and sometimes all — of an individual's Social Security number.

"In a world of wired consumers," Acquisti said, "it is possible to combine information from multiple sources to infer data that is more personal and sensitive than any single piece of original information alone."

[www.psc.edu/science/2009/privacy/](http://www.psc.edu/science/2009/privacy/)



### Shake, Rattle and Roll

From the research of Jacobo Bielak, CMU professor of civil and environmental engineering, this snapshot from a simulation at the PSC shows soil vibration from an earthquake near Thessaloniki, Greece.

Bielak and colleagues have developed a program, Hercules, that is one of the world's leading efforts to realistically simulate soil vibration during earthquakes.

In 2008, Bielak won a four-year, \$1.6 million NSF grant, with colleagues from the University of California, to help determine seismic risks affecting the Los Angeles Basin and other earthquake-prone regions. Bielak's team has worked closely with PSC scientists over a period of years in developing Hercules.

[www.psc.edu/science/2008/quake.html/](http://www.psc.edu/science/2008/quake.html/)

# 25 Years of Cutting-Edge Technology

PHOTO COURTESY OF THE PITTSBURGH SUPERCOMPUTING CENTER



MIKE LEVINE (LEFT) & RALPH ROSKIES, PSC CO-DIRECTORS

for the first time made a novel system — named Anton — available to biomedical researchers nationally.

Built and donated to NRBS for a year by D. E. Shaw Research in New York City, Anton is designed to do only molecular dynamics — a method to simulate the structure and motion of proteins and other biomolecules — and is the world's most effective system for doing this.

## Collaboration and Outreach

Among other ways the PSC serves western Pennsylvania is its networking group that operates and maintains 3ROX (Three Rivers Optical Exchange),

a high-speed network hub that connects CMU, Pitt, Penn State, and other universities and public-school districts to research and education networks, such as Internet2 and National LambdaRail, that link universities, corporations and research agencies nationally.

In 2010, 3ROX joined with a coalition of Pennsylvania organizations to form the Pennsylvania Research and Education Network (PennREN), and PSC staff led the PennREN effort that won \$100 million in federal stimulus money to build a broadband network across Pennsylvania.

PSC also has an active program in educational outreach. Through CAST

(Computation and Science for Teachers), PSC staff members have trained many southwest Pennsylvania science and math high-school teachers in easy-to-use modeling and simulation tools that bring “cool” technology into the classroom. With CMIST (Computational Modules in Science Teaching), NRBS provides multi-disciplinary teaching materials — lecture slides, animations and lesson plans — as ready-to-use online modules and DVDs. The initial module, “Molecular Transport in Cells,” presents principles of osmosis and diffusion. A second module, “Big Numbers in Small Spaces: Simulating Atoms, Molecules, and Brownian Motion,” premiered in 2009, and a third, “Enzyme Structure and Function,” came out last year.

Another PSC outreach program, BEST (Better Educators of Science for Tomorrow), introduces high-school teachers to a bioinformatics curriculum. BEST provides ready-to-use lesson plans for single-subject trained educators to teach bioinformatics and has become a course in several southwest Pennsylvania high schools.

In 2010, the PSC introduced SAFE-Net, funded by an NSF grant for Cyber Safety Awareness. In this program, PSC provides learning materials that address cyber threats, measures of protection, and questions of cyber ethics that arise from social networking and other uses of the Internet.

## Signs of Success

To Levine and Roskies, the measure of success that counts most is scientific accomplishment. PSC resources have enabled thousands of published papers.

Along with many CMU projects, the PSC has contributed to heart modeling that led to a practical prosthetic valve, protein simulations that were cited in the 2003 Nobel Prize for Chemistry, and storm forecast modeling that for the first time successfully predicted precise location and structure of a severe thunderstorm six hours in advance.

Industrial applications include beverage can modeling by ALCOA and quantum simulation of photochromic technology for sunglasses for PPG Industries.

During the H1N1 outbreak, epidemiological modeling at the PSC supported decision makers in Allegheny County and in Washington. Recently, PSC scientists co-authored a paper in “Nature,” the prestigious international science journal, that for the first time presented a wiring diagram for a portion of the brain.

“We’re pleased and lucky,” Roskies said, “to be, in a sense, voyeurs — to be able to see wonderful and important scientific accomplishments made possible and happening because the technology is progressing at an astounding pace. To be a computational scientist is to live in very interesting times.”



## It Knows What You're Thinking

With help from PSC computing, Tom Mitchell, who chairs CMU's Department of Machine Learning, and his collaborators have shown that a mind-reading computer — though a long way from current reality — is within the realm of the possible.

Their intriguing experiments with functional magnetic-resonance imaging show that a computer model can predict which noun you're thinking about among a group of selected nouns.

In 2010, using PSC's Pople system, and with critical help from PSC consultants, Ph.D. student Indrayana Rustandi, working with Mitchell, designed an algorithm that markedly boosts accuracy of the noun-prediction model.

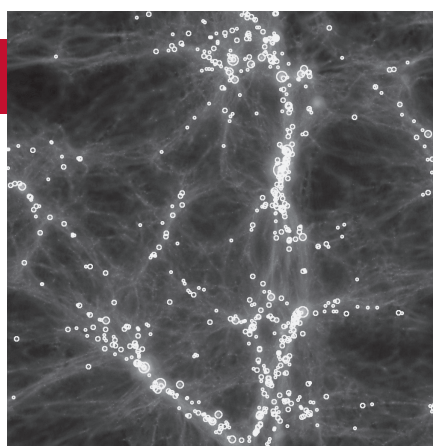
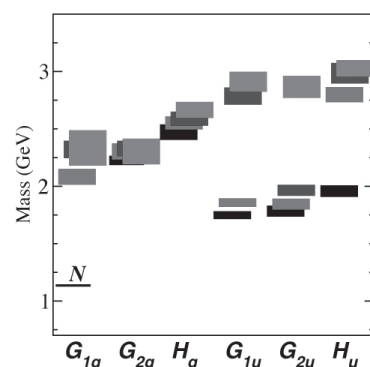
[www.psc.edu/science/2010/brainactivity/](http://www.psc.edu/science/2010/brainactivity/)

## Excited States of the Strong Force

This graphic, showing the spectrum of “excited states” of protons and neutrons, is from computations by CMU Physics Professor Colin Morningstar.

In 2008, Morningstar and his colleagues in a team called the Hadron Spectrum Collaboration used resources at the PSC and other NSF TeraGrid centers to apply a sophisticated, computationally demanding approach called lattice QCD (quantum chromodynamics) to do what no one had previously been able to do: They successfully calculated the masses of an excited-state spectrum of the class of fundamental particles called hadrons.

[www.psc.edu/science/2009/qcd/](http://www.psc.edu/science/2009/qcd/)



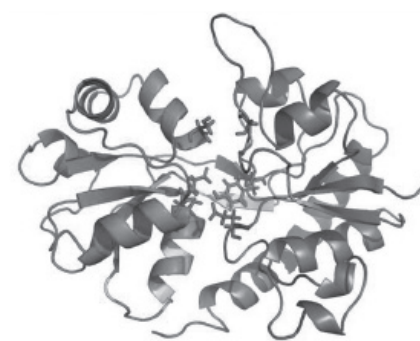
## Fixing the Holes

In 2006, by including black holes for the first time in a large-scale cosmological simulation, CMU Physicist Tiziana Di Matteo uncovered their function in regulating the growth of galaxies.

This snapshot from her simulation at PSC shows the cosmos at about six billion years, when the universe has many black holes and a pronounced filamentary structure.

To do this simulation, Di Matteo used 2,000 processors of the PSC's BigBen system (now decommissioned) for more than four weeks.

[www.psc.edu/science/2006/blackhole/](http://www.psc.edu/science/2006/blackhole/)



## Opening the Glutamate Gate

Showing structure of the binding domain for a membrane protein called glutamate, this image from simulations by CMU computational chemist Maria Kurnikova highlights her findings that provide new insight into how glutamate opens its “gate” to allow neurotransmitters to pass and activate neurons. Her findings identify precise atom-by-atom changes.

The availability of PSC's BigBen system allowed her and colleague Tatyana Mamonova to run simulations overnight that used to take several days.

[www.psc.edu/science/2008/glutamate.html/](http://www.psc.edu/science/2008/glutamate.html/)

# CMU Appoints New Deans for Qatar Campus and Tepper School

Carnegie Mellon Provost and Executive Vice President Mark Kamlet has announced the appointment of two new deans.

Ilker Baybars, deputy dean, the George Leland Bach Chair and professor of operations management at the Tepper School of Business, was named dean of Carnegie Mellon in Qatar, effective this August. Robert M. (Bob) Dammon, associate dean of education and professor of financial economics at the Tepper School of Business, has been chosen to lead the school as its ninth dean, effective May 1.

Baybars will assume duties from interim dean G. Richard Tucker, who has been serving since August 2010. He will be Carnegie Mellon Qatar's second dean, following Charles E. "Chuck" Thorpe, who served in this role from 2004 to 2010.

"With more than 32 years of service to Carnegie Mellon and our university community, Ilker is one of the longest-serving and most valued academic leaders of the institution," Kamlet said. "His experience and successes in teaching, research and academic initiatives will be a great benefit to our campus in Qatar."

A native of Turkey, Baybars received his bachelor's degree from Middle East Technical University (METU) in Ankara, Turkey, in 1969. After spending a year at METU as an instructor, Baybars studied at Carnegie Mellon, where he earned master's (1972) and Ph.D. (1979) degrees. He joined the university faculty in 1978. Baybars' primary teaching and research have been in the fields of quantitative methods, operations research and production management.

Baybars has served as a member of Carnegie Mellon Qatar's Joint Advisory Board, which is comprised of represen-

tatives from Carnegie Mellon and Qatar Foundation for Education, Science and Community Development. Additionally, he is a member of the board of trustees of Bilkent University in Ankara, Turkey, as well as vice president and board member of the Alliance on Business Education and Scholarship for Tomorrow in Tokyo. He has served as a consultant to the United Nations and various public and private organizations in Turkey and Asia.

Dammon will succeed Kenneth Dunn, who stepped down as dean on December 31, 2010, after nine years at the post. Kamlet has served as acting dean since Dunn's departure.

"We are fortunate to have Bob assume leadership of one of the world's great business schools," Kamlet said. "The analytical approach to solving complex business problems was invented at Carnegie Mellon's business school and serves as an important framework for business. Our expectation of a leader for the school's academic and research priorities is extremely high, and Bob's experience is unmatched."

After earning his MBA in 1980 and his Ph.D. in 1984 in financial economics at the University of Wisconsin, Madison, Dammon joined the faculty of the Tepper School of Business, formerly known as the Graduate School of Industrial Administration. He became associate dean for education at the Tepper School in 2008.

While regarded as a world-class academic researcher and leading expert on the implications of taxation on asset allocation and corporate finance, Dammon's direct ties to industry are equally strong through consulting roles and executive education programs. Dammon has developed and taught customized financial management programs for more than two dozen corporations,



ROBERT M. DAMMON



ILKER BAYBARS

PHOTO COURTESY OF CARNEGIE MELLON UNIVERSITY IN QATAR

including Fortune 100 and Fortune 500 firms, in industries ranging from financial services to telecommunications and consumer packaged goods.

Dammon is the only three-time winner of the Tepper School's George Leland Bach Teaching Award (1989, 1997, 2007). He has taught numerous graduate-level classes in corporate finance, mergers & acquisitions and corporate restructuring, and has developed and taught numerous executive education programs in the arena of corporate finance.

A noted and well-respected researcher whose work has been published in the most prestigious finance and economic journals, including the American Economic Review, the Review of Financial Studies and the Journal of Finance, Dammon's most recent research focuses on lifetime savings, investing and asset allocation. Among the awards he has won for his scholarship is the 2004 TIAA-CREF Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security.

## Students Tackle Social Media

CONTINUED FROM PAGE ONE

media and marketing. "Working with our students provides them with analytic expertise to create strategies that will deliver positive results, while also gaining access to the generation of individuals who use this technology all the time."

With a group of diverse clients, students benefit from a range of experiences, whether it's helping a company improve existing social campaigns or build an online social strategy from scratch.

Which brings us to the truck stop.

Students teamed with Progressive Commercial, a division of Progressive Insurance, to help truckers build a social media presence.

As part of their research, one student took a road trip and visited various truck stops, asking truckers what kinds of information they would find useful on a mobile application. The student team also met with an official at Pitt-Ohio, a trucking and transportation solutions company.

"We learned that truckers, who are always on the road, would find value in a mobile application that aggregates relevant industry information," said Maxine Markfield, a master's student in the college's Public Policy and Management Program. "When they are hauling loads from location to location, they want to know information about the shippers. When they arrive with the load, will the shipper turn it around quickly? Where can they park?"

"Truckers are also interested in finding the best truck stops. They want to know about cleanliness, food quality, are pets allowed and is Internet access available," she added.

Working with Progressive Commercial, the students designed a crowdsourcing application, which allows truckers to provide and share timely information about shipping locations and truck stops, Markfield said. She noted Progressive Commercial was pleased with the project, adding that it provided value to the trucker community and the company.

The Progressive Commercial team wasn't the only group of students hitting the road. Credit Suisse, a multinational financial services company, invited a team of students to its New York office.

"The students enjoyed two days of solid meetings, learning about the company and industry so that they could provide strategies and recommendations for an internal social collaboration and communication initiative," Lightman said.

Other students worked with eBay on a project to help the company connect with hobbyists, an important audience for the online auction and shopping website. The group conducted research on how social commerce affects buyers and sellers, and proposed an application to develop greater levels of engagement with this key stakeholder group.

"The companies we bring in want to do more projects with us," Lightman said, noting that recent sponsors have included SAP, Comcast, the Pittsburgh Steelers and Tom's of Maine. "In the future, I'd like to team up with different departments on campus so we can create a center where companies can be fully educated on the social media space, including such areas as design, regulations, privacy issues and brand sentiment."

## In Memory



PHOTO BY TIM KAULEN

A SELF-PORTRAIT OF STUDENT JEE-HOON CHOI WAS PART OF A MEMORIAL EXHIBIT OF HIS WORK AT THE FRAME EARLIER THIS MONTH. CHOI, A SENIOR IN THE SCHOOL OF ART, WAS KILLED MARCH 25 IN A CAR ACCIDENT IN FLORIDA.



# Educators Recognized for Work Inside and Outside Classroom

CONTINUED FROM PAGE ONE

Center for Nucleic Acids Science and Technology, is this year's recipient of the university-wide William H. and Frances S. Ryan Award for Meritorious Teaching.

He will receive the award at the Celebration of Education at 4:30 p.m., Tuesday, April 26 in Rangos 1 & 2. The event is free and open to the public.

Douglas Mitchell, an assistant professor of chemistry at the University of Illinois Urbana-Champaign, credits Armitage's Organic Chemistry II course for deciding to switch from biology to chemistry.

"Bruce's course left me with an insatiable desire to learn more chemistry," Mitchell wrote in his nomination letter.

Other alumni have gone on to teach at Case Western Reserve University, California Polytechnic State University, Clark College, and the University of Colorado at Boulder, to name a few.

Hyung Kim, head of the Department of Chemistry, wrote that Armitage's efforts in innovating the organic chemistry curriculum have been essential.

"Bruce is one of the most, if not the most, sought-out faculty member by chemistry undergraduates who want to have research experience," Kim wrote. "His lab is equally popular among graduate students for doctoral research."

Armitage joined the CMU faculty in 1997. His teaching interests include organic chemistry, which he has taught to undergraduates since 1999, medicinal chemistry, chemosensors and biosensors, and supramolecular chemistry. His research group focuses on nucleic acids chemistry and fluorescence technology.

## Barbara Lazarus Award for Graduate Student and Junior Faculty Mentoring

Karen Stump, who joined the Department of Chemistry in 1983, is a teaching professor and director of Undergraduate Studies and Laboratories. She is this year's recipient of the award for outstanding contributions to academic advising and mentoring.

"I have always felt that Karen is really invested in me as a person, not just as a student," wrote Alyssa Montanaro, a junior in chemistry and psychology. "She cares about my future, what I'm involved with on campus, my academic path and

## GRADUATE STUDENTS HONORED

**Hilary Franklin, a Ph.D. candidate in the Department of English, is the winner of the 2011 Graduate Student Teaching Award. Franklin is known for creating a welcoming atmosphere in the classroom and for being enthusiastic, flexible and creative in designing curricula.**

**Honorable Mention for the teaching award went to Michael Klipper, a doctoral student in the Department of Mathematical Sciences. Klipper has been a teaching assistant for many courses and wrote a textbook aimed at first-year students with strong mathematical backgrounds.**

**Omar De Leon, a student in the Civil and Environmental Engineering Department, won this year's Graduate Student Service Award. De Leon serves on a number of committees at the university, represents CMU on the Pittsburgh Student Government Council and is a representative for the Society of Hispanic Professional Engineers' national board of directors.**

**For more: [www.cmu.edu/news/blog/2011/Spring/student-awards.shtml](http://www.cmu.edu/news/blog/2011/Spring/student-awards.shtml)**

just generally what makes me tick."

Stump's responsibilities include undergraduate education, advising, educational outreach, TA training and administrative oversight of the undergraduate program in chemistry. Currently she teaches Laboratory I: Introduction to Chemical Analysis as well as the undergraduate seminar sequence in chemistry, and is the primary academic adviser for students majoring or minoring in chemistry.

"Karen is very active in supporting not just chemistry, but all CMU students at different events around campus," wrote Maggie Braun, assistant department head for undergraduate affairs.

As chemistry's departmental liaison and a member of the executive committee for the undergraduate science laboratory renovations project in Doherty Hall, she was instrumental in more than a decade of intensive planning that led to the project's groundbreaking in 2001. Her educational contributions have been her success in creating and sustaining educational outreach programs for kindergarten through 12th grade students and science teachers. She initiated and administered the Westinghouse Science and Mathematics Program for minority students and has directed several residential programs for teachers in districts throughout Pennsylvania.

She is a past winner of the Julius Ashkin Award, the college level teaching award in MCS, and was the 2003 and 2005 recipient of the Greek Council Outstanding

Faculty Member Award. In 2002, she received the regional Responsible Care Catalyst Award for excellence in college chemistry teaching from the American Chemistry Council and was the 2005 recipient of the William H. and Frances S. Ryan Award for Meritorious Teaching.

## Mark Gelfand Service Award for Educational Outreach

Carrie Doonan, a teaching professor and director of undergraduate laboratories for the Department of Biological Sciences, is this year's recipient of the award for educational outreach.

Doonan has developed outreach activities for students of all levels, from primary school-aged Girl Scout troops, to teenagers from church groups, to AP course students and teachers from local high schools. Her lab is often students' first exposure to scientific discovery.

"Dr. Doonan generates outreach labs in order to motivate, excite and educate young minds. The labs are always framed within an interesting and exciting story, such as a murder mystery relating the science to CSI, in order to engage the students," wrote Nina DiPrimio, special faculty in the Department of Biological Sciences. "These programs not only educate but inspire students that may not have originally considered going into the sciences to think about that field as a realistic option and provide them with contacts at CMU."



MANY OF BRUCE ARMITAGE'S STUDENTS HAVE GONE ON TO TEACH CHEMISTRY.



KAREN STUMP'S OFFICE IS ALWAYS FULL OF STUDENTS SEEKING ADVICE.



CARRIE DOONAN'S OUTREACH ACTIVITIES MOTIVATE AND EXCITE YOUNG MINDS.

**William H. and Frances S. Ryan Award for Meritorious Teaching**  
Bruce Armitage, professor, Department of Chemistry

**Barbara Lazarus Award for Graduate Student and Junior Faculty Mentoring**  
Karen Stump, teaching professor and director of undergraduate students and laboratories, Department of Chemistry

**Mark Gelfand Service Award for Educational Outreach**  
Carrie Doonan, teaching professor and director of undergraduate laboratories, Department of Biological Sciences

## The College Teaching Awards

*Carnegie Institute of Technology*

**Benjamin Richard Teare, Jr. Teaching Award**  
Philip LeDuc, associate professor, departments of Mechanical Engineering, Biomedical Engineering (courtesy), Computational Biology (courtesy) and Biological Sciences

Adrian Perrig, professor in the departments of Electrical & Computer Engineering, Engineering & Public Policy and Computer Science (courtesy)

*College of Fine Arts*

**Henry Hornbostel Teaching Award**  
Robert Page, Paul Mellon University Professor of Music and director of Choral Studies, School of Music

*College of Humanities & Social Sciences*

**Elliott Dunlap Smith Award for Teaching & Educational Service in Humanities & Social Sciences**

Sharon M. Carver, teaching professor, Department of Psychology; director of The Children's School

*The H. John Heinz III College*

**Martcia Wade Teaching Award**  
David J. Dausey, Distinguished Service Professor of Health Policy and Management

## School of Information Systems & Management Teaching Award

Alessandro Acquisti, associate professor of information systems and public policy

*Mellon College of Science*

**Julius Ashkin Teaching Award**  
Tom Bohman, professor, Department of Mathematical Sciences

*School of Computer Science*

**Herbert A. Simon Award for Teaching Excellence in Computer Science**  
Avrim Blum, professor, Department of Computer Science

*Tepper School of Business*

**Gerald L. Thompson Teaching Award in the B.S. Business Administration Program**  
J. Patrick McGinnis, assistant teaching professor

**Richard M. Cyert Teaching Award in the B.S. Economics Program**  
Karen Clay, associate professor of economics & public policy

**M.B.A. Teaching Award/George Leland Bach Excellence in Teaching Award**  
Michael Trick, professor of operations research and associate dean of research

## Graduate Student Awards

**Graduate Student Teaching Award**  
Hilary Franklin, English

**Graduate Student Teaching Honorable Mention Award**  
Michael Klipper, Mathematical Sciences

**Graduate Student Service Award**  
Omar De Leon, Civil & Environmental Engineering

# Workshop Aims To Create Female Negotiators of All Ages

■ Jeffrey Inscho

When it comes to negotiating, women often hesitate. Linda Babcock is working to change that.

Babcock, the James M. Walton Professor of Economics at Carnegie Mellon's Heinz College, established the Program for Research and Outreach on Gender Equality in Society, or PROGRESS, five years ago. From 8:30 a.m. to 1 p.m. on Saturday, May 11 at Hamburg Hall, the program will have workshops for women and girls between the ages of 7 and 12.

The event, "Speak Up: Getting What You Want Through the Power of Negotiation," will be an energetic

and engaging day for women and girls to become inspired, and to learn and discover the power of speaking up for what they want and deserve.

"With this event, 'Speak Up,' we hope to bring in a diverse mix of women and girls to share important tips and techniques on effective negotiation," said Ayana Ledford, executive director of PROGRESS.

Attendees will be split up into two sections — women and girls — and will receive customized training according to their age group.

In the past two decades, a barrage of books, magazines and advertisements

**WHAT:** "SPEAK UP! GETTING WHAT YOU WANT THROUGH THE POWER OF NEGOTIATION"

**WHEN:** 8:30 A.M. TO 1 P.M., SATURDAY, MAY 11

**WHERE:** HAMBURG HALL

**REGISTER ONLINE:** [HTTP://HNCZ.CM/SPEAK-UP-EVENT](http://hncz.cm/speak-up-event)

for executive education have offered instruction for women to improve their negotiation skills. In all of this, however, one point has been almost universally overlooked: All the negotiation advice in the world will be useless if someone never gets to the bargaining table in the first place.

The women's workshop, led by Babcock, will present evidence showing that women are much less likely than men to initiate negotiations and how much women lose by not negotiating.

It also will discuss the importance of teaching girls to negotiate and how to teach daughters these important skills that will last a lifetime.

Interventions need to begin early, Ledford said. She said one of the factors holding women back from negotiating are the messages they receive as girls about how to get what they want.

"These messages come from the TV shows they watch, the movies they see, and often the behavior that is modeled

for them by teachers, peers and other adults," Ledford said.

The girls' interactive workshop, which is led by trained community volunteers, will focus on teaching girls to speak up for themselves and make positive choices throughout their lives.

While this is the first "Speak Up" event produced by PROGRESS, Ledford said she hopes the momentum will continue.

"Our goal is to make 'Speak Up' an annual event," she said. "It's so inspiring to see such a diverse mix of women — moms, grandmothers, grad students, undergrads and girls — in the same room with the same purpose."

Scholarships for girls are generously provided by Patricia Cluss of the University of Pittsburgh; Sitko, Rodella and Bruno, LLC; and The Women and Girls Foundation of Western Pennsylvania. For more information and to register visit <http://hncz.cm/speak-up-event>.

## *piper* TRIVIA

Congratulations to Bonnie Lack for correctly answering the March Piper Trivia question.

Go online to the Piper+ at <http://bit.ly/CMUpiper> for this month's question. Previous winners are ineligible. Winners will receive a prize from the Carnegie Mellon Bookstore.

### Connect with Internal Communications



<http://bit.ly/CMUnewsFacebook>



[twitter.com/CMUnews](https://twitter.com/CMUnews)

## NEWS BRIEFS

### President Cohon Addresses State Assembly in India

During a recent trip to India, Carnegie Mellon President Jared L. Cohon was invited by The Honorable Dilip Walse-Pital, speaker of the Maharashtra Legislative Assembly, to address the Assembly of The State of Maharashtra on Friday, March 4. He spoke about the fast pace of technological change, the importance of technology in improving higher education and about the many connections between Carnegie Mellon and India.

President Cohon's entire speech can be downloaded at [www.cmu.edu/about/leadership/president/cohon-speech-to-maharashtra-assembly.pdf](http://www.cmu.edu/about/leadership/president/cohon-speech-to-maharashtra-assembly.pdf)

### CMU Partners With Singapore School

Carnegie Mellon and Singapore Management University have teamed up to establish the Living Analytics Research Center, which will develop new techniques to acquire data on consumer and social behavior and analyze that data to develop applications and methods that will benefit consumers, businesses and society.

The collaboration has received a five-year, \$20 million grant from the National Research Foundation in Singapore. With SMU and CMU committed to cash and in-kind contributions, and third party funding, the \$47 million center will establish Singapore as one of the world's pre-eminent centers of excellence in computational social science.

The living analytics research program combines large scale data mining, statistical machine learning, and computational tools for the analysis of dynamic social networks with analytics focused on consumer behavior and social media.

The center will be physically anchored at SMU's School of Information Systems in Singapore and at CMU's Heinz College iLab in Pittsburgh.

### Foundation Gives CNA \$3.9 Million

The DSF Charitable Foundation has given a \$3.9 million grant to Carnegie Mellon's Center for Nucleic Acids Science and Technology (CNA) to further the development of novel biomedical tools targeted at monitoring and manipulating gene expression. The grant will allow the interdisciplinary team of researchers to advance its work aimed at providing innovative approaches for understanding and treating disease. These include the development of peptide nucleic acids (PNA), synthetic analogs of DNA and RNA that have extraordinary scientific and therapeutic potential.

"We are so grateful to the DSF Charitable Foundation for this tremendous award, which will position CNA — and Pittsburgh — to generate fundamental biomedical discoveries in the coming decade," noted Fred Gilman, dean of the Mellon College of Science. "This award will leverage the trademark interdisciplinary work of our departments of Chemistry and Biological Sciences."

### 'Pinburgh' Animates Pittsburgh Mural

Famous for his large illustrative panoramas of Pittsburgh, muralist Doug Cooper, the Andrew Mellon Professor of Architecture at Carnegie Mellon, animated his local landscapes as a big pinball machine in his first short film, called "Pinburgh," which can be viewed at <http://vimeo.com/15749259>.

Most scenes use static hand-drawn backgrounds into which green-screened action shots have been layered. The collaborative project features Ryan Melia, Arya Shahi, Ben Ferguson and Dan Weschler, seniors from CMU's School of Drama who formed the theater group "PigPen." The group acts in the animation and created the musical score.

Ryan Woodring (MFA'10) edited the green screen sequences and was the film's composer. Architecture students Shawn Cencer and Greg Tanski created the 3D modeling for the film. Live action green-screen filming took place at Pittsburgh Filmmakers, under the direction of Gretchen Neidert and Matthew Day.

### Go Ahead, Brag a Little

You may have heard about this campaign offering free decals to students. And as promised, they're now being offered to faculty and staff, because as members of the CMU community there's a lot to brag about.

Request your free decal at <http://www.cmu.edu/freedecal> and show your CMU pride by displaying it on your car, bike, laptop or guitar case. Let the world know what university you call home.

### Nielsen Honored for Work In Aerospace Software Engineering

Paul D. Nielsen, director and CEO of the Software Engineering Institute, has received the 2011 American Institute of Aeronautics and Astronautics (AIAA) Aerospace Software Engineering Award for outstanding technical and/or management contributions to aeronautical or astronautical software engineering. Nielsen was honored for leadership in the global software engineering community and for addressing the challenges of complex aerospace software. Nielsen joined the SEI in 2004 after a distinguished 32-year career in the U.S. Air Force, where he retired as a major general. Read more: <http://www.sei.cmu.edu/about/people/nielsen.cfm>

### AI Faculty, Alumni Named To "10 To Watch" List

IEEE Intelligent Systems magazine, which recognizes 10 outstanding young researchers in artificial intelligence (AI) every two years, has included two CMU faculty members and two Ph.D. computer science graduates in its latest "AI's 10 to Watch" list.

The 2011 list includes André Platzer, assistant professor of computer science in the School of Computer Science, and Daniel B. Neill, assistant professor of information systems in the Heinz College. Neill, who earned his master's degree and Ph.D. in computer science at CMU, also has courtesy appointments in the Machine Learning Department and the Robotics Institute. Platzer was cited for his pioneering work in developing methods for verifying the performance of cyberphysi-

# Frankly Speaking

## Students, Mothers Share Social Perspectives on WRCT Talk Show

■ Bruce Gerson

Students can now get motherly advice every Tuesday night without even calling home.

“What Would Your Mother Say?” a candid talk show in its first season on WRCT 88.3 FM, Carnegie Mellon’s student radio station, brings students together with a mother — unrelated to them — to discuss everything from dating, relationships and marriage, to social networking, academic stress, money and roommate etiquette.

“The show is a sounding board for students,” said host Susan Morris, wife of Professor Jim Morris, former dean of the School of Computer Science and head of CMU’s Silicon Valley campus. “I want students to share their experiences and mothers to bring their perspective.”

Cleah Schlueter, an administrative associate and project coordinator in the School of Computer Science, and a mother of two, has been a guest on the show. She said while the show’s topics can be a little embarrassing at times, it’s good for students to be able to discuss with a mother figure topics that they might feel uncomfortable discussing with their own mothers.

“It gives them a forum to express themselves without feeling inhibited,” Schlueter said.

Amy Mija Catalina Quispe, a sophomore studying computer science and mathematical sciences who has been a guest on the show, said she likes having a mother on the panel because it allows her “to really question campus life and the changing face of the world,” and “sometimes the mom will say some-

“It also keeps in perspective how much hasn’t changed, and how much of what we feel like is new and different was really just never talked about openly before,” Kirby said.

Each show begins with an expert guest who calls in and introduces a topic and initiates the conversation. Guests have included Amir Levine, co-author of “Attached: The New Science of Adult Attachment,” Peter Kramer, author of

“You forget you’re on the radio. You create an environment of trust,” Morris said.

Morris, a veteran radio personality who hosted and produced “Stock Talk” on KQV-Radio in Pittsburgh from 1998-2004 and “What Would Your Mother Say?” at Stanford University from 2005-2010, selects her guests through research, and finds mothers from ads on Craigslist and students through campus connections.

“It’s a great show because it’s honest,” Quispe said. “The direction the conversation goes completely relies on the differences between all our perceptions. There are times that my perception of campus life is completely different than the other students, and often a mother figure’s is different too.”

“Students should listen because it’s entertaining and we give them good advice at how to deal with problems they might face,” Kirby said.

The show seems to be gaining listeners.

“Just last week, I had three people text me right after the show telling me that they had learned something,” Quispe said. “A lot of people are really happy when I tell them that they can stream it online. I have friends in Seattle, D.C., and Philly that listen in. That’s pretty cool.”

### WHAT WOULD YOUR MOTHER SAY?

9 – 10 P.M., TUESDAYS ON WRCT 88.3 FM

CALL-IN NUMBER: 412-621-9728

EMAIL ADDRESS: WHATWOULDYOURMOTHERSAY@WRCT.ORG

LISTEN ONLINE AT WWW.WRCT.ORG

WEBSITE: HTTP://WHATWOULDYOURMOTHERSAY.NET/

thing that I know my own mother would disagree with, and that’s something to talk about.”

Sophomore physics major Dan Kirby also likes hearing mothers’ viewpoints. He said he enjoys learning how much some things have changed, such as how technology has impacted social interaction.

“Listening to Prozac: The Landmark Book About Antidepressants and the Remaking of the Self,” and blogger Susan Walsh of [hookingupsmart.com](http://hookingupsmart.com).

After the expert segment, Morris engages the studio panel — three students and one mother in a discussion. In the final portion of the hour they take emails and phone calls from listeners.

cal systems, such as collision avoidance systems, while Neill was recognized for his use of machine learning techniques for early identification of events such as disease outbreaks, crime hot spots and network intrusion.

Also on the list are Jure Leskovec, who earned his Ph.D. in computational and statistical learning at CMU in 2008, and Vincent Conitzer, who earned his master’s degree (2003) and Ph.D. (2006) in computer science at CMU.

### Social Media Used To Map Potholes

A new Carnegie Mellon project allows anyone with a GPS-linked cellphone camera and a Facebook account to take an active role in monitoring the constantly changing pothole environment.

The Road Damage Assessment System (RODAS) Project ([www.rodasproject.org](http://www.rodasproject.org)), headed by Robert Strauss, economics and public policy professor at the Heinz College, and Takeo Kanade, professor of robotics and computer science, enables anyone to click a photo of a pothole and upload it via Facebook. The system then links the photo to a pinpoint on its online map, creating a public repository of road conditions independent of any government agency. Todd Eichel, a recent graduate of CMU’s Masters of Information Systems Program, implemented the system.

The hope is that community members will continue to keep an eye on “their” potholes, updating the site when the hole is repaired, or when the repair fails, or if it simply goes unrepaired.

### ‘Rock Prodigy’ Wins Appy Education Award

“Rock Prodigy,” an iPhone/iPad app developed by Roger Dannenberg, associate research professor of computer science and art, has won the 2011 Appy Award for Education. The Appy Awards honor mobile apps in a number of categories.

As Dannenberg describes it, Rock Prodigy is “basically Guitar Hero for real guitars.” Unlike the popular Guitar Hero video game, Rock Prodigy enables players to use real instruments and thus learn how to play guitar and learn songs.

Players can compete with other users to achieve the high score for a song, or they can use the app to practice at various skill levels.

### CMU Wins Prestigious Building Award

Carnegie Mellon has won an esteemed Building Excellence Award from the Master Builders Association of Western Pennsylvania in the Renovation Construction Over \$10 Million Category for the Doherty Hall Phase II Project. The honor is one of the highest and most sought-after commercial construction industry awards. Second-place in this category went to the Bakery Square renovations in East Liberty.

Completed in August 2008, the \$28 million Doherty Hall Phase II Project included 81,000 square-feet of new labs and offices for the Chemical Engineering Department, woodshops and studios for the School of

Art, a green roof with a public open gathering space, and a new loading dock. The north wing exterior of Doherty, a 16,000-square-foot, seven-story addition, houses an elevator, a fire escape, heating and cooling ventilation systems and emergency power.

The renovated space received a silver certification by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System in 2010.

### Engineering, Business Among Top 2012 Graduate Program Rankings

U.S. News & World Report’s 2012 edition of “America’s Best Graduate Schools” includes new rankings for business and engineering programs.

The College of Engineering’s graduate programs are ranked sixth overall. In specialty categories, the College of Engineering ranks fifth in computer engineering, seventh in electrical and environmental engineering, 10th in civil engineering, 11th in mechanical engineering, 13th in materials engineering, 16th in chemical engineering and 29th in biomedical engineering.

The Tepper School of Business’ MBA program is ranked 18th overall and seventh among part-time MBA programs. In specialty categories, the Tepper MBA program ranks second in information systems and production/operations management, fourth in supply chain/logistics and 13th in finance.

U.S. News and World Report does not rank all graduate programs annually,

however the 2012 edition does include CMU rankings from previous years. A full list of Carnegie Mellon rankings is available at: [www.cmu.edu/news/rankings-awards/rankings/index.shtml](http://www.cmu.edu/news/rankings-awards/rankings/index.shtml)

### Cultural Trust Offers CMU Discounts

The Pittsburgh Cultural Trust is offering CMU students, faculty and staff discounted tickets for select performances. Shows include “Mamma Mia” (April 19-24 at Heinz Hall); “One Night of Queen” (April 20 at the Byham Theater); “Hairspray” (May 5-15 at the Byham); and “West Side Story” (May 17-22 at the Benedum Center).

For more information or to order tickets, go to <http://www.pgharts.org> and login using the promo code CMU. You also can call 412-471-6930 or email [groupsales@pgharts.org](mailto:groupsales@pgharts.org) for more information.

Two discounted dinner and show packages also are available to the university community. Enjoy dinner at Lidia’s Restaurant before “Mamma Mia” on Thursday, April 21; and “West Side Story” on Thursday, May 19. For more information and/or to order the package, go to <http://www.pgharts.org/groupsales/broadwaylidias.aspx>

# Chef Sizzles at Regional Culinary Challenge

■ Maria Zayas

Good things often come in threes. One of those is CulinArt Chef Aldo Ramirez's award-winning recipe for tri-tip beef.

Ramirez was the first chef ever to represent Carnegie Mellon in the National Association of College & University Food Services' regional Culinary Challenge, which included Pennsylvania State University, The University of Pennsylvania, Villanova University and Rutgers University.

His entrée, which included three different preparations of the same cut of meat, took home a bronze medal.

"It is wonderful that Chef Aldo is receiving this recognition," said Kim



PHOTO BY KEN ANDREYO

HIS DISH FEATURED FLAVORS RANGING FROM CRABMEAT AND ASPARAGUS TO WATERMELON AND CHEESE.

Abel, director of Housing and Dining Services. "He has become such an asset to our dining program through his leadership and artistry in catering. We are proud that he is part of our campus community."

Ramirez was born in Peru and moved to the United States when he was 10 years old. He was working at his father's restaurant and pizzeria in Florida at 15, and he spent time in Fort Lauderdale,

Orlando and Miami. Highlights of his career included serving as the personal chef to Antoine Walker and Dorel Wright of the Miami Heat. He also managed the opening of the Steak House at Mountaineer Race Track and Casino near Pittsburgh.

Ramirez joined Carnegie Mellon and CulinArt in 2010 as executive catering chef.

"I like the variety and the challenges. The challenge is in taking my idea to another building. Things like the transportation logistics, that's fun," he said.

Ramirez's award-winning recipe will be added to catering's extensive list of options. The dish includes three styles of preparation: Oscar, Barbacoa and Asian Five-Spice.

"The main idea for my dish was to make it small enough to present and to have three different tastes," Ramirez said.

During the competition, in which everyone was required to use beef tri-tip, everything had to be done within 75 minutes without a grill. To accomplish that, Ramirez used special tools and ingredients.

For his Beef Oscar, he replaced the traditional creamy hollandaise sauce with a powder made with maltodextrin. When the powder comes in contact with the human palate, the pH of the mouth's environment turns the powder into cream. To get a smoky flavor in the Barbacoa Beef, he used apple wood chips and a smoke gun in the very final seconds to capture apple wood smoke inside a glass and cover the beef before serving.

"I was very excited to represent CMU, Housing and Dining, and CulinArt in this competition," Ramirez said. "This was my first competition; however, I have done many cooking demonstrations and taught classes throughout my career. It was a fun and rewarding experience."



PHOTO BY KEN ANDREYO

CHEF ALDO RAMIREZ RECENTLY WON A BRONZE MEDAL FOR HIS ORIGINAL BEEF RECIPE FROM THE NATIONAL ASSOCIATION OF COLLEGE & UNIVERSITY FOOD SERVICES.

## CHEF ALDO'S AWARD-WINNING RECIPE

### Beef Oscar

4 2-oz. beef tri-tip  
2 large purple potatoes sliced in eight pieces  
8 oz. king crab leg meat  
4 asparagus, shaved with a vegetable peeler and blanched  
250 grams clarified butter  
75 grams maltodextrin  
1 teaspoon lemon powder (recipe follows)

### Barbacoa Beef

4 2-oz. beef tri-tip  
1 Idaho potato cut in 2-inch batonnets  
½ cup micro greens  
¼ cup medium dice fresh watermelon  
2 oz. crumbled gorgonzola cheese  
4 oz. golden raspberry BBQ sauce (recipe follows)  
1 teaspoon wood chips  
Smoking gun or a ½ hotel pan with a lid  
4-12 oz. Rock Glass

### 5 Spice Beef (Asia)

4 2-oz. beef tri-tip  
1 teaspoon 5 spice powder  
¼ cup fresh pea tendrils  
¼ cup julienne red onion  
¼ cup julienne squash  
¼ cup red peppers  
2 teaspoons sweet chili sauce  
1 teaspoon sesame oil

### Lemon Powder

Using a microplane, zest two whole lemons. Place zest on a lined sheet pan and dehydrate in oven at 175 degrees for 6 hours. Cool and place in a dry container.

### Golden Raspberry BBQ Sauce

1 cup red onion  
1 teaspoon olive oil  
1 pint fresh golden raspberries  
¼ cup white balsamic vinegar  
½ cup sugar in the raw  
Pinch crushed red pepper

Caramelize onions in oil. Add raspberry vinegar, pepper and sugar and reduce by a quarter. Run the mixture through a fine sieve and cool.

### Method:

- Season eight pieces of beef with salt and pepper. Sear all sides. Rub the last four pieces with 5 spice powder, and then sear all of their sides. Finish all the beef in an oven to medium rare, and let them rest.
- Steam purple potatoes for 3 minutes. Cool them in an ice bath and set aside.
- Blanch Idaho potato batonnets in frying pan until two-thirds done and set aside.
- Mix Gorgonzola, pea tendrils, watermelon and 2 ounces of raspberry BBQ sauce and set aside.
- Mix julienne vegetables with sweet chili sauce for a slaw and set aside.
- In a bowl, mix clarified butter into maltodextrin in a small stream using a whisk until it turns into a powdery texture.

### Plate up in the following order:

- Cut all beef pieces in two even slices and set aside to rest.
- Place two purple potatoes on top side of each plate.
- Arrange the batonnets in the center of the plate and top with remaining Raspberry BBQ sauce.
- Remix slaw and place at the bottom side of the plate.
- Arrange two slices of the 5-spiced beef over the slaw on each plate.
- Drizzle sesame oil over 5-spiced pieces of beef.
- Place two slices of beef on each plate over the purple potatoes, top with crabmeat, asparagus, butter powder and lemon powder.
- Place remaining beef over the batonnets. Using the smoking gun or pan lid, capture the smoke from chips with the glass and place over beef.
- Top the glass with the watermelon mixture.
- When the guest is ready to eat, pull glass from beef, tipping the salad on top of the smoked beef

## Watson Too Quick For Students

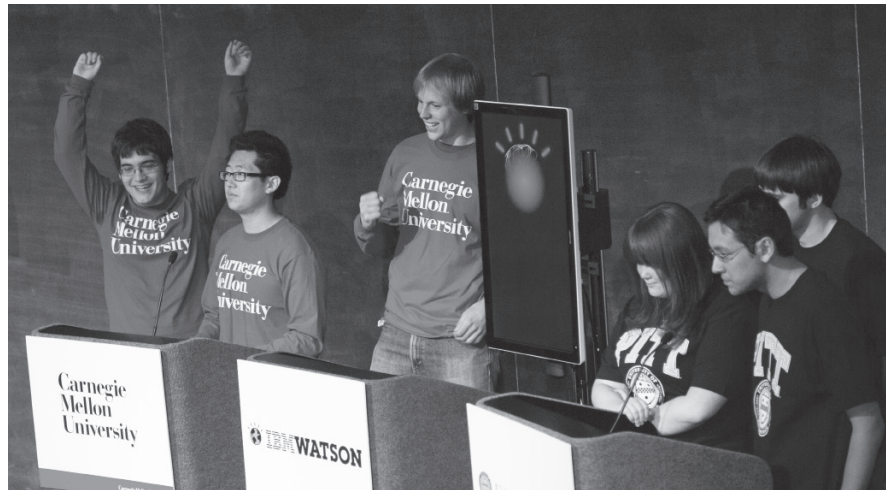


PHOTO BY TIM KAULEN

RESEARCH WON THE DAY AS IBM'S WATSON ADDED CARNEGIE MELLON AND UNIVERSITY OF PITTSBURGH STUDENTS TO THE LIST OF HUMANS IT HAS SOUNDLY DEFEATED IN THE GAME OF "JEOPARDY!" CARNEGIE MELLON'S TEAM OF CONNOR FALLON (FROM LEFT), WILL ZHANG AND ERIK SCHMIDT SCORED \$7,463; THE UNIVERSITY OF PITTSBURGH'S TEAM OF DANIELLE ARBOGAST, RICHARD KESTER, BRIAN SISCO SCORED \$12,937; WHILE WATSON PULLED IN \$52,199 DURING THE FIRST EXHIBITION GAME AT A COLLEGE CAMPUS. CMU RESEARCHERS AND STUDENTS HAD A HAND IN BUILDING WATSON, AND THE MATCH WAS PART OF A DAY OF SYMPOSIUMS, LECTURES AND DISCUSSIONS OF HOW THE TECHNOLOGY WILL BE APPLIED TO FIELDS SUCH AS HEALTH CARE AND DEFENSE.