



Carnegie Mellon University

- 9 IMPROV TROUPE HELPS STUDENTS BUILD SKILLS FOR LIFE
- 9 STUDENTS RAISE AWARENESS OF REFUGEES' PLIGHTS IN PITTSBURGH
- 11 ROOMS WITH A VIEW: STUDENT LOUNGES CONNECT PITTSBURGH AND DOHA
- 12 ROGER ROUSE SAYS "PIRATES OF THE CARRIBBEAN" SERIES HIJACKS HISTORY

Scientist's Legacy Is Revolutionizing How We Learn

■ Shilo Raube

John R. Anderson believes that one of the things that makes humans unique is our ability to pick up a brand new skill — whether it's driving a car or solving math problems. This notion has driven Anderson to spend the past four decades researching how the brain works and creating better ways for students to learn.

Anderson, the R.K. Mellon University Professor of Psychology and Computer Science, joined the Carnegie Mellon faculty in 1978 and developed the Adaptive Control of Thought (ACT) theory, which provides an overall organization of human thought and cognition. He then took the theory a step further and led a team that created an intelligent computer tutor to teach algebra to high school students, essentially re-defining the field of cognitive psychology by doing what is often impossible: taking a theory and applying it in a real-world setting.

For these achievements, Anderson recently received the Benjamin Franklin Medal in Computer and Cognitive Science, an honor given to trailblazers in science, business and technology. Previous honorees include Albert Einstein, Thomas Edison, Frank Lloyd Wright and Allen Newell, the late CMU professor and one of Anderson's mentors.

"Much of the research at CMU is done at the boundaries between disciplines," said John Lehoczky, dean of the College of Humanities and Social Sciences. "John is an excellent example of the way in which his work integrates cognitive psychology with

CONTINUED ON PAGE THREE

PLAYING WITH FOOD
Fitwits, a School of Design program, is helping children and families live healthier lifestyles. Read more on page 10.

Mosaic of Memories



PHOTO COURTESY OF CARNEGIE MELLON QATAR

GRADUATING SENIOR NOFE AL-SUWAIDI RETURNS THE 2011 CLASS TILE TO G. RICHARD TUCKER, INTERIM DEAN OF CARNEGIE MELLON QATAR, DURING THE GRADUATION CEREMONY ON THE QATAR CAMPUS ON MAY 2. CLASSES RECEIVE THE TILE DURING THEIR FRESHMAN CONVOCATION AS A SYMBOL OF UNITY AND RETURN THE TILE UPON GRADUATION TO BE INLAID IN CARNEGIE MELLON'S BUILDING. AL-SUWAIDI, A BUSINESS ADMINISTRATION MAJOR, WAS THE 2011 CLASS SPEAKER. SHE SPOKE ABOUT HOW QATARI WOMEN HAVE EMERGED AS LEADERS AND ROLE MODELS IN CONTEMPORARY SOCIETY. READ MORE ABOUT THE QATAR CAMPUS GRADUATION AND CARNEGIE MELLON'S 114TH COMMENCEMENT ACTIVITIES IN PITTSBURGH IN A SPECIAL PULLOUT SECTION ON PAGES 5-8.

Advice From Nature

Researchers, Students Borrow Ideas from Plants and Animals

■ Heidi Opdyke

You can't fool Mother Nature, but you can learn from her.

CMU researchers and students have found inspiration from her for a variety of projects. The process, called biomimicry, is an innovative method that seeks sustainable solutions by emulating nature's patterns and strategies.

From product design to computer science, flora and fauna have served as templates for solving problems in unexpected ways. Here's a few of them.

Cacti

Dale Clifford, an assistant professor of architecture, looks to nature for patterns and processes that might be applicable to other areas.

"Nature is the single and most complex system that has been field tested the longest," Clifford said. "The relationship

of process, material deposition and pattern formation is really interesting, and there are forces of nature that we haven't tapped into at all in the construction industry.

"Nature makes everything largely at room temperature, largely with soft and pliant materials. We usually do the opposite. We heat things up, beat them to submission and exert a lot of energy to get things to function well. But in nature, there is a direct correlation of construction, form and performance," Clifford said.

While working for a company called Molecular Geodesics, Clifford studied the skeleton of a cholla cactus.

"I studied the patterning, and made a physical model," he said. "Because of the way the model was constructed, it had different properties than the cactus skeleton, with flexible joints, it could transform to a small bundle, advance to a maximum volume then fold into a plane."

With his team, he transferred the

CONTINUED ON PAGE FOUR

Q&A: John R. Anderson on How His Work Has Evolved

■ Shilo Raube

John R. Anderson has re-defined the field of cognitive psychology by taking a theory of how we think and using it to improve the learning process for students across the globe.

A pioneer, Anderson recently joined the likes of Albert Einstein, Thomas Edison, the late CMU professor Allen Newell, known as a father of artificial intelligence, and CMU Professor Takeo Kanade as recipients of the Benjamin Franklin Medal in Computer and Cognitive Science.

The Piper recently caught up with Anderson to talk about his career, his mentors and the future.

Why did you choose to study psychology?

It's what I was interested in. It's what makes humans special. I started out with an interest in literature, thinking I was going to be a writer. But, I guess along the way as an undergraduate, I became convinced that science was the way to understand that particular question, so I chose cognitive psychology.

What was your reaction when you learned that you were going to receive the Benjamin Franklin award?

I was obviously very pleased. I was aware of some of the people who had won that particular award, including Allen Newell, Stuart Card and Takeo Kanade, so I knew I was in very special company.

What is the Adaptive Control of Thought (ACT) theory?

We first developed a version of it in the '70s. It was an attempt to develop computer simulation of what we call the architecture of cognition, a system for modeling how the various components of the human intellectual apparatus get together and produce a coherent thought. It basically is a theory of the overall organization of human thought and cognition.

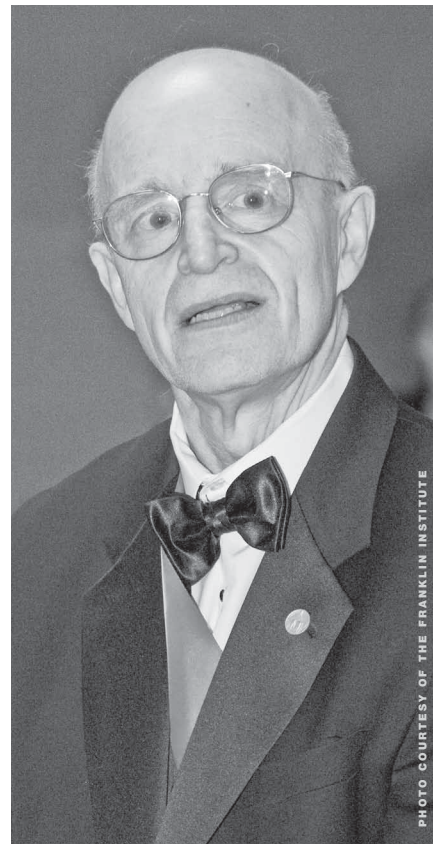
How did you start going in that direction?

In my graduate work I had worked on the fairly ambitious theory of human memory, trying to account for a lot of the experimental literature. This was work I did with my graduate adviser Gordon Bower. I guess having left that work, I felt a little unsatisfied because it was a theory of what humans knew but not a theory of how they acted on what they knew. I spent my first few post-Ph.D. years knocking around trying various ideas. I finally hit upon some of the work Allen Newell was doing at the time on production systems, and it seemed to provide the bridging link between what we call "declarative knowledge," which was what my theory of memory was concerned with, and essentially how it gets acted on, which we've come to call "procedural knowledge."

How were you able to take the ACT theory and apply it to real-world situations?

We've applied them to a good number of tasks. I guess a number of them could be called real-world tasks. An important event in this whole process took place in the early '90s, where we produced the current version of the ACT theory, which is called ACT-R. It was first widely available computer simulation of the ACT theory.

A fair community of researchers developed it around that particular theory. A lot of things that have been done to apply ACT to the real world are things that I have very little to do with. Most of my research has been concerned with modeling how students learn mathematical skills, more specifically focused on algebra. There are models of how people drive cars, do all sorts of other tasks that other people have developed. Modeling in ACT-R can proceed in two ways. The less satisfying but more common way to do a task analysis — look at what is



JOHN R. ANDERSON

involved in that task and ask yourself how the ACT-R architecture could deal with those particular demands. Then you essentially build by hand a model of how you think people do that particular task and then do experiments to verify and tune the model. We are getting more interested in having these models in essence build themselves, modeling how people learn through instruction and example and experience. That has probably been the big new push within the ACT-R community for the last five to 10 years — to have cognitive models built up by learning rather than being programmed in by the modeler.

How did you decide to focus on math and algebra?

Part of it was out of the work we did on intelligent tutoring systems, which was at the end of the '80s. That work was actually started as an attempt to break the current version of the ACT theory at that particular point in time. We had this theory that modeled how people saw a problem and to a certain degree how they learned to solve problems. It seemed to do a fine enough job as a descriptive model, but it seemed incredible that it could be an accurate description of what was actually going on in a human head. So we thought if we build instructional systems around what it said, certainly they wouldn't work, and by seeing how they wouldn't work we would learn how to improve the theory. We were surprised that it actually worked. We looked at a number of topics, but mainly we were looking at topics in high school math. So, I got very familiar with the domain of high school mathematics and all the issues about American competitiveness in mathematics.

Who are some of your mentors?

My graduate adviser was Gordon Bowers. He's a researcher on human memory at Stanford University. He certainly had a large influence on my early development. I also learned a lot from Herb Simon and Allen Newell when I came to Carnegie Mellon in 1978. They had a big influence on me.

Newell also won the Benjamin Franklin Medal in Computer and Cognitive Science. How did his work affect your work?

He was the person who formulated the idea of using productive systems in cognitive models. Productive systems were formal ideas developed in logic that extended back to the '40s. They were really a little bit obscure and nobody before Newell really got the insight that they could actually provide the characterization of the way human cognition proceeds. The ideas about production systems I got before I came to Carnegie Mellon. Perhaps the major reason I came to Carnegie Mellon was because that's where work on production systems was being done.

When I came to Carnegie Mellon, Newell was working very much on this idea of a cognitive architecture, which is a larger concept of the overarching structure of the cognitive system. That was the other major influence on me. It did a lot to help the ACT theory grow to the current point that it's at.

Where do you see the future of your work?

Neural science is such a major driver now in research. I think it has a lot to offer people.

The challenge is to describe how intellectual behavior can go forward and also go forward in a human way. Since the beginning of artificial intelligence we understood how intellectual things could happen, but the image that came out of artificial intelligence was very unhuman-like. So understanding how human intelligence is anchored in the brain is critical. I think that direction is very promising.

On the other hand, there are real limitations of what we can understand given current techniques in neural science like neural imaging, and there is a real temptation to study just the things that the techniques can shed light on. To some degree, that sheds light on relatively basic aspects of human cognition, which are not things that are uniquely human.

So, I think the interesting issue is whether we can achieve the twin goals of developing a conception that is really up to the power of human intellect while at the same time understand how it is anchored in the brain. I see that as the challenge going forward, to achieve both rather than achieving just one.



the PIPER

5/11 Issue

PUBLISHER
Teresa Thomas

EDITOR
Bruce Gerson

MANAGING EDITOR
Heidi Opdyke

WRITERS

Jocelyn Duffy	Byron Spice
Bruce Gerson	Katherine Stodola
Abby Houck	Chriss Swaney
Heidi Opdyke	Ken Walters
Shilo Raube	Maria Zayas

DESIGNER
Melissa Stoebe
Communications Design Group

PHOTOGRAPHY
Ken Andreyo
Stephen Baden
Tim Kaulen
The Communications Design and Photography Group

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

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

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

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

Anderson's Legacy is Revolutionizing How We Learn

CONTINUED FROM PAGE ONE

computer science and education.”

Anderson's cognitive tutor program was so successful that Carnegie Learning, a spin-off company, was created to develop the computer tutors as a commercial product. To date, more than half a million students in 2,600 schools across the U.S. have used the tutoring software.

Steven Ritter, who worked as a post-doc in Anderson's lab, co-founded Carnegie Learning with Anderson and is the company's chief scientist.

“We take very seriously the idea that the more we know about how students learn, the better the instruction that we can build based on that,” Ritter said. “We try to build software that knows how students learn and tries to understand each individual student's approach to a problem and deliver instruction to each individual student.”

Another project that Anderson's research has fueled is the Pittsburgh Science of Learning Center (PSLC) — a joint CMU and University of Pittsburgh center that will receive almost \$50 million in grant support from the National Science Foundation. Ken Koedinger, a former student of Anderson's, is leading this initiative as director of the PSLC.

“The center's goals have been to identify what conditions cause robust student learning, and we've been leveraging computational theory of the kind that well represents John's ACT theory to help understand those conditions,” said Koedinger, professor of human-computer interaction and psychology. “The idea that we can really understand in much more detail what makes learning things harder for students and how we can make it easier has tremendous potential.”

In addition, Anderson has influenced generations of students. Marsha Lovett, associate director of CMU's Eberly Center for Teaching Excellence and associate research professor in the Psychology Department, had Anderson as her adviser and found him to be a great role model.

“John balanced being directive and being open with me as his Ph.D. student,” she said. “He influenced my research in that he has always been interested in unifying, looking at more than one single, isolated phenomenon and seeing how the mind and brain works together. I think that is completely appropriate because we have this one mind we use to do everything in our daily lives. So, trying to develop models that achieve that same level of complexity and integration is a great goal.”

Anderson also has had an impact on his fellow faculty members.

“I've known John for decades, and one way he has impacted the department and university is through his terrifically high levels of aspirations, the tremendously high standards he sets for himself, his goals and how hard he works

to meet them,” said Marcel Just, the D.O. Hebb Professor of Psychology. “It sets standards for those around him.”

Anderson's high standards and pioneering work have helped establish CMU as a leader in cognitive and brain sciences and lay a solid foundation for future research. Michael J. Tarr, co-director of the Center for the Neural Basis of Cognition (CNBC), credits Anderson for continually pushing the boundaries and taking risks.

“New and exciting research tools, such as functional magnetic resonance imaging (fMRI) and white matter fiber tracking, in conjunction with CMU's field-leading development of modeling and analysis techniques are helping us to understand what's happening at multiple scales within the living human brain: at the single neuron level, at the scale of thousands of neurons interacting with one another, and at the network level of



CARNEGIE LEARNING FOUNDERS KEN KOEDINGER, JOHN ANDERSON AND STEVE RITTER WORK TO UNDERSTAND HOW INDIVIDUAL STUDENTS LEARN.

interactions between brain regions,” Tarr said. “Taken together, we are gaining an emerging picture of how the brain gives rise to behavior, thought, intelligence and action, as well as understanding the computations underlying these domains

so that we can build intelligent machines.”

Tarr added, “CMU is uniquely poised to integrate across levels and methods because of our excellence in these many areas — in no small way due to John Anderson.”

Seniors Super in Their Fields



THE CARNEGIE MELLON WOMEN'S ASSOCIATION RECENTLY AWARDED THREE \$1,000 SCHOLARSHIPS TO GRADUATING SENIORS ELIZABETH SOLOMON (A'11), MOLLY EVANS (S'11) AND IDA MAYER (CS'11). THE TRADITION OF THE CLUB GIVING SCHOLARSHIPS BEGAN IN 1964, AND EACH YEAR THE SCHOLARSHIP CHAIR WORKS WITH DEANS AND DEPARTMENT HEADS TO NOMINATE OUTSTANDING SENIOR UNDERGRADUATE WOMEN. FOR MORE INFORMATION ON THIS YEAR'S WINNERS VISIT WWW.CMU.EDU/CMWA/SCHOLARSHIPS/2010-2011.HTML

\$1 BILLION

4/7/2011

\$701.1M

wwe
insp!re
innovation.
THE CAMPAIGN FOR CARNEGIE MELLON UNIVERSITY

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 THE UNIVERSITY COMMUNITY, CARNEGIE MELLON 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 MARCH 15, 2011: \$4,250,923.

Learning from Nature

CONTINUED FROM PAGE ONE

patterning of the cholla, to the design of improved surgical retractors and more resilient spinal implants.

“It was a very collaborative environment,” Clifford said. “Biologists, physicists, chemical engineers, computer scientists, people with diverse viewpoints that got together to solve problems. That started my interest in biological structures as they related to design and not just architecture.”

At CMU, Clifford teaches a course each fall titled Bio_Logic, a workshop-based course in which students transfer knowledge from the domain of biology to the field of design.

“Last semester students looked at the operative principles behind flocking in birds and swarming in bees and then studied the simple rules of logic that govern change across entire systems,” Clifford said. “Our goal is to apply the interactivity inherent in nature to design strategies for a more environmentally responsive and regenerative built environment.”

Grasshoppers, Beetles

In an experimental forms class, Mark Baskinger works with students who have backgrounds in industrial design and product development. Through the course, students investigate open-ended problems based on principles of movement.

“Much of the inspiration that they use at the onset of the project comes from nature,” Baskinger said. “It’s sort of a bionics model for us; we look at natural phenomenon, structures, movements, mechanisms, growth patterns, both for structure and composition as well as aesthetics.”

One of the course projects is to make chess pieces that have moveable parts.

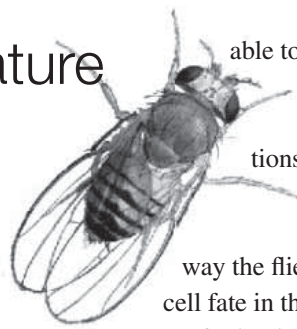
“The mechanisms are inspired by, say, a grasshopper’s leg or how a beetle’s shell opens, very simple mechanisms,” he said. “The chess set is fun; this is the second time we’ve done it. The students like it because it’s defined already, they are somewhat familiar with it and they can really experiment with the form. Now with this new wrinkle of moving components and pieces parts, it actually allows them to use computer modeling in a very advanced way, in ways that they may have not before.”

Fruit Flies

A serendipitous moment opened Ziv Bar-Joseph’s eyes to the idea of studying fruit flies.

While listening to a student describe how cells in flies make decisions, the mechanisms being used sounded very similar to a computation problem for the associate professor of machine learning and computational biology.

“The flies solution actually worked under more strict conditions than any method previously known in computer science,” Bar-Joseph said. “They were



able to solve it under much more extreme conditions and were very accurate.”

Based on the way the flies determine cell fate in their brains, a team of scientists from Israel and Carnegie Mellon created a new method to effectively deploy wireless sensor networks and other distributed computing applications.

“Computational and mathematical models have long been used by scientists to analyze biological systems,” Bar-Joseph said. “Here we’ve reversed the strategy, studying a biological system to solve a long-standing computer science problem.”

The cells in the fly’s developing nervous system manage to organize themselves so that a small number of cells serve as leaders that provide direct connections with every other nerve cell.

The result is the same sort of scheme used to manage the distributed computer networks that perform such everyday tasks as searching the Web or controlling an airplane in flight. But the method used by the fly’s nervous system to organize itself is much simpler and more robust than anything humans have concocted.

“Engineers are very good at solving specific problems and solving it efficiently. Biology is not always just about efficiency, but it is about robustness and handling different environments,” Bar-Joseph said.

Geckos



Metin Sitti has been using his work with geckos to inspire a new method to print electronics on complex surfaces. He and other researchers developed a reversible adhesion method for printing electronics on a cache of sticky surfaces, such as clothing, plastics and leather.

“This work gives us the opportunity to transfer and print electronics on complex surfaces,” said Sitti, director of the Nanorobotics Lab. “The team designed a square polymer stamp with pyramid micro-tips that allows them to control adhesion strength.”

Like the geckos, which are wizards at sticking to any kind of surface, the new polymer stamp also features a distinct adhesive quality. Key to the square polymer stamp is four pyramid-shaped micro-tips on the stamp’s bottom. They mimic the micro- and nano-hairs on the gecko’s foot, which the animal uses

to control adhesion by increasing or decreasing their contact surface area.

“This is a breakthrough in the way we will be able to bundle complex electronics to a variety of industry sectors,” Sitti said.

For more than a decade, Sitti has been designing and fabricating gecko-inspired fibrillar structures as new repeatable adhesives. He founded nanoGripteck LLC in 2009 to commercialize these new materials for sports, medical devices, robotics, defense and space applications.

“There is really no limit to what the gecko-adhesives and nature teach us as we continue to explore new opportunities,” he said.

Arachnids

Industrial design student Linda Dong spun an old idea on its head when she created an award-winning chair.

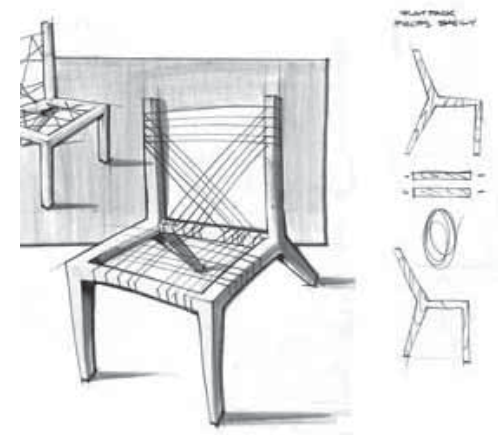
“I started off with a problem of how do we make chairs that can be easily put together by the user or could easily be flatpacked, such as what IKEA does,” Dong said. “I looked at lightweight structures and situations where animals create or manufacture their own products, and that’s when I came upon spider webs. They’re really resilient but lightweight filaments that spiders weave themselves to create a structurally sound object.”

Dong, who is minoring in biology, created a product that involved a frame and strong string. Consumers can wrap the string around the frame in any desired

pattern. Using only tension from the string, the piece can hold its structure easily without additional glue or fasteners.

Her design won the AskNature.org 2010 Earth Award Student Design Sketch Competition.

“Just by looking at the way nature fixes its own problems, we can apply that to problems of our own and figure out that the solution is right there,” Dong said. “That’s basically the fundamental philosophy behind biomimicry, which is what I’m looking to kind of integrate into design. You see a lot of it in engineering: trains based off the beak of a bird, or the wind generators based on the whale fins,” Dong



said. “When you mix disciplines, that’s where creativity really lies.

“The best things come out of biomimicry. I never see it come out worse than we come up with before. It’s always better. It never creates a less-optimal solution. It’s pretty cool.”

Meet Bubba the Bubo Virginianus



HUNTER SCHULTZ AND TRAVIS KIM FROM CARNEGIE MELLON’S CHILDREN SCHOOL CHECK OUT A 3-WEEK-OLD GREAT HORNED OWL (BUBO VIRGINIANUS) NAMED BUBBA ON EARTH DAY. THE COLLEGE OF ENGINEERING AND THE STEINBRENNER INSTITUTE FOR ENVIRONMENTAL EDUCATION AND RESEARCH HOSTED “FLYING HIGH AND HEELS ON WHEELS,” AN EXHIBIT OF BIRDS OF PREY AND A KICKOFF TO A BICYCLE CHALLENGE TO HELP THE PITTSBURGH REGION ESCAPE RISING FUEL PRICES BY PEDALING TO WORK.



“127 Hours” Survivor, 8 Distinguished Honorary Degree Recipients Featured at Commencement

■ Staff Reports

Aron Ralston (E'97), whose amazing and heroic story of survival is the subject of the film “127 Hours,” will be the keynote speaker at Carnegie Mellon’s 114th commencement, Sunday, May 15, when nearly 4,000 undergraduate and graduate degrees will be conferred.

Pinned by a half-ton boulder in a Utah canyon for nearly a week, Ralston had to choose between his hand and his life. He chose survival — amputating his own limb, rappelling 65 feet and hiking seven miles to rescue.

Carnegie Mellon’s Commencement also features the presentation of honorary degrees. This year’s eight honorary degree recipients showcase the extraordinary accomplishments of Carnegie Mellon alumni and the global reach of the university through its research and education partnerships.

As individuals, they’ve won many major awards in their respective fields from the Nobel Prize, to Emmys, to Indianapolis 500 championships. They’ve advocated for education on behalf of presidents of the United States, Russia, and Mexico, among many other nations.



ARON RALSTON (E'97), THE SUBJECT OF “127 HOURS,” WILL GIVE THE KEYNOTE ADDRESS AT CARNEGIE MELLON’S 114TH COMMENCEMENT, SUNDAY, MAY 15.

The recipients are:

Craig R. Barrett Doctor of Science and Technology

Craig R. Barrett, retired chief executive officer and chairman of the board of the Intel Corporation, will speak at the Heinz College diploma ceremony. Barrett has been a leading advocate for improving education in the U.S. and



CRAIG R. BARRETT

around the world.

Through numerous international appointments and service on boards, Barrett is a spokesman for the value technology can provide in raising social and economic standards globally. He was an appointee of the President’s Advisory Committee for Trade Policy and Negotiations and the American Health Information Community. Barrett co-chaired the Business Coalition for Student Achievement and the National Innovation Initiative Leadership Council, and has served as a member of the board of trustees for the U.S. Council for International Business, and the Clinton Global Initiative Education Advisory Board. He was a member of the National Governors’ Association Task Force on Innovation America. Barrett is a past chair of the National Academy of Engineering.

Steven Bochco (A'66) Doctor of Fine Arts

Drama graduates will enjoy the comments of legendary Hollywood producer Steven Bochco at their

CONTINUED ON PAGE SIX

48 Students Graduate from CMU’s Qatar Campus

Forty-eight Carnegie Mellon students at the Qatar campus — 36 business administration majors, nine information systems majors and three computer science majors — celebrated their graduation May 2



SHEIKHA AL MAYASSA
BINT HAMAD BIN
KHALIFA AL-THANI

at Education City.

“This is an exciting time to be a graduate from Carnegie Mellon. We are confident that you are prepared and

that you are eager to participate in the work that will need to be done to make the Qatar National Vision a reality,” said interim Dean G. Richard Tucker.

Student speaker Nofe Al-Suwaidi, a business administration major, reflected on her childhood and the misconceptions of what it means to be a Qatari woman. She discussed a woman’s role in contemporary society and the opportunities that await her.

“In my lifetime, Qatar and the women who guide her have undergone long-awaited changes. Women have emerged as leaders and role models,” she said.

President Jared L. Cohon con-

gratulated the Class of 2011 and acknowledged the significance of graduation day. “Today, you join more than 80,000 Carnegie Mellon alumni. It is a distinguished group that includes Nobel Laureates, business leaders and award-winning actors, all people who discovered their passion and honed their skills at Carnegie Mellon, just the way you have. No group of graduates is more important than you. Never have the hopes of a nation and a region rested so heavily on a group of young people. Never has there been so much opportunity for change and progress,” Cohon said.

Her Excellency Sheikha Al

Mayassa bint Hamad bin Khalifa Al-Thani, chairperson of the Qatar Museums Authority Board of Trustees, delivered the keynote address. She encouraged the graduates to be passionate about their decisions in life to achieve success. She recounted the success of Qatar as a progressive nation under the country’s visionary leadership as an example of dedication, drive and passion.

“Who would have thought Qatar would ever host the World Cup? It all began with a dream of my father’s in the 1970s,” she said. “All dreams are realizable — the question is how committed are you to that dream.”

Student Speaker Hopes To Stir Restless Hearts

■ Katherine Stodola

Alia Poonawala looks at human life through different lenses.

This year's commencement speaker, Poonawala is a biological sciences and drama major, who will share her experiences in a speech titled "Cor inquietum" — Latin for "restless heart."

The phrase comes from St. Augustine of Hippo's saying "Our heart is restless until it rests in you."

"I remember that really striking me during freshman year," she said. "What a lovely way to put a title on our tendencies to want to go for things or want things."

Poonawala has her own restless heart. She worked to fulfill it at CMU by being able to attend a top-notch drama conservancy program and work toward a biology degree.

"I had these two sort of irreconcilable parts of me that I had to use," she said.

During her time at CMU, she has found ways that science and drama intersect. Her thesis project, a cooking show performance, demonstrates that intersection.



ALIA POONAWALA

"The objective of the cooking show performance is to use performance, art and theater in order to educate people about scientific processes, culture and agriculture," she said.

Poonawala also has noticed the parallels between food and cultural

education while working at Conflict Kitchen, a takeout window that sells cuisine from countries the United States is in conflict with.

"I think food as a way to educate is a really wonderful medium," she said. "A lot of people who have a culinary sense of adventure can learn about a new culture that they might not be aware of or it could be a forum or a vehicle to discuss things that maybe weren't so easy to discuss before."

Poonawala said CMU has surrounded her with a very supportive community of professors.

"Some are very supportive of me in science, some are very supportive of me



ONLINE: WATCH ALIA POONAWALA TALK ABOUT HOW CARNEGIE MELLON HAS HELPED HER TO EXPLORE DRAMA AND BIOLOGY AT WWW.YOUTUBE.COM/WATCH?V=Y6AMZWOCNLC.

in my crazy dreams, and some are very supportive of me in my drama pursuits," she says. She has been affected by the way her professors care about her and strive to make the material less difficult.

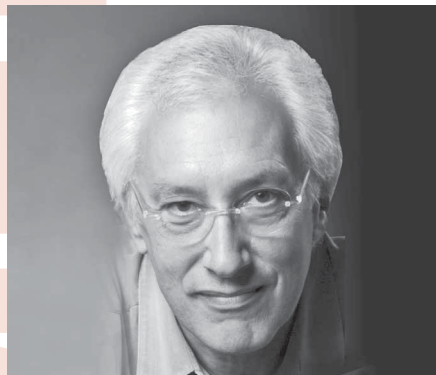
Two influential professors for Poonawala are physics professors Kunal Ghosh and George Klein. Ghosh never taught Poonawala, but has been so supportive and inspiring for her.

"When someone believes so much in you, how could you not believe in yourself?" she says. "That's been very powerful for me." Klein made physics enjoyable for Poonawala, even though she didn't like the subject.

How will Poonawala combine drama and biology after graduation?

"I know whatever I do will involve food, travel and education," she said. "It sounds sort of idyllic but I think CMU has given me the confidence to know that that is very possible."

Honorary Degrees CONTINUED FROM PAGE FIVE



STEVEN BOCHCO

diploma ceremony. Bochco, a leader in the entertainment industry for more than 40 years, has a track record for producing one notable series after another, including "Hill Street Blues," "L.A. Law" and the TNT drama "Raising The Bar."

Among his numerous awards and citations, he has received the Writers Guild's 1994 Paddy Chayefsky Laurel Award for Television, four Peabody awards, four NAACP Image awards, three Humanitas awards and two Edgar Allen Poe awards. He is a member of the Academy of Television Arts and Sciences' Television Hall of Fame and a recipient of the David Susskind Lifetime Achievement Award from the Producers Guild of America.

Chip Ganassi **Doctor of Science and Technology**

Chip Ganassi, owner of Chip Ganassi Racing Teams, Inc., has been a fixture in the auto racing industry for more than 25 years and is considered to be one of the most successful and innovative owners the sport has anywhere in the world. Since 1990, Target Chip Ganassi Racing has collected eight championship titles and 80 wins, including three Indianapolis 500 victories.



CHIP GANASSI

The Duquesne University graduate was formerly part owner of his hometown Pittsburgh Pirates and is a strong supporter of St. Jude Children's Research Hospital, to which his teams have donated more than a half million dollars over the years.

At Carnegie Mellon, Ganassi has been instrumental in helping Carnegie Mellon's Society for Automotive Engineers racing team with design of its racecar. Ganassi was an adviser for Red Whittaker's efforts to win the DARPA Grand Challenge/Urban Challenge, providing insights and contacts regarding the racing world. During the 2005 and 2007 DARPA events, he also provided the CMU team with Ganassi Racing's hospitality trailer, along with the team cook, which was much appreciated by all.

Richard (Rick) Rashid **Doctor of Science and Technology**

Richard (Rick) Rashid oversees worldwide operations for Microsoft Research as senior vice president. He will be the keynote speaker at the doctor's hooding ceremony and the School of Computer Science diploma ceremony.

Before joining Microsoft, Rashid was professor of computer science at Carnegie Mellon, where he directed the design and implementation of several influential network operating systems and published extensively about computer vision, operating systems, network protocols and communications security.

The recipient of many honors, Rashid was inducted into the National Academy of Engineering and American Academy of Arts and Sciences and pre-



RICHARD RASHID

sented with the Institute of Electrical and Electronics Engineers Emanuel R. Piore Award and the SIGOPS Hall of Fame Award. An auditorium in Carnegie Mellon's Gates Hillman Center was made possible, in part, by a gift from the Rashid family. Rashid's son, Daniel, graduated from Carnegie Mellon with a master's degree from the Language Technologies Institute in 2009.

David Servan-Schreiber **(CS'89 '90)** **Doctor of Humane Letters**

Dr. David Servan-Schreiber is a clinical professor of psychiatry at the University of Pittsburgh School of Medicine.

Servan-Schreiber's distinguished career touched many Pittsburgh institutions, including senior leadership posts at the University of Pittsburgh Medical Center, where he co-founded the Center for Integrative Medicine, and academic

Schedule of Events

Commencement weekend at Carnegie Mellon involves much more than the ceremony itself. Below is a list of events that will keep campus humming May 14-15.

Saturday, May 14

7 - 9 a.m.

Phi Beta Kappa Honor Society Welcome Breakfast and Initiation Ceremony

McConomy Auditorium, UC
Sponsors will send invitations directly to inductees.

8 a.m. - 3 p.m.

Commencement Welcome Area open

Wean Commons, UC

First Aid Area open

Athletic Equipment Desk, UC

9:30 a.m.

Navy ROTC Commissioning Ceremony

Soldiers and Sailors Memorial Hall
(off campus)
4141 Fifth Avenue, Pittsburgh, PA 15213

10 - 11 a.m.

Honors Ceremonies

Various locations across campus.

Noon - 8:30 p.m.

Diploma Ceremonies and Department Events

Specific times and locations are listed on page 8.

Noon - 2 p.m.

Human-Computer Interaction Undergraduate Presentation and Reception

A reception for HCI graduates and their families will take place in Room 7500, Wean Hall. RSVP to mcdade@cs.cmu.edu.

4 - 6 p.m.

Senior Jazz Reception

Tartans Pavilion, Resnik House
The Office of Alumni Relations will host a reception for all graduates and their families. RSVP by May 9 to events-alumni@andrew.cmu.edu or 1-866-401-9529.

5 - 7 p.m.

Carnegie Mellon Advising Resource Center (CMARC) Reception

Singleton Room, Roberts Engineering Hall
Sponsors will send information directly to invitees.

6 - 8:30 p.m.

Commencement Welcome Area open

Wean Commons, UC

8 p.m.

Doctor's Hooding Ceremony

Wiegand Gym, UC
Details are listed on page 3.

Sunday, May 15

7:30 - 10 a.m.

Diploma Ceremonies and Department Events

Specific times and locations are listed on page 8.

8 a.m. - 2 p.m.

Commencement Welcome Area open

Wean Commons, UC

First Aid Area open

Athletic Equipment Desk, UC

8:30 - 10 a.m.

School of Computer Science Breakfast

Gates & Hillman Centers
RSVP to scs-rsvp@cs.cmu.edu or
412-268-8525.

10 a.m.

Robing for all commencement participants

Various locations across campus.

10:15 - 11 a.m.

Procession of graduates

Various locations across campus.

11 a.m.

Main Commencement Ceremony

Gesling Stadium

12:30 - 7 p.m.

Diploma Ceremonies and Department Events

Specific times and locations are listed on page 8.

UC = University Center

appointments at the University of Pittsburgh and CMU. He has published more than 90 scientific monographs and has lectured at leading international academic centers.

Diagnosed with brain cancer at age 31, Servan-Schreiber published the international best-seller "Anticancer: A New Way of Life."



DAVID SERVAN-SCHREIBER

Rafael Rangel Sostmann **Doctor of Humane Letters**

Rafael Rangel Sostmann has been president of the Tecnológico de Monterrey System since 1985. The vast Tecnológico de Monterrey System is a private, non-profit institution with four educational and research arms, including Tecnológico de Monterrey, The Virtual University, TecMilenio University and The Tec Health System.

Carnegie Mellon and Tecnológico de Monterrey have been partnering for



RAFAEL RANGEL SOSTMANN

more than 20 years in areas such as Ph.D. education and executive education. Currently, there is a Masters Program in Information Technology with Heinz College.

Rangel Sostmann has received honors from the University of Wisconsin at Madison, the University of North Carolina, Mount Royal College and the Instituto de Empresa in Spain. King Juan Carlos I of Spain awarded him the Commendation with Insignia of the Order of Isabella the Catholic.

David S. Steiner (E'51) **Doctor of Business Practice**

David S. Steiner has a long and distinguished history as a real estate developer and is chairman of Steiner Equities Group, LLC.

With his son Douglas, David Steiner built Steiner Studios, an unprecedented 280,000 square-foot, \$150

million state-of-the-art film and television production facility. Situated on a 15-acre site at the historic Brooklyn Navy Yard, Steiner Studios has already housed many major film productions, "The Producers: The Movie Musical," "Fur," "Inside Man," "Across the Universe," "Super Ex-Girlfriend," "Spider Man III," "Nanny Diaries" and "The Hoax."



DAVID S. STEINER

Steiner is highly active in public service and on the policy front. He has served as vice president of the Washington Institute for Near East Policy. Steiner also is a member of the Saban Center for Middle East Policy at the Brookings Institution in Washington.

A speaker series, endowed by Sylvia and David Steiner, features business leaders in the arts, culture and entertainment industries.

Oliver E. Williamson (TPR'63) **Doctor of Economics and Organization**

Oliver Williamson, the 2009 Nobel Laureate in Economic Sciences, will be the speaker for the Tepper School of Business master's diploma ceremony on Saturday, May 14.

The Edgar F. Kaiser Professor Emeritus of Business, Economics, and Law at the University of California, Berkeley, is a pioneer in the multi-disciplinary field of transaction cost economics, and one of the world's most cited economists.

Williamson won the Nobel Prize for his analysis of economic governance, especially the boundaries of the firm. He is the 18th person affiliated with Carnegie Mellon to win a Nobel Prize.

Williamson holds honorary doctorates from 10 universities around the world. Among his many honors, he is a Distinguished Fellow of the American Economic Society and the Industrial Organization Society. He was elected to the National Academy of Sciences.



OLIVER E. WILLIAMSON

Diploma Ceremonies

Graduating students receive their diplomas at department or college ceremonies held throughout commencement weekend. Complimentary shuttle service will be provided on Sunday afternoon to diploma ceremonies taking place off campus. Written directions to off-campus sites also will be available in the Commencement Welcome Area. Unless otherwise indicated, the reception will follow the ceremony.

Bachelor of Humanities & Arts/Bachelor of Science & Arts/Bachelor of Computer Science & Arts

Sunday, May 15
Ceremony: 8:30 a.m.
Kresge Theater, CFA
Reception: 9:30 a.m.
Alumni Concert Hall, CFA

Biological Sciences

Saturday, May 14
Ceremony: 2 p.m.
Auditorium, Mellon Institute (off campus)
Reception: following ceremony
Social & Conference Rooms, Mellon Institute, 4400 Fifth Avenue
Two tickets per student

Biomedical Engineering

Saturday, May 14
Ceremony: Noon
McConomy Auditorium, UC
Reception: 1 p.m.
Schatz Dining Room, UC

Business Administration (Master's & Doctor's)

Saturday, May 14
Ceremony: 2 p.m.
Reception: following ceremony
Soldiers & Sailors Memorial Hall (off campus), 4141 Fifth Avenue

Business Administration (Bachelor's)/Economics

Sunday, May 15
Reception: 12:30 p.m.
Ceremony: 2 p.m.
Soldiers & Sailors Memorial Hall (off campus), 4141 Fifth Avenue

Chemical Engineering

Sunday, May 15
Ceremony: 1 p.m.
Carnegie Lecture Hall, Carnegie Museum (off campus) 4400 Forbes Avenue
Reception: 2 p.m.
Phipps Conservatory (off campus)
1 Schenley Park, 700 Frank Curto Drive

Chemistry

Sunday, May 15
Ceremony: 2 p.m.
Auditorium, Mellon Institute (off campus)
Reception: following ceremony
Social & Conference Rooms, Mellon Institute, 4400 Fifth Avenue

Civil & Environmental Engineering

Sunday, May 15
Reception: 12:30 p.m.
Ceremony: 2 p.m.
Rooms 120 & 121, David Lawrence Hall, Univ. of Pittsburgh (off campus)
3942 Forbes Avenue
Four tickets per student

Economics/Business Administration (Bachelor's)

Sunday, May 15
Reception: 12:30 p.m.
Ceremony: 2 p.m.
Soldiers & Sailors Memorial Hall (off campus), 4141 Fifth Avenue

Electrical & Computer Engineering

Sunday, May 15
Ceremony: 12:30 p.m.
Reception: following ceremony
Wiegand Gymnasium, UC

Engineering & Public Policy/Engineering & Technology Innovation Management

Sunday, May 15
Ceremony & Reception: 8 a.m.
Rangos 2 and 3, UC
Six tickets per student

English

Saturday, May 14
Ceremony: 2:30 p.m.
McConomy Auditorium, UC
Reception: following ceremony
Schatz Dining Room, UC

Entertainment Technology Center

Sunday, May 15
Reception followed by dinner: 4 p.m.
Ceremony: following dinner
East Club Lounge, Heinz Field (off campus), 100 Art Rooney Avenue
NOTE: Shuttle service is not provided.

Heinz College

Saturday, May 14
Ceremony: 2 p.m.
Carnegie Music Hall, Carnegie Museum (off campus)
Reception: following ceremony
Carnegie Music Hall Foyer, Carnegie Museum, 4400 Forbes Avenue

History

Saturday, May 14
Reception: Noon
Lower Level Coffee Lounge, Baker Hall
Ceremony: 1 p.m.
Giant Eagle Auditorium, Baker Hall

Information Networking Institute

Sunday, May 15
Ceremony: 3 p.m.
Reception: 4 p.m.
Rodef Shalom Congregation (off campus), 4905 Fifth Avenue

Information Systems

Saturday, May 14
Ceremony: 6 p.m.
Philip Chosky Theater, Purnell Center
Reception: following ceremony
Lobby, Purnell Center
Seven tickets per student

Materials Science & Engineering

Sunday, May 15
Ceremony: 1 p.m.
Reception: following ceremony
Winchester Thurston School Auditorium (off campus), 555 Morewood Avenue

Mathematical Sciences

Sunday, May 15
Ceremony: 12:30 p.m.
Room 2315, Doherty Hall
Reception: following ceremony
Perlis Atrium, Newell-Simon Hall

Mechanical Engineering

Saturday, May 14
Ceremony & Reception: 2 p.m.
Wiegand Gymnasium, UC

Modern Languages

Sunday, May 15
Ceremony: 8:30 a.m.
Rangos 1, UC
Reception: following ceremony
Skibo Coffeehouse, UC

Philosophy

Sunday, May 15
Breakfast Reception: 8 a.m.
Ceremony: 9 a.m.
Adamson Wing (136A), Baker Hall

Physics

Sunday, May 15
Ceremony: 12:30 p.m.
Reception: following ceremony
Room 7500, Wean Hall

Product Development

Saturday, May 14
Ceremony: 10 a.m.
Reception: following ceremony
Singleton Room, Roberts Engineering Hall

Psychology

Sunday, May 15
Ceremony & Reception: 12:30 p.m.
Rangos Hall, UC

School of Architecture

Saturday, May 14
Ceremony: 2 p.m.
Philip Chosky Theater, Purnell Center
Reception: following ceremony
Great Hall, CFA

School of Art

Sunday, May 15
Reception: 12:30 p.m.
Regina Gouger Miller Gallery, Purnell Center
Ceremony: 2:30 p.m.
Philip Chosky Theater, Purnell Center

School of Computer Science

Sunday, May 15
Ceremony: 1 p.m. (tentative)
Reception: following ceremony,
Carnegie Music Hall, Carnegie Museum (off campus) 4400 Forbes Avenue

School of Design

Saturday, May 14
Ceremony & Reception: 3 p.m.
Rangos Hall, UC

School of Drama

Sunday, May 15
Ceremony: 12:30 p.m.
Philip Chosky Theater, Purnell Center
Reception: following ceremony
Lobby, Purnell Center

School of Music

Sunday, May 15
Ceremony: 12:30 p.m.
Kresge Theater, CFA
Reception: following ceremony
Alumni Concert Hall, CFA

Social & Decision Sciences

Sunday, May 15
Reception: 7:30 a.m.
Schatz Dining Room, UC
Ceremony: 8:30 a.m.
McConomy Auditorium, UC

Statistics

Sunday, May 15
Ceremony: 12:30 p.m.
Giant Eagle Auditorium, Baker Hall
Reception: following ceremony
Lower Level Coffee Lounge, Baker Hall

Student-Defined Majors

Sunday, May 15
Reception: 8 a.m.
Ceremony: 8:30 a.m.
Lower Level Coffee Lounge, Baker Hall

Getting Here

Squirrel Hill Exit, Boulevard of the Allies Are Best Bets

■ Bruce Gerson

If you're working, participating in or attending commencement activities May 15, getting to campus through Squirrel Hill, or Schenley Park via the Boulevard of the Allies, are your best options considering the street closings for the Dick's Sporting Goods Pittsburgh Marathon.

Directions to campus posted on the commencement website lead all commuters coming from the east, west, north and south to the Parkway East (I-376) Exit 74 Squirrel Hill. From there you're just three left turns away.

If you're traveling to campus from the East End, Shadyside or East Liberty —neighborhoods inside the perimeter of the marathon course — directions take you to the Boulevard of the Allies and through Schenley Park.

Coming from the east allows you to avoid the street closings in and around Oakland, which are scheduled to begin at 6:30 a.m. Those street closings (miles 11-14 of the 26.2 mile course) include:

- Forbes Avenue between the Birmingham Bridge and Craig Street;
- Craig Street between Forbes and Fifth avenues;
- Fifth Avenue between Craig Street and Aiken Avenue;
- Fifth Avenue between South Highland and Penn avenues.

Marathon officials expect the above streets to re-open between 11 and 11:30 a.m., so there shouldn't be a problem after the main commencement ceremony, which should end around 12:30 p.m.

See the commencement website (www.cmu.edu/commencement) for specific turn-by-turn directions.

Improv Troupe Helps Students Build Skills for Life

■ Maria Zayas

Quick and creative thinking is important during a job interview. It's also important on stage.

Carnegie Mellon's student improv troupe, the No Parking Players, are using what they've learned through a hobby and applying it to their work.

"Improv is a great thing to talk about during interviews," said Molly Samuels, director of No Parking Players and a junior in H&SS majoring in interdisciplinary and human-computer interaction. "It's all about being a massive team player, supporting your members and thinking on your feet."

The basic philosophy of improv is "yes, and," which means to never deny a partner's input and always add or contribute to their idea or initiation. Improvisers rely on the rules and techniques of improv for players to perform short scenes or acts spontaneously. They typically use a suggestion by the audience to guide their performance through extrapolation

as they create dialogue, setting and plot on the spot.

"A huge component to my education at Carnegie Mellon was learning how to communicate clearly and confidently," said CMU alumnus Greg Gillotti. "I can't overstate how much my time doing improv has helped me on the job."

Gillotti is a consultant and an in-house team member at The Steel City Improv Theater, 808-B Tripoli St. on Pittsburgh's North Side.

"By doing improv, I've honed my listening skills and found ways to diffuse the counterproductive defensiveness that is often natural when working in a large



group," he said.

Sanders said no experience is necessary to do improv.

For the past four semesters, the No Parking Players have offered a Student College (StuCo) course called "Fundamentals of Improv Comedy" in addition to weekly improv workshops.

"We've integrated the StuCo with the workshop. It's a

great atmosphere and a lot of people are interested and excited about the class," said Evan Walden, the teaching assistant for the StuCo class. Walden is a sophomore in physics and mechanical engineering.

"The class is diverse and full of people who want to have fun. It is also a great way to get acclimated to the No Parking Player's community."

The workshops are free and open to all CMU students and are held twice a week during the academic year.

"One of our goals has been to get introduced to improv in the city of Pittsburgh. We've accomplished this by performing at the Steel City Improv and are planning on stopping by the CLO Cabaret as well," Walden said. "The scene in Pittsburgh is up and coming."

To join the No Parking Players performing team, which has shows on campus every other Friday during the school year and offers free milk and cereal for the audience, students must first attend workshops and work their way in. They also have started performing in the city. The process avoids auditions and keeps the atmosphere friendly and relaxed.

For more information about No Parking Players and their show schedule visit <http://noparkingplayers.com/about>.

Students Raise Awareness on Refugees' Plights in Pittsburgh

■ Maria Zayas

A new Student College Course (StuCo) next year will teach undergraduates about the issues refugees face.

"A lot of people, even native Pittsburghers in many cases, aren't aware that Pittsburgh is home to an incredibly diverse refugee population," said Amanda Kennard, a research associate in the Center for International Relations and Politics in the College of Humanities and Social Sciences. She, Audrey Williams and Inyoung Song have created the course 98-170: Refugee Studies in Pittsburgh, to help raise awareness on local refugee populations and their plight.

The U.S. Department of State Office of Refugee Resettlement brings people from all over the world who have refugee status, those who have fled their homes due to fear of imprisonment or persecution, to the United States. At the local level, agencies such as the Jewish Family & Children's Service, the Pittsburgh Refugee Center, and the Catholic Charities, Diocese of Pittsburgh, work to resettle refugees in the community by providing for their basic needs, helping them adjust to life in the U.S., and teaching them valuable skills for work and the home.

"The StuCo course aims to raise awareness in the wider community of these large numbers of people coming from Nepal and from Burma, and from many other places, and settling here," Kennard said. "We also want to educate students about the challenges that refugees often face. It's difficult adjusting to a new life in an American metropolitan city, especially if you've

spent your life so far in an isolated refugee camp on the other side of the world."

Through their proposal for the course, the students were selected to attend the Clinton Global Initiative University Annual Meeting in early April at the University of California, San Diego. President Clinton launched the program in 2007 to engage the next generation of leaders on college campuses around the world. Nearly 1,200 attendees met to discuss five focus areas: education, environment & climate change, peace & human rights, poverty alleviation and public health.

"People were really excited," said Williams, a junior majoring in international relations and politics. "I think the real mission of the conference was to have students meet others interested in the same topic and create this community of people who are really excited about development and helping others."

The conference, which brings together students who come with a project in mind, is committed to incite and encourage youth activism.

The course will include the usual academic coursework that covers the legal and historical components of the social issues, as well as local and international case studies.

In addition, speakers from local refugee families and organizations will come to speak to the class.

The San Diego trip was sponsored by CMU's Center for International Relations and Politics.

FALLEN PITTSBURGH POLICE HONORED



PHOTO BY GLENN BROOKES

Parents of Paul Sciallo II, one of three Pittsburgh police officers killed in the line of duty two years ago, thank Sahil Jolly, a member of CMU's Cricket Club, for hosting a benefit for the fallen officers in late April. The club collected donations during a cricket exhibition to support a memorial for the officers in Bloomfield. In addition to Sciallo's parents, members of the Pittsburgh Police and Carnegie Mellon Police attended the event.

piper TRIVIA

Congratulations to Susan Tolmer and Michael Billotte for correctly answering the April 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

Fitwits Helps School Share Healthy Life Lessons

■ Maria Zayas

A small idea can make a big difference in a community.

A little boy painted a cast of characters on a plate during a workshop for children on proper meal portions. That idea spurred Fitwits, a holistic approach toward getting communities to talk about the health effects of obesity, nutrition, exercise and portion size.

He used the characters to help him remember specific things about portions.

"He had drawn our first two characters, Monty and Jack. He was talking about two fingers worth of cheese and he told us a whole story about Monty and Jack. And that was it, Fitwits was born," said Kristin Hughes, an associate professor in Carnegie Mellon's School of Design.

Hughes is impacting the lives of young students at Propel McKeesport, an elementary charter school where 87 percent of students are eligible for the federal free/reduced price lunch program.

"Kids at this age are forming their



NITWIT CHARACTERS COMMUNICATE UNHEALTHY FOOD CHOICES AND UNDESIRABLE LIFESTYLE DECISIONS.

identities. We are offering just in time support for them to think about ways to be healthy. We teach them about preventative ways to deal with obesity," Hughes said. "What is being healthy? It's not just cutting back on high fat foods. You have to exercise, you have to take care of yourself, you have to be kind to one another, and you have to encourage one another."

Propel McKeesport students have spent the last school year learning how to tell the difference between being a "Fitwit" and a "nitwit." The program collaborates with physicians, nutritionists, local companies and organizations, children and parents.

One of the program's successes was helping the school celebrate its first salad bar at the end of April as part of an effort to change the eating habits of students, families and the community.

Whole Foods purchased the salad bar for the school, allowing Propel McKeesport to provide students with fresh vegetables and fruit three days a week. Eat'n Park Restaurants will be donating all the produce needed for the salad bar through the end of the academic year as part of its "LifeSmiles" initiative, which aims to create healthier communities for children and their families.

"The parents are playing a variety of roles. Two of our parents are actually on our team as 'Parent Champions' and are vital to connecting us to the school, the home, and helping us relate to how the kids perceive the game. They are critical members of the design team," said Sarah Rafson, coordinator of the Fitwits program. "We want to change the whole home environment, and also see the kids influencing the parents to adopt healthy

styles."

The Propel School at McKeesport has taken ownership of the Fitwits message. With help from the Parent Champions, the school built a school garden. Pittsburgh Mayor Luke Ravenstahl donated the bricks for its construction, and students will plant and care for the garden. The program also held a workshop to help families start gardens at home.

"Fitwits is sustainable. Our goal is to plant ideas. It wouldn't be sustainable if we tried to do everything. We try to activate enough initiative in the community so even after the game ends, there is still this buzz, a consciousness and willingness to change and accept new projects," Rafson said.

According to Hughes, the fourth-grade science teachers have begun to incorporate ways to support the garden into the Earth Science curriculum.

Competition goes beyond individuals. Students can win points if their family participates in a challenge, if their teachers implement healthy activities into the classroom, if their whole class or entire grade level completes a challenge, and even if their principal creates a healthy policy.

Each week students receive an envelope filled with challenges and prizes. Students compete with one another to win "Fitwits Money" they can redeem for prizes. They also compete for merit badges they can wear on wristbands, which makes their success tangible and facilitates competition and cooperation. At the peer-to-peer level, students may decide to compete with one another, trying to earn the most badges. They also can nominate each other for a peer-to-



FITWIT CHARACTERS SUCH AS BONITA REINFORCE HEALTHY MESSAGES.

peer award, which reinforces messages of caring and cooperation.

Fitwits partners include the Heinz Endowments, UPMC St. Margaret Family and Health Centers and Whole Foods. Previously a version of the program was used at the Hosana House in Wilkesburg.

Peter Scupelli, the lead design researcher for Fitwits, said the program takes into account lifestyles and how they are influenced by individual, interpersonal, organizational and community factors. It also allows users to tailor the game on multiple levels. The Fitwits team might give teachers a suggestion for a class challenge, but they ultimately decide what the challenge is.

"From my perspective it is a new way of working with people to empower them to be successful. We create the framework for the game, but some parts of the game they are actually creating themselves," Scupelli said.

For more information visit www.fitwits.org/.

NEWS BRIEFS

Clarke Inducted Into Honorary Society

Edmund M. Clarke, the FORE Systems University Professor of Computer Science and professor of electrical and computer engineering, is among 212 leaders in the sciences, social sciences, humanities, arts, business and public affairs who have been elected to the American Academy of Arts & Sciences (AAAS) this year. Clarke is the 17th AAAS member affiliated with Carnegie Mellon.

Clarke, the 2007 winner of the A.M. Turing Award — often referred to as the Nobel Prize of Computer Science — will join other 2011 members for the Oct. 1 induction ceremony at the academy's headquarters in Cambridge, Mass. See www.amacad.org/news/alphalist2011.pdf for the complete list of new members.

Established in 1780 by John Adams, John Hancock and other founders of the nation, AAAS is one of the nation's most

prestigious honorary societies. Its members have included Benjamin Franklin, Ralph Waldo Emerson and Albert Einstein.

The current membership includes more than 250 Nobel Prize laureates and more than 60 Pulitzer Prize winners. For the list of 17 AAAS members from CMU, go to www.cmu.edu/news/rankings-awards/awards/professional-societies.shtml

CMU a Top "Green" University

Carnegie Mellon is among the greenest colleges and universities according to The Princeton Review and the U.S. Environmental Protection Agency (EPA).

CMU is featured in "The Princeton Review's Guide to 311 Green Colleges," a free guidebook available for download at www.princetonreview.com/green-guide.aspx, that profiles the most environmentally responsible colleges in the United States and Canada.

The EPA's Green Power Partnership announced that Carnegie Mellon used the most green power of any school in its

athletic conference, the University Athletic Association. By purchasing close to 87 million kilowatt hours of green power, CMU significantly bested its cohorts in the UAA. Only the University of Pennsylvania purchased more green power.

For more on the EPA's College and University Green Power Challenge, go to www.epa.gov/greenpower/initiatives/cu_challenge.htm.

CMU a "StormReady University"

The National Weather Service has designated Carnegie Mellon a "StormReady University" in recognition of the procedures established by the Environmental Health & Safety Department to protect the campus during weather emergencies. CMU is the third university in Pennsylvania to earn the distinction and 70th in the U.S.

CMU met the six required guidelines, which included having a fully staffed communications center and trained personnel. CMU must also allow annual inspections

of its emergency plans by the National Weather Service, the Pennsylvania Emergency Management Agency and state and local emergency responders.

Representatives from the National Weather Service granted the "StormReady" certification to President Jared L. Cohon in late April.

For more on the EH&S Department, severe weather procedures and training, go to www.cmu.edu/ehs/

Check in with FourSquare at CMU

Carnegie Mellon now has an official presence on the social, location-based service FourSquare. The site allows users with a smartphone to "check-in" at locations, alerting friends and followers. Each time a user "checks-in" at a CMU location, it will link to our branded page, www.foursquare.com/carnegiemellon, helping to publicize the CMU name. "FourSquare: Check In Here" window clings for your building are available by contacting Amanda Berneburg at amanda@cmu.edu.

Rooms With a View

Student Lounges Connect Pittsburgh and Doha

■ Maria Zayas

Opportunity used to knock on doors, but today it is just a click away.

The new student lounge at Carnegie Mellon's Pittsburgh campus, currently referred to as the "Doha Room," connects students to Carnegie Mellon Qatar through a continuous video conferencing link. The room, located next to Resnik Café, will be open from 7:30 a.m. – 2:30 a.m., Monday through Friday. The sister space in Doha, tentatively referred to as the "Pittsburgh Room," connects students to the university's main campus.

The rooms were created to promote awareness and communication.

"I came up with the idea of a Qatar room on campus that would allow members of the Carnegie Mellon Pittsburgh community to gain a glimpse of what life and work at CMU-Q is all about," said Kim Abel, director of Housing and Dining Services.

Abel said she created the idea for the room after hearing stories from students in the Initiating Meaningful Pittsburgh and Qatar Ties (IMPAQT) program. The program was founded in fall 2008 to exchange students between the campuses during spring break. These students travel to develop strategies and initiatives to build relationships between the two campuses and enhance student experiences.

Renee Camerlengo, assistant dean of Student Affairs, said both sides are working on building a library of videos and images to run when no live material is available. The Doha campus will receive recordings from events during



EXECUTIVE VICE PRESIDENT AND PROVOST MARK KAMLET SPEAKS DURING AN OPEN HOUSE FOR THE NEW DOHA ROOM.

Spring Carnival, such as a video of this year's Buggy Races.

"We don't have the technical capacity right now to put the webcam up live from Midway on their screen. One of my ambitions is to get us to that point," Camerlengo said.

While the Doha campus does not have an annual Spring Carnival they celebrated "International Day" on April 12. The festival showcased the diverse cultures of the region through clothing, talent shows and dance performances. The event was streamed live during the Doha Room's opening ceremony and is available for replaying.

In addition, students have been talking about collaborative meetings for groups that have a presence on both campuses. Organizations such as The Finance Club and The Women's Leadership Project can hold joint meetings and

host speakers in the room, allowing the other campus to participate virtually.

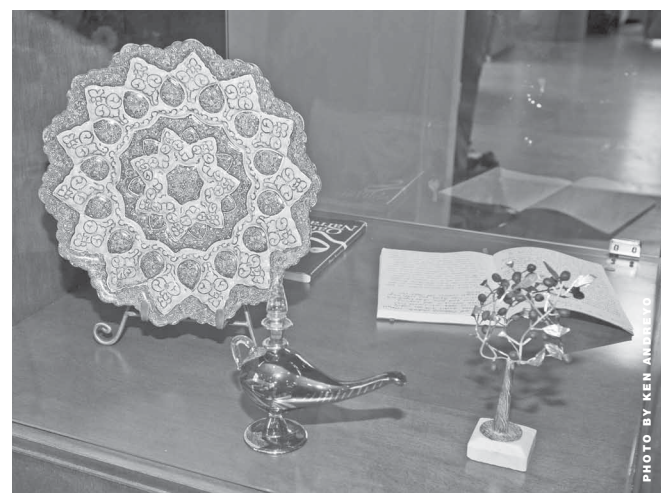
Such collaborations can benefit from the input of new perspectives and cultural values, which will raise awareness and enrich students.

"Qatar is a melting pot of that region. I met people from Lebanon, Syria, Egypt, Tunisia, Pakistan, from all over. I was really impressed by how warm they were and how welcoming they were," said Andres Velez, a first-year student in economics and member of IMPAQT 2011. "This room is here

to raise awareness of Qatar, the Middle East, and of different people."

IMPAQT students also have been discussing ways to use the space. During their trip to Doha this past spring break, the students had a chance to experience Doha Debates, which provide a place for people to discuss the major political topics in the region. As part of that, students used video chat to talk to people at the American University in Cairo about the riots and political instability that recently shook Egypt. The group asked questions to top scholars in the field and in the country about the current state of events.

"In that spirit, we are thinking about this room being another chance for us to



ITEMS IN A DISPLAY CASE ILLUSTRATE QATARI CULTURE.

have debates between the two campuses, whether that be talking about racial and cultural stereotypes or other issues," said Daniel Chow, a junior in design and human-computer interaction. "We want to try to increase dialogue and communication between the two campuses."

Aiding Japan Through Hair Color

Mechanical Engineering Professor William Messner recently held his 12th annual Different Color Hair day. Messner pledged \$2 per participant to the Red Cross of Japan if 1,000 or more took part by coloring or streaking their hair, or by wearing a colored wig.

Armed with spray cans, students manned tables by the entrances of Doherty and Wean halls, and several staff from the College of Engineering and School of Computer Science helped round up 1,046 people to take part. Even Professor Sara Majetich's pet Dalmatian, Merlin (pictured at right) contributed to the cause.

Messner will donate \$2,092 to the Red Cross of Japan.

Athletics Offers Summer Camps for Kids

The Athletics Department is once again offering summer sports and fitness camps for children between the ages of 6 and 18.

Camps include the sports of basketball, football, soccer and swimming. There's also a fitness camp, which provides instruction in circuit training as well as lifetime sports, such as swimming, golf and tennis. For more information, go to www.cmu.edu/athletics/department/camp-clinic.html

Silicon Valley's GPS Units Help Colombian Flood Victims

Jeannie A. Stamberger, associate director of the Disaster Management Initiative (DMI) at Carnegie Mellon Silicon Valley, was instrumental in getting GPS units to a United Nations office in Bogota, Colombia, to aid flood victims there. The GPS units will be used to collect data documenting the current situation and humanitarian condition of two million people affected by severe flooding in Colombia in 2010 and 2011. Stamberger's DMI team also assisted various agencies and first responders during the aftermath of the disaster in Japan last month.

Lomas Wins for "Numbaland!"

"Numbaland!," a collection of math games developed by Human-Computer Interaction Institute Ph.D. student Derek Lomas and two colleagues, Dixie Ching, a graduate student at New York University, and Jeanine Sun, a graduate student at the University of California at San Diego, won the Collegiate and Impact prizes in the first National STEM Video Game Challenge. They will receive a total of \$50,000 for their prizes.

The Numbaland! games are designed to help children in kindergarten through grade 4 develop a strong understanding of numbers. The games use the Pittsburgh Science of Learning Center's DataShop to analyze student performance.

Lomas said the games are intended for use during summer vacations and expects them to be available on the iPad late this spring. Prototypes of the games can be played at <http://numbaland.com>.

For more information on the competition and the other winners, visit www.stemchallenge.org.

The Sims Creator Receives Randy Pausch Prize

Will Wright, the gaming industry legend who created The Sims®, Spore® and other breakthrough video games, received the 2011 Randy Pausch Prize in recognition of his success in mixing artistry with technology.

The prize, named for the late co-founder of the Entertainment Technology Center and famed author of "The Last Lecture," was given at the Pittsburgh Technology Council's Design, Art & Technology Awards on April 28.

Wright's visit to Pittsburgh and the ETC coincided with the first Building Virtual Worlds Festival. This semester a spring section of the Building Virtual Worlds interdisciplinary project class was offered for the first time and included students from a new joint master's program with the University of Madeira. Teams of class members turned rooms into unique interactive experiences.

Diplomatic Relations: India's Ambassador Visits CMU

Meera Shankar, India's Ambassador to the United States, toured Carnegie Mellon CyLab on April 29. Faculty and students demonstrated recent advances in biometric security technologies, such as a next-generation identity system to automatically detect and label various facial landmarks on faces — a technology that has broad applications for a variety of sectors.

Carnegie Mellon has more than 900 students from India, by far its largest contingent of international students. The university employs more than 100 faculty from India, and has more than 1,200 alumni in the country, its largest concentration outside the U.S.

RIGHT: INDIAN AMBASSADOR MEERA SHANKAR (CENTER) RECENTLY MET STUDENTS FROM MARIOS SAVVIDES' BIOMETRICS LAB.

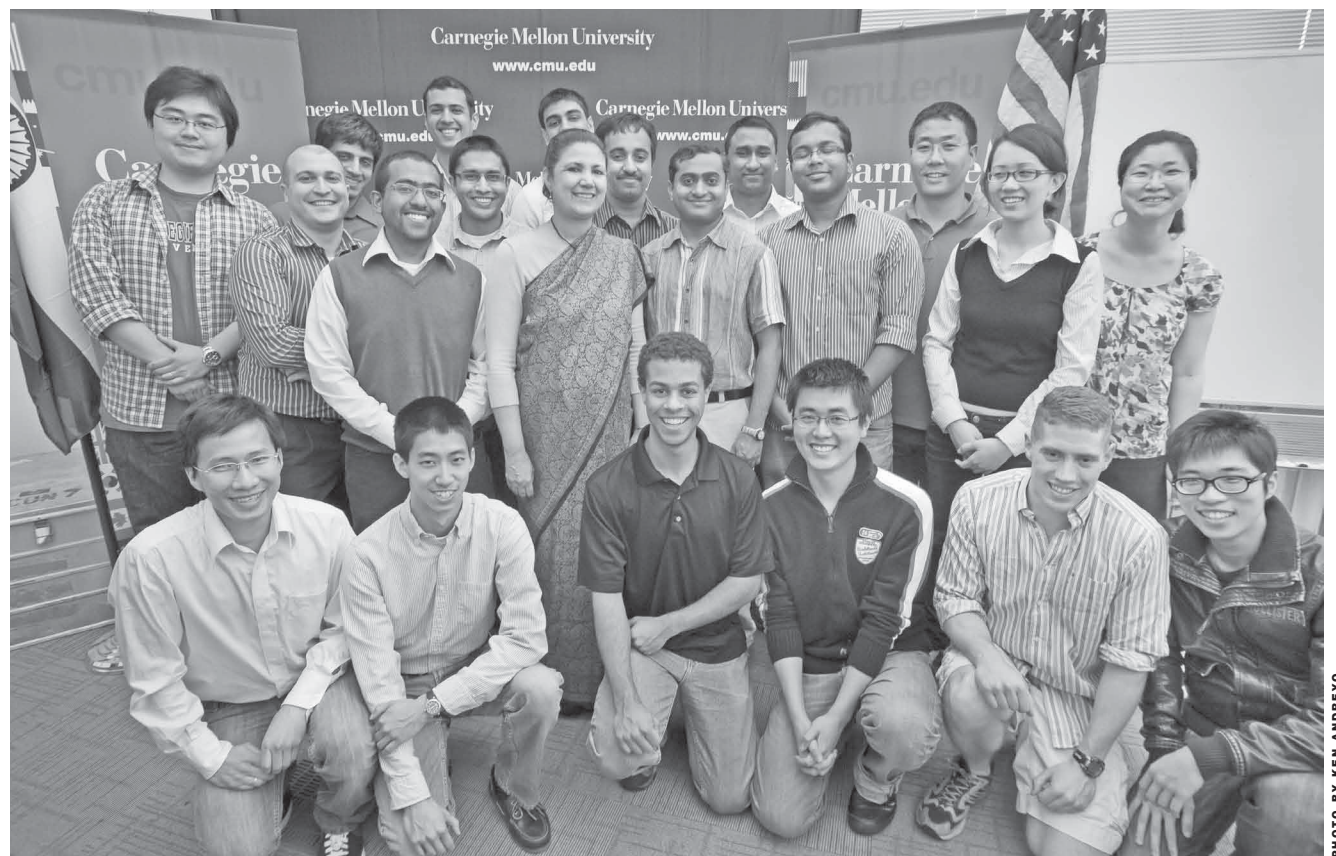


PHOTO BY KEN ANDREYO

Rouse Says "Pirates of the Caribbean" Series Hijacks History

■ Shilo Raube

Arrrgh. The swashbuckling theatrics of Pirate Jack Sparrow, played by Johnny Depp in Disney's "Pirates of the Caribbean" movie series, are much more than sources of escapist entertainment says Carnegie Mellon Associate Teaching Professor of History Roger Rouse.

With the fourth installment of Disney's popular series, "On Stranger Tides," scheduled to hit theaters May 20, Rouse sees more than the 18th century adventures of Sparrow, Will Turner and Elizabeth Swann on the big screen. He sees Disney's strategy to increase profits and power.

"Disney heroizes Jack, Elizabeth and Will for learning to act in similar ways," Rouse said. "And in so doing it encourages audiences to enthusiastically adopt these kinds of conduct, to associate them not with exploitation, exhaustion, and constraint but with excitement, independence, and the forging of a freer and much fairer world. One of the series' many ironies is that it hijacks images of rebel piracy to promote conformity to confining corporate visions of the ways that we should live our lives."

The films also are significant, Rouse argues, for what they omit.

"They never represent the slave trade and slaves' work producing sugar even though these were the main sources of prosperity for the films' elites and the main reasons the British were trying to control the seas. And at least until the very end, they never feature a mother or a wife, thus leaving out the crucial caring labor that women in these positions were expected to provide. All of this encourages viewers to be similarly inattentive to production, reproduction, and the people in the present who perform these kinds of work," Rouse said.



ROUSE DISCUSSES HIS INTEREST IN THE HISTORICAL SIDE OF PIRATES OF THE CARIBBEAN ONLINE AT WWW.YOUTUBE.COM/WATCH?v=S7OLYrKdVOY

WATCH ROUSE'S LECTURE SPONSORED BY CMU'S CENTER FOR THE ARTS IN SOCIETY, "PIRATES OF THE CARIBBEAN: WHAT HAVE THEY BROUGHT US? WHAT DOES IT MEAN?" AT WWW.YOUTUBE.COM/WATCH?v=z90KOEQD334.

Rouse uses "Pirates of the Caribbean" in his Global Histories course to provoke discussions about both the history of piracy and what he calls "the pirating of history."

Maria Zayas, a senior in Modern Languages, said that Rouse's lecture helped her to see how historians' work

influences popular culture by reflecting changing beliefs about the social landscape.

"Jack Sparrow can be seen as Johnny Depp's take on Keith Richards as a pirate," she said, "but for historians, he can be seen as the push and pull between different social forces."

Rouse offers some advice for those planning to see "On Stranger Tides."

"While you're being entertained, give yourself the added fun that comes from working out what Disney is teaching us and whose interests its lessons may be serving," he said.

Driving the Economy



PHOTO BY LARRY RIPPEL

JOURNALIST WILLIAM HOLSTEIN SHOWS HIS NEW BOOK, "THE NEXT AMERICAN ECONOMY — BLUEPRINT FOR A REAL RECOVERY," TO RAJ RAJKUMAR, PROFESSOR OF ELECTRICAL AND COMPUTER ENGINEERING AND HEAD OF THE GM COLLABORATIVE LAB DURING A VISIT TO CMU. RAJKUMAR; METIN SITTI, PROFESSOR OF MECHANICAL ENGINEERING AND HEAD OF THE NANOROBOTICS LAB; AND WILLIAM "RED" WHITTAKER, THE FREDKIN RESEARCH PROFESSOR OF ROBOTICS AND CHAIRMAN AND CHIEF TECHNICAL OFFICER OF ASTROBOTIC TECHNOLOGY, INC., ARE ALL FEATURED IN THE BOOK'S SECOND CHAPTER, TITLED "FROM STEEL TO ADVANCED ROBOTS — PITTSBURGH ATTEMPTS TO REINVENT."