



Carnegie Mellon

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Inspired! CAMPAIGN KICKS OFF WITH A BANG

Core Values Key to Future of University

■ Heidi Opdyke

Carnegie Mellon has a lot to be proud of these days. And President Jared L. Cohon had a chance to tout some of the university's recent accomplishments in his annual state of the university address during homecoming weekend.

"We have invested a great deal in facilities and in programs and expanding and enriching the extracurricular activities for our students," Cohon said. "There's so much more that happens on this campus now than happened 10 years ago and certainly 20 or 30 or 40 years ago."

Cohon described recent investments in buildings and educational opportunities to a full crowd at McConomy Auditorium. From the new School of Computer Science complex now under construction to the Collaborative Innovation Center and Newell-Simon Hall, the skyline has grown from what alumni might remember.

"There has been great change here," Cohon said. "No matter how long it's been since you've been away."

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CARNegie MELLON UNIVERSITY PHOTOGRAPHER

■ Heidi Opdyke

Leaders for the Campaign for Carnegie Mellon University hope donors are inspired to inspire innovation in education and research.

With more than \$550 million raised, the university has announced the public phase of a \$1 billion campaign that focuses on the comprehensive needs of the university.

"This campaign will shape the university's future. Carnegie Mellon is one of the most imaginative and innovation-intensive universities in the world; a university that measures its excellence through its impact. This campaign has already enabled more innovation at Carnegie Mellon, and it will inspire more in the future," said President Jared L. Cohon.

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FIREWORKS LIT THE SKY OVER CARNEGIE MELLON AS PART OF THE CAMPAIGN'S KICKOFF PARTY ON FRIDAY, OCT. 24. TO VIEW A SLIDESHOW FROM THE FESTIVITIES, VISIT WWW.CMU.EDU/NEWS/PIPER.

University Dedicates H. John Heinz III College

■ Ken Walters

The creation of the new H. John Heinz III College marks a commitment to provide future leaders with an exciting blend of the policy and technical expertise needed to overcome critical global issues.

"The creation of the Heinz College is a logical and compelling evolution for the university," said Ramayya Krishnan, acting dean. "As information and communication technologies change the world, the Heinz College is positioned to develop leaders who can understand, anticipate and effectively respond to the rapid, changing nature of managerial

and policy problems that affect organizations, societies and individuals around the globe."

The graduate curricula offered at the former H. John Heinz III School of Public Policy and Management has been transformed to create the new college with a School of Public Policy and Management, and a School of Information Systems and Management feature curricula that blends public policy, management and technology disciplines. Under the new curricula,

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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 Student Affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2057.

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

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

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Q&A With Dena Tsamitis: How CyLab Reaches Out

■ Chriss Swaney

Dena Haritos Tsamitis is the director of the Information Networking Institute (INI) and director of education, training and outreach for Carnegie Mellon CyLab. She was named the 2008 winner of the Women of Influence Award for professional and academic leadership in developing innovative information security education programs. We caught up with her in the middle of a busy schedule to find out more about her roles.

What are some of the new program offerings now under way at the INI?

The INI just launched three new bi-coastal graduate programs in information technology (MSIT): the MSIT-Mobility, MSIT-Information Security and MSIT-Software Management. These programs offer, in my opinion, "the best of both worlds" — the rich academic setting and interdisciplinary culture at Carnegie Mellon's main campus in Pittsburgh and the unprecedented professional exposure to high-tech companies in Silicon Valley.

Next year, we're unveiling a track in Digital Forensics for our Pittsburgh-based programs and our bi-coastal Pittsburgh-Silicon Valley programs. Through a series of courses, students may earn a certificate in Digital Forensics from CERT. This is particularly relevant to students who plan to pursue careers in law enforcement and government agencies.

You just received \$300,000 from the National Science Foundation (NSF) for a successful capacity building program. How does that tie in

to your strategy of stressing the importance of information assurance?

Information Assurance education is most effective when it addresses a variety of audiences at all levels. Through the INI and Carnegie Mellon CyLab education initiatives, we do just that: we have developed and offered programs for audiences ranging from children to senior citizens.

The NSF-funded Information Assurance Capacity Building Program (IACBP) is aimed at improving the capacity of minority-serving institutions, including Historically Black Colleges and Universities (HBCUs) and Hispanic-Serving Institutions (HSIs), to offer high quality information assurance (IA) education and a specialization in computer forensics science.

The IACBP will aid minority-serving institutions to develop IA curricula under advisement and with academic enrichment from CyLab and the INI, and result in implementation of new IA activities at the minority-serving institutions. The program will offer guidance in the development of IA courses and programs, expand the research opportunities in IA, and build expertise in cyber forensics science.

How will the capacity building program be structured?

The program will be structured as a two-year workshop, including a two-week session during the first year, presenting IA theory and practice, with a three-day follow-up session in the second year, during which participants share their initial outcomes and results with their peers. The approach used integrates three main components: technical knowledge, pedagogical support and an individual development plan. There will be two summer offerings in 2009 and 2010, and in the summer of 2010 and 2011.

What is the significance of these new offerings?

The new offerings will build upon the successes of the previous six years of the program, also funded by the NSF, which involved the participation of 36 faculty from 11 HSIs. As a result of successful past offerings, we saw the creation of 11 new courses, seven new degree options, 16 publications, and 14 new certificate programs, workshops and symposia. In fact, one participating institution, California State Polytechnic University at Pomona, was designated as a Center of Academic Excellence in Information Assurance by the National Security Agency.



DENA HARITOS TSAMITIS WAS NAMED A 2008 WINNER OF THE WOMEN OF INFLUENCE AWARD.

What are some of the opportunities your overseas programs offer?

The INI currently offers programs in Greece, Japan and Portugal. One unique aspect of the global programs is localized content in some of the courses. For example, the Telecommunications Policy course recently taught as part of the Athens program integrated E.U. policy issues into a course that normally focuses on U.S. policy.

In Japan, fast broadband access and mobile devices are ubiquitous, so security practices related to those technologies are emphasized in the research and training taking place in the Kobe program. In addition to differences in policies and technology trends, strong cultural differences make an impact on the software used, the incentive models and the threat models that are faced in a particular culture, and thus affect how students would approach and derive a solution.

Students value the international perspective shared in the classroom and the different approaches to problem-solving and teaching across cultures, and often comment on this as particularly relevant in today's global economy.

What is the next global step?

INI has been successful in establishing these remote programs in three countries. The next phase in our model is to build bridges and establish a community among these programs and the university so students, regardless of location, feel like a part of Carnegie Mellon. We're building a global community of scholars.

What advice can you give women interested in IT careers?

While the number of women preparing for careers in information technology and networking has grown, it's still below where I would like it to be. When I joined the INI as associate director, there were

CONTINUED ON PAGE NINE

Panel Offers Climate, Energy Advice



TERESA HEINZ AND A PANEL OF EXPERTS AIMED TO OFFER THE NEXT PRESIDENT OF THE UNITED STATES SOME ADVICE ON GLOBAL WARMING AND ENERGY POLICY LAST MONTH DURING "HEINZ TALKS: CLIMATE CHANGE AND ENERGY POLICY — ADVICE TO OUR NEXT PRESIDENT" AT THE MELLON INSTITUTE AUDITORIUM. THE CONVERSATION WAS HOSTED BY HEINZ AND MODERATED BY MOIRA GUNN OF NATIONAL PUBLIC RADIO. EXPERTS INCLUDED HARVARD UNIVERSITY PROFESSOR JOHN HOLDREN, CARNEGIE MELLON PROFESSORS LEE BRANSTETTER AND M. GRANGER MORGAN, AND MELISSA YOUNG, A SECOND-YEAR STUDENT IN THE HEINZ COLLEGE'S MASTER OF PUBLIC POLICY AND MANAGEMENT PROGRAM AND RECIPIENT OF THE SCHOOL'S OTTO DAVIS SCHOLARSHIP. THE PARTICIPANTS OFFERED THEIR PERSPECTIVES ON CLIMATE CHANGE AND ENERGY POLICY AND THE RESULTING IMPACT ON ECONOMIC GROWTH AND TECHNOLOGICAL INNOVATION.

A Living Laboratory

CHILDREN'S SCHOOL CELEBRATES 40 YEARS OF EDUCATION AND RESEARCH

■ Abby Houck

In this laboratory, play dough, sand and “make believe” have been the tools of discovery for four decades. They’re timeless lenses into the minds of children between the ages of 3 and 5 at Carnegie Mellon’s Children’s School, which is celebrating its 40th anniversary of developmental research and early childhood education.

Since its founding in 1968, the school, originally named the “Child Development Laboratory,” emphasizes “hands-on” learning, one of John Dewey’s progressive educational principles. It became part of the Psychology Department after Margaret Morrison Carnegie College closed in 1973, increasing its connection to child development research and undergraduate education in psychology.

Founding Director Ann Baldwin Taylor led the school for 25 years before Sharon Carver took the helm. Carver, a psychology professor, has spent the past 15 years as director, but her connection to the Children’s School began when she conducted research in the classrooms as a Carnegie Mellon doctoral student.

When parents enroll students in the Children’s School, they provide full permission for their sons and daughters to participate in research studies approved through the Institutional Review Board. According to Carver, Children’s School studies often serve as pilot projects for larger-scale research focused on mechanisms of child development. This research goes beyond determining what age children should acquire particular skills and focuses on how children learn. By studying these processes, researchers enable parents and teachers to appropriately intervene when a child needs to overcome a learning challenge. For example, Robert Siegler, the Teresa Heinz Professor of Cognitive Psychology, and graduate student Yan Mu are studying how different methods of finger count-

ing improve children’s understanding of the place value system (ones, tens, etc.).

Although the Psychology Department conducts a majority of the research at the school, other academic departments utilize the laboratory environment for courses as diverse as design, art-in-context, engineering, photography and second-language acquisition. Both researchers and classroom teachers regularly present at national psychology and education conferences, and the school hosts workshops for local teachers.

Carnegie Mellon’s ability to create and embrace new technology has enhanced student experiences and strengthened research. The Children’s School was one of the first schools in the country to expose pre-school and kindergarten children to computer applications and programming.

“We have photos of children using empty Macintosh computer boxes for building projects in the early ’80s,” Carver said.

The creation of recording devices enabled researchers to review tapes for more detailed analyses of interactions over time.

“Examining classroom interactions has helped us learn how interesting and surprisingly rich children’s thinking is,” Carver said. “This realization has prompted us to give the children even more opportunities to investigate topics in depth.”

Nicole Hallinen, daughter of two Carnegie Mellon staff members — Judy Hallinen, director of the Leonard Gelfand Center for Service Learning and Outreach, and Ken Hallinen, director of resource planning and management for Computing Services — attended the Children’s School. She recalls the high level of trust teachers shared with students, particularly when she learned to sew a pillow with a real needle and thread.

“We were taught the real version in a kid-friendly way,” Nicole Hallinen said.

Now a senior at Carnegie Mellon majoring in psychology, French and Francophone studies, Hallinen is considering a career in developmental psychology research. Her interest in the field grew as she interacted with students and teachers at the Children’s School as an undergraduate. She worked as a teacher’s assistant and learned about research methods by completing several studies, including a Small Undergraduate Research Grant (SURG) project.

The Zins — Stan, the Richard M. Cyert and Morris H. DeGroot Professor of Economics and Statistics, and Darlene, an editorial assistant for the Department of Civil and Environmental Engineering — sent all three of their daughters to the Children’s School. They appreciated the school’s cohesive,

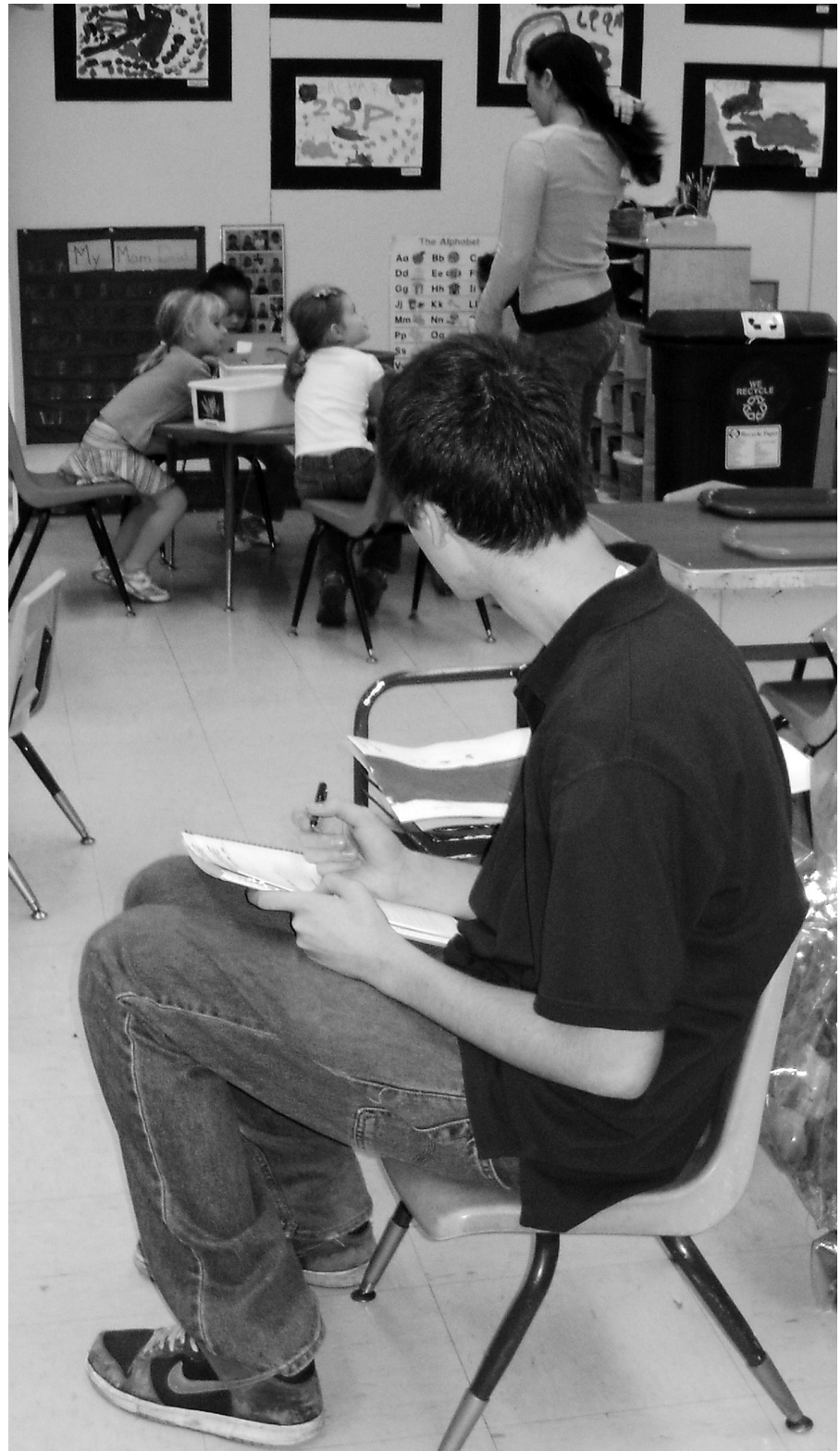


PHOTO COURTESY SHARON CARVER

A STUDENT OBSERVES CHILDREN AT PLAY AS PART OF PSYCHOLOGY CLASS REQUIREMENTS.

innovative environment and remember in particular their daughters’ excitement for the “Discovery Table.” Rather than a show-and-tell day, each student had an assigned week to display a hobby or collection. The Zin girls shared their love of

presented some humorous classroom situations. This fall, a 3-year-old learned that a presidential candidate was speaking on campus.

“She asked if we could invite Barack Obama to visit our classroom,”

ONLINE: VISIT THE CHILDREN’S SCHOOL AT

WWW.PSY.CMU.EDU/~KIDSWEB/

swimming and fall leaves with classmates and even prepared talking points on note cards for their presentations.

Like Nicole Hallinen, Stan and Darlene’s daughters have returned to the Carnegie Mellon classroom. Andrea graduated from the College of Humanities and Social Sciences this past May, and Alexa is a sophomore design major. Hannah, the couple’s youngest daughter, is a senior at the Ellis School in Shadyside.

Carver notes that children growing up today are more globally aware than past generations, a trend that has

Carver said. But, in many ways, children are no different in 2008 than they were in 1968. From ages 3-5 they are gaining social, physical, language and cognitive skills to participate effectively in society. And that’s where the timeless tools of play dough, sand and “make believe” come into play.

In December, the Children’s School will host a celebration for current students, alumni, families, teachers and supporters with time-honored children’s activities and entertainment by the Boilermaker Jazz Band.



PHOTO COURTESY SHARON CARVER

THROUGHOUT THE YEARS, THE BASICS OF CHILD PLAY REMAIN THE SAME. NICOLE HALLINEN, SHOWN HERE, IS NOW A SENIOR AT MAJORING IN PSYCHOLOGY, FRENCH AND FRANCOPHONE STUDIES. SHE IS CONSIDERING A CAREER IN DEVELOPMENTAL PSYCHOLOGY RESEARCH.

Plaid Productions



PHOTO BY KEN ANDREYO

QUARTERBACK PHIL PANTALONE (#13) LOOKS FOR AN OPENING DURING THE TARTANS HOMECOMING GAME AGAINST THE TIGERS OF WITTENBERG UNIVERSITY. THE TIGERS CAME AWAY WITH A 21-14 VICTORY. THE GAME WAS TAPED AND BROADCAST TO A NATIONAL TV AUDIENCE THE NEXT DAY ON ESPNU.



PHOTO BY KEN ANDREYO

A TALE OF TWO TAILS. NISHA PHATAK (CMU'10) INTRODUCES SCOTTY AND THE COSTUMED COUNTERPART, ALSO NAMED SCOTTY. PROFESSOR LARRY CARTWRIGHT, LEFT, SERVES AS THE SCOTTISH TERRIER'S OWNER AND "MANAGER." TO VIEW A SLIDESHOW OF MORE IMAGES FROM HOMECOMING 2008, PLEASE VISIT [WWW.CMU.EDU/NEWS/PIPER](http://www.cmu.edu/news/piper).

Brian Freeman Named Draddy Award Finalist

■ Mark Fisher

Brian Freeman, a 6'5", 280-pound senior offensive tackle for Carnegie Mellon's football team, has been named one of 15 finalists for the Draddy Trophy, an award that honors the nation's top scholar-athlete in all of college football. Freeman is one of only two finalists for the "Academic Heisman" from a school that competes on the NCAA Division III level, which prohibits scholarships based on athletic ability.

Freeman, who will receive an \$18,000 post-graduate scholarship for being named a finalist, is a chemical and biomedical engineering major. He's a two-time ESPN The Magazine Academic All-America selection and has been a member of the College of Engineering's Dean's List every semester since arriving on campus. Freeman also was selected to the Phi Kappa Phi Honor Society.

The winner of the Draddy Award, presented by HealthSouth, will be announced at the National Football Foundation Awards Dinner at the Waldorf-Astoria Hotel in New York City Dec. 9.

Alumni Score Rare Tailgating Experience

■ Bruce Gerson

From Pittsburgh to New York City and all the way to San Diego, alumni and friends gathered twice in three weeks to celebrate an event that hasn't happened in 25 years. It wasn't a class reunion or a silver anniversary — it was Carnegie Mellon football on television.

The catalyst for the first meeting was the Tartans' Oct. 11 game at Allegheny College, which was broadcast live on the Fox Sports Pittsburgh Network. The Oct. 25 homecoming game against Wittenberg University was videotaped and aired the following day on ESPNU.

The October virtual coast-to-coast tailgate parties, which convened by way of satellite technology and the Fox Sports and ESPN sports packages, marked the first time in a quarter century that the Tartans appeared on TV. On Oct. 8, 1983, Carnegie Mellon trounced

Allegheny 35-0 before a regional ABC-TV audience. This time the Tartans dominated the Gators 41-14. In the homecoming game, the Tartans fell in a close one, 21-14.

"I got email from several former players after the Allegheny game telling me that they had watched the game and how proud they were," said Head Coach Rich Lackner, who said his players were excited about playing on TV. "When I got home around 11 o'clock that evening, I watched it, too. It was pretty cool."

A group of about 10 former players and their friends — nearly 35 in all — watched the Allegheny game at Blondie's Sports Bar in the Upper West Side of New York City.

"They had the game on three of their TVs alongside the Ohio State and Notre Dame games so it was pretty cool

to watch," said Merrill Lynch investment banking analyst Aaron Lewis, a two-time All-America safety for the Tartans who graduated in 2007. "It's not every day we get to watch Carnegie Mellon play football at a bar in New York, so it was a great experience."

Other "tailgaters" included football alumni Avi Barat from San Diego and Brian Horton from Lakewood, Colo.

While the games served as a rallying point for alumni, it may also help in recruiting, Lackner says.

"A junior quarterback from a high school in Massachusetts wrote to me and told me that his coach recommended that he watch the games and take a look at Carnegie Mellon. The game on ESPNU gave us a chance to showcase our university and our great football facilities to a national audience," Lackner said.



PHOTO BY KEN ANDREYO

ESPNU AIRED CARNEGIE MELLON'S HOMECOMING GAME AGAINST WITTENBERG UNIVERSITY ON SUNDAY, OCT. 26.

25 Years

RED WHITTAKER, FIELD ROBOTICS HAVE CHANGED THE WORLD

■ Anne Watzman

University Professor William L. “Red” Whittaker can never resist a challenge. In 1983, as a young engineer, he leaped at the chance to tackle a problem that had simmered for nearly four years — suggesting that robots could help clean up the aftermath of a nuclear accident at Three Mile Island (TMI), a power generating station near Harrisburg, Pa.

At the behest of the station’s owner, Whittaker and his students built three robots, two of which are still on site in the contaminated reactor at TMI. The Remote Reconnaissance Vehicle (RRV) brought back the first video footage from the flooded basement of the damaged nuclear reactor, and the Remote Core Sampler (RCS) returned samples of the reactor’s contaminated walls.

With that groundbreaking achievement, Whittaker moved robots out of the realm of science fiction and into the everyday world. He founded the discipline of Field Robotics in which mobile robots work outside in dirty, dangerous and difficult conditions. Carnegie Mellon’s Field Robotics Center was established in Nov. 1986.

On Oct. 24-25, as the Robotics Institute celebrated the 25th anniversary of Field Robotics, www.fr25.org, and Whittaker’s 60th birthday, he reminisced about how far robots have come.

“Twenty-five years ago, robots were myth, science fiction,” he said. “There was no sense whatever of what to do and how to do it or what technologies would unfold.” In the ensuing years the offspring of the TMI robots have spread to farming and mining, and have been applied to loaders, backhoes and windrowers.

The RRV, RCS and the Workhorse, which now sits on display at the National Robotics Engineering Center, are just three

of more than 60 robots that Whittaker, his students and colleagues have turned out over the last two and a half decades. Their legged robots have crawled into live volcanoes and wheeled ones have traveled through deserts, inspected abandoned coal mines and found meteorites in Antarctica. Others have harvested alfalfa on giant farms in California or ascertained the danger in hazardous waste dumps.

Some of the most exciting robots were developed for NASA and focused on extraterrestrial exploration. According to veteran roboticist, Associate Research Professor David Wettergreen, Whittaker has been a driving force in the work with NASA.

“He articulates fundamental ideas, and envisions a compelling result,” he said. He points to the six-legged, 12-foot-tall Ambler as a milestone in the evolution of Field Robotics at Carnegie Mellon. “It established Carnegie Mellon as a concept group,” he said. “The legs on Ambler opened people’s eyes to alternative ideas for rough-terrain mobility.”

ONLINE EXCLUSIVE! VIEW A SLIDESHOW OF RED AND SOME OF HIS ROBOTS AT WWW.CMU.EDU/NEWS/PIPER

As Whittaker built and oversaw successful robotic prototypes for NASA, he forged relationships that brought Carnegie Mellon’s Robotics Institute \$2.5 million in 1994 to establish the National Robotics Engineering Center (www.rec.ri.cmu.edu), where applied research and development and commercialization take place.

In 2003, Whittaker was the first to take up the gauntlet in the Defense Advanced Research Projects Agency’s (DARPA) Grand Challenge, the first of three desert races for autonomous robots. Last year, he led Tartan Racing, the



PHOTO BY JOHN FLECK

RED WHITTAKER’S ACHIEVEMENTS IN ROBOTICS HELPED MOVE THE MACHINES FROM SCIENCE FICTION INTO REAL-WORLD APPLICATIONS.

Carnegie Mellon team whose self-driving Chevy Tahoe named “Boss” won the agency’s Urban Challenge. Boss traveled some

50 miles of urban roads in a little more than four hours, obeying traffic laws and safely sharing the road with other vehicles.

“We have developed robots to feed, explore and secure our world,” Whittaker said. “In 25 years, many of these research robots will become everyday experience in our lives.”

Today, Whittaker is in the midst of what may be his most daunting challenge — development and deployment of a robot to compete for the \$20-million Google Lunar X Prize, the richest international competition in history. The goal is

to privately launch and land a robot on the moon by 2012, have it travel 500 meters and transmit video images back to Earth. A new robotic explorer is being groomed to visit the historic Tranquility Base landing site of Apollo 11. The mission, called Tranquility Trek, will be all the more perilous because of the moon’s extreme temperatures and difficult terrain. Whittaker has spun off a company — Astrobotic Technology Inc. — to explore space and win the prize.

“The Google Lunar X Prize competition will have a substantial impact on moving the field of robotics into its future,” Whittaker said. “It is the destiny of Field Robotics to develop, secure and feed the earth and also explore world beyond. Its destiny has hardly begun.”

For more about the Field Robotics Center and the robots it has spawned, visit www.frc.ri.cmu.edu.

piper TRIVIA

Congratulations to the October Trivia winners: Carolyn Revello, Debbie Scheerbaum, Nam-Phuong Cong-Hyen and Wing-Hong Andrew Ko.

This month’s Piper Trivia is in honor of the Robotics Institute’s 25th anniversary and Red Whittaker’s 60th birthday: What four exhibits did Carnegie Mellon researchers present at Wired’s NextFest in Chicago?

The Piper staff will give away a \$25 gift card to the bookstore to the first four people who can correctly identify the exhibits. Send your answers to bg02@andrew.cmu.edu with “November Trivia” in the subject line. The winners’ names will be published in the following issue. Previous winners are ineligible.

The Piper trivia question is sponsored by Carnegie Mellon Internal Communications.



PHOTO BY KEN ANDREYO

Reporters Say ‘Aloha’ To Scarab

■ Byron Spice

ALISON MORRIS OF KDKA STANDS IN THE BACKGROUND AS DAVE TEMPLETON OF THE POST-GAZETTE INTERVIEWS DAVID WETTERGREEN DURING A PITTSBURGH MEDIA EVENT TO SHOWCASE SCARAB. THIS MONTH, SCARAB IS BEING FIELD TESTED IN HAWAII, WHERE THE CRATERED, VOLCANIC ROCK HIGH ON MAUNA KEA’S SLOPES IS A STAND-IN FOR THE MOON. SCARAB IS BEING GROOMED TO EXPLORE THE MOON’S SOUTHERN POLE IN SEARCH OF WATER, HYDROGEN, OXYGEN AND OTHER COMPOUNDS, RESOURCES THAT COULD SUSTAIN EXPLORERS FOR EXTENDED STAYS ON THE MOON. SCARAB WAS UNVEILED LAST YEAR, BUT HAS BEEN EQUIPPED WITH A CANADIAN-BUILT DRILL CAPABLE OF EXTRACTING ONE-METER GEOLOGIC CORES AND A ROCK SAMPLE ANALYSIS PAYLOAD DEVELOPED BY NASA. “NOW IT IS A COMPLETE ROBOTIC SYSTEM FOR EXPLORING THE LUNAR POLES AND PROSPECTING FOR RESOURCES,” SAID WETTERGREEN, ASSOCIATE RESEARCH PROFESSOR OF ROBOTICS AND PROJECT LEADER.

CIT Students Kick Off Toys for Tots at WPXI-TV



PHOTO BY KEN ANDREYO

■ Chriss Swaney

JOSHUA BORDIN, A JUNIOR IN CHEMICAL ENGINEERING AND ONE OF THE LEADERS OF THE CARNEGIE INSTITUTE OF TECHNOLOGY (CIT) TOYS FOR TOTS DRIVE, HELPED PROMOTE THIS YEAR'S COLLECTION ALONG WITH FAMED FORMER PITTSBURGH STEELERS RUNNING BACK JEROME BETTIS AND GUNNERY SGT. BRAIDEN FRANTZ AT WPXI-TV. FRANZ RECENTLY RETURNED FROM A TOUR OF DUTY IN IRAQ, AND BETTIS SIGNED AN NFL FOOTBALL DONATED BY THE STEELERS TO BE RAFFLED OFF BY CIT STUDENTS. THIS YEAR'S DRIVE RUNS INTO THE FIRST WEEK OF DECEMBER. LAST YEAR CIT STUDENTS AND THE UNIVERSITY POLICE COLLECTED MORE THAN \$2,000 WORTH OF TOYS FOR NEEDY CHILDREN.

Pencils for Pupils



PHOTO BY KEN ANDREYO

■ Chriss Swaney

FIRST-YEAR ENGINEERING STUDENTS CHERRY MENG, DINESH AYYAPPAN, NEEREJA SUNDARESAN AND DAN HEFLEY JOIN FROGGIE RADIO'S MASCOT TO CELEBRATE COLLECTING MORE THAN 200 PENCILS, TABLETS AND TOTE BAGS FOR CHILDREN WHOSE SCHOOL WAS DESTROYED BY TALIBAN TERRORISTS IN AFGHANISTAN. THE PENCILS FOR PUPILS PROGRAM WAS DEVELOPED THROUGH THE UNIVERSITY'S NAVAL ROTC PROGRAM. THE OAKMONT BAKERY DONATED A CAKE SHAPED FOR THE EVENT, AND UNIVERSITY ADVANCEMENT DONATED TOTE BAGS, T-SHIRTS AND PAPER.

STUDENTS IN AUSTRALIA ANALYZE DATA FROM CAMBODIAN MIDWIVES

■ Alison Harris

Masters of Science in Public Policy and Management students in Australia put their studies to work for a good cause.

Khandaker Jahan and Yongqiang Li analyzed data collected by the Adelaide-based nonprofit 2h Project to help reduce infant and maternal mortality rates in Cambodia. The advocacy group, which provides assistance for poor and disadvantaged members of society, surveyed midwives about recent training programs.

Based on the data collected, Jahan and Li suggested restructuring the survey to place more emphasis on evaluating the birth kit offered by the 2h Project. The kit includes a plastic sheet for the mother to lie on, a piece of soap, gloves, gauze, cord ties, umbilical clamps and a sterile scalpel.

The work was done as part of the students Applied Econometrics class. Following a presentation of the students' findings, Kevin Taylor, South Australian contact for the 2h Project, said "the whole experience was priceless," and that it encouraged and stimulated discussion. Taylor said he was impressed with the professionalism of the report and presentations, and he felt that the students had thought very carefully about presenting their findings with sensitivity.

Student projects for nonprofit organizations are a common method of assessment and learning at the university, and they provide an opportunity for students to gain real-world experience, Heinz College Associate Dean Brenda Peyser said.

Core Values Key To Future of University

CONTINUED FROM PAGE ONE

Academically, Cohon described new degree programs and how Carnegie Mellon has become a global university with connections in Europe, the Middle East, Asia and Australia. But, some things never change, Cohon said.

"As much as we've changed physically, in terms of our programs, I don't believe we've changed at all," Cohon said. He added that the importance given to interdisciplinary collaboration, hard work and finding solutions to real-world problems remain the same. "These are the core values that are absolutely essential to us, and we never forget them. That's important for an institution that's a century old and wants to be centuries older in the future."

He also mentioned the success the university had with the Middle States Accreditation Committee. He filled alumni and friends in on the rigorous accreditation process the university recently passed with flying colors. He highlighted how impressed the committee was with the self-study and

the students. The university received the highest commendation possible and will not be up for another review until 2018.

"What convinced them more than anything was a meeting they had had with 50 of our students, and what our students had to say about their general education experiences," Cohon said.

He said most universities approach undergraduate education like a funnel, where students start broad and narrow their focus. Carnegie Mellon, instead, turns that principle on its head and allows for digging into majors as freshmen. "Our approach to academic requirements really captures something special about Carnegie Mellon."

The president noted that the exposure to major themes is offered to students through a series of courses

relating to green issues and global concerns. Ethics also are taught through a two-week module embedded in some courses.

"Among our peers, this approach to learning is unique, and we've proven time and time again that it is a powerful way to do undergraduate education," he said.

YOU CAN VIEW PRESIDENT COHON'S ADDRESS TO ALUMNI DURING HOMECOMING WEEKEND BY VISITING WWW.YOUTUBE.COM/WATCH?v=SjNc7yPgpNo

Raymond J. Lane, general partner of Kleiner Perkins Caufield & Byers, a member of Carnegie Mellon's Board of Trustees and chair of the capital campaign, spoke after Cohon and helped drive home the theme of maintaining the university's great impact on the world. He and his wife, Stephanie, recently endowed the Ray and Stephanie Lane Center for Computational Biology with a \$5 million gift.

"Whether you're talking about

the energy and environment or you're talking about life sciences or you're talking about next-gen computing, we expect Carnegie Mellon to save the planet, resolve cancer and make our children's and grandchildren's lives much better than ours," Lane said. "The mission is no less than that for the Carnegie Mellon students and faculty who are here today."

"Our impact is far greater than our size," Cohon said. "And one of the major ways that we do that is by leveraging what we have through interdisciplinary collaboration."

He said that the keys to research have been collaboration, openness and a willingness to take risks.

"We welcome the opportunity to take risk," Cohon said. "When it comes to research, when it comes to exploring ideas, there's nothing off the table. Because it might lead us to something new and better, and maybe breathtakingly so."

Without Borders

FESTIVAL EXPLORES GLOBAL VIEWS OF EDUCATION



PHOTO BY ABBY ROSS

ETRAN FINATAWA OF NIGER CLOSED OUT THE INTERNATIONAL FESTIVAL WITH A BLUES CONCERT. THE GROUP IS THE FIRST TO USE WODAABE MUSIC IN A MODERN CONTEXT.

■ Heidi Opdyke

Sesame Street, the longest street in the world, is a prime example of how education knows no boundaries. And, gosh, the air is sweet. This year's International Festival, "Education Without Borders: Global Learning in the 21st Century," used a broad spectrum of activities to explore its theme.

"As many of our events showed, most learning takes place outside of the classroom," said Jessica Willie, a junior in social and decision sciences who assisted in planning. "Also, I hope people were able to learn more about how students and faculty at Carnegie Mellon and in the Pittsburgh area are impacting education around the world."

Gary Knell, president and CEO of Sesame Workshop, delivered the keynote lecture, "Muppet Diplomacy: How Sesame Street is Changing the World," to a full Rangos Ballroom.

Knell described how each version of the show addresses children's needs in its host country based on the United Nations'

Millennium Goals. For example, in the South African show, "Takalani Sesame," Kami is a popular muppet that happens to be HIV-positive. Knell said one in nine South African children have the disease. In Northern Ireland, teaching respect and understanding is the focus of two muppets that share "The Sesame Tree."

"These kinds of messages resonate so much, especially when it comes to children," Knell said. Above all, he wanted the audience to understand the power of education done through television.

"I, personally, got a renewed sense of hope from the lecture in the education efforts for youth around the world," said Emily Half, coordinator for Study Abroad and International Programming.

Knell's address was watched by students at Carnegie Mellon Qatar via video-conference. As part of the weekend, students at Qatar participated in a videoconference about exporting American Education.



PHOTO BY KEN ANDREVO

GARY KNELL, PRESIDENT AND CEO OF SESAME WORKSHOP, USED VIDEO CLIPS TO DEMONSTRATE SESAME STREET'S GLOBAL PRESENCE AND IMPACT AS PART OF THE KEYNOTE ADDRESS FOR THIS YEAR'S INTERNATIONAL FESTIVAL.

The festival closed with a musical performance by Etran Finatawa — a nomadic blues group from Niger. Additional activities included an art gallery depicting global illiteracy, a book drive, a marketplace and a study abroad fair.

"Great ideas are coming from all over the world," Willie said. "It's crucial to tap into this international community in order to work on the cutting edge in any field. There's no better way to prepare for that community than by examining problems from an international context as early as possible."

Planning has begun for the 2009 International Festival. Anyone interested in assisting may contact Half at ehalf@andrew.cmu.edu.

Upcoming Events

Lectures

Journeys of recently retired Vice President for Enrollment Bill Elliott
"A Reflection of 38 Years at Carnegie Mellon"
 4:30 p.m., Monday, Nov. 17
 Adamson Wing, Baker Hall 136A

School of Art Lecture Series
 Barry McGee, **"Life on Mars Artist"**
 5 p.m., Tuesday, Nov. 18
 McConomy Auditorium

Special Events

Thanksgiving Celebration
 Spiritual Development Month
 5:30 p.m., Monday, Nov. 24
 Rangos 1 and 2, UC

Arts

School of Drama Production:
"Into the Woods"
 Nov. 13–22
 Performance times:
 Tuesday–Friday, 8:00 p.m.
 Saturday, 2 p.m. and 8 p.m.
 Philip Chosky Theater

Carnegie Mellon Contemporary Ensemble

Walter Morales, conductor
 5 p.m., Saturday, Nov. 15
 Free admission
 Alumni Concert Hall

Carnegie Mellon Wind Ensemble

Denis Colwell, conductor
 8 p.m., Wednesday, Nov. 19
 Free admission
 Carnegie Music Hall, Oakland

School of Drama Production:

Mill on the Floss

Dec. 3–6
 Performance times:
 Tuesday–Friday, 8:00 p.m.
 Saturday, 2 p.m. and 8 p.m.
 Helen Wayne Rauh Studio Theater

Carnegie Mellon Philharmonic

Robert Page conducts the Carnegie Mellon Philharmonic, Concert Choir and Repertory Chorus in the Holiday Concert
 Noon, Friday, Dec. 5
 Free Admission
 Rangos Ballroom, UC

University Dedicates H. John Heinz III College CONTINUED FROM PAGE ONE



PHOTO BY JACK HORNER COMMUNICATIONS

STUDENTS GATHER IN HAMBURG HALL TO CELEBRATE THE DEDICATION OF THE NEW H. JOHN HEINZ III COLLEGE WITH THE UNVEILING OF A PLAQUE IN HONOR OF THE LATE U.S. SENATOR FOR WHOM THE COLLEGE IS NAMED. TO VIEW A VIDEO OF THE FORMAL CEREMONY, WHICH ALSO WAS VIDEOTAPED BY C-SPAN, PLEASE VISIT [HTTP://WMS.ANDREW.CMU.EDU/001/HEINZCOLLEGE10-24-08.WMV](http://wms.andrew.cmu.edu/001/HeinzCollege10-24-08.wmv)

students will have the option of nine master's degrees and three doctorates in various disciplines ranging from healthcare and biotechnology to management and information systems.

In addressing the students in attendance at the dedication of the new college on Friday, Oct. 24, Teresa Heinz, Heinz Endowments and Heinz Family Philanthropies chair, referred to her late husband as recognizing that academic programs must be kept current to enable government to meet serious challenges.

"The only way for us to succeed, as my husband knew well, is for graduates like you to be prepared to work across disciplines, ideologies and party lines. That is why this expansion is so important," she said.

Also in attendance was Paul H. O'Neill, former U.S. treasury secretary, chair of Alcoa and member of the Heinz College Dean's Advisory Council, who reflected on the legacy of Sen. Heinz and emphasized the vital role technology plays in policy.

A bronze plaque was erected in the foyer of Hamburg Hall, home of the Heinz College, in recognition of Sen. Heinz's inspiration and influence.

The college is funded by a \$13 million grant from The Heinz Endowments and the result of longstanding generous support of the university.

"We are deeply grateful to The Heinz Endowments for their magnificent gift," said President Jared L. Cohon. "Through its progressive, global curricula and focus on solving real-world problems, the college truly celebrates the rich legacy of Sen. Heinz."

Bubbling With Joy

STUDENTS NAIL NEW MUSICAL AS PART OF NEW WORKS PROGRAM

■ Eric Sloss

“The good news is that everyone understands the acting part,” said Stephen Schwartz (A’68) to a room full of School of Drama students hanging onto his every word. “Moment to moment you were all focusing on acting the lyrics — and you were not just singing words. Across the board the acting was strong ... not surprising coming from Carnegie Mellon.”

This was promising feedback to the seniors lucky enough to audition in front of the musical theater legend in a master class held Oct. 17 on campus. Schwartz, a composer and lyricist whose legacy spans more than four decades, made his second consecutive appearance at the university as part of a partnership with the American Society of Composers, Authors and Publishers (ASCAP), the Pittsburgh Civic Light Opera (CLO) and the School of Drama New Works Program.

The New Works Program provides the opportunity for writers, lyricists, composers, directors and actors from the academic and professional worlds to refine and develop musical theater pieces.

“This is a win-win situation for the CLO, ASCAP and Carnegie Mellon because when you are developing a new musical it is important to see it in various stages of development,” Schwartz said. “You can’t really tell anything about a musical until you do a reading like this. When we were developing ‘Wicked’ we did readings like this seven times. This is an enormous opportunity for writers and

the students to develop a new musical.”

For this year’s program Carnegie Mellon musical theater students were trying out “Bubble Boy,” a zany comedy about Jimmy Livingston, a boy born without an immune system and forced to live in a bubble dome. He falls in love with his next-door neighbor Chloe, and he crosses the country to stop her from marrying another guy.

The once-in-a-lifetime opportunity to work with Schwartz and develop a new musical led to a busy schedule for the students. The students rehearsed “Bubble Boy” from 9 a.m. to 4 p.m. with Scott Schwartz, Stephen’s son and the musical’s director at the CLO Academy in downtown Pittsburgh. They returned to campus from 6:30 to 10:30 p.m. to rehearse for the upcoming musical “Into the Woods,” opening Nov. 15 in the Philip Chosky Theatre.

Ryah Nixon, a senior who played Jimmy’s mother, seemed delighted by the challenge of rehearsing two musicals at once.

“It’s been exhausting,” Nixon said. “By the end of the day we are so tired, but we feel we thrived. Also we are pretty used to this schedule anyway because we have class from 9 to 4 with rehearsals after class in the evening, so it’s not that different. It’s the working and travel that is tedious. Overall, this experience has been amazing, it’s really refreshing work on a new musical.”

With only one week of rehearsals the students performed a public reading of “Bubble Boy.” The event was a



STEPHEN SCHWARTZ WATCHES A SCENE FROM THE NEW MUSICAL “BUBBLE BOY” DURING A RECENT MASTER CLASS ON CAMPUS.

special time for the writers of the book, Cinco Paul and Ken Daurio who were in attendance for the first reading of the musical by performers.

Stephen and Scott Schwartz were also in attendance, along with Gary Kline, a drama faculty member who spearheaded the collaboration; Dick Block, interim head of the School of Drama; Hilary Robinson, dean of the College of Fine Arts; Michael Kreker of ASCAP; and Van Kaplan, executive producer of the Pittsburgh CLO.

A new works reading is a time when mistakes can be made — the work is progressing, changing and evolving.

But in two acts with very few props, no costumes and only a musical stand and black folder holding the script, the students nailed it. They finished to a standing ovation. Writers Paul and Daurio stood in the center aisle, applauding and smiling with the realization that their book was one step closer to Broadway.

“It’s great for the students. You have a bunch of musical theater students from Carnegie Mellon, which routinely turns out essentially the top musical theater students in the country,” Schwartz said. “This collaboration gives them the opportunity that you cannot have in an academic environment. It’s a jump-start of experience for the students.”

Inspired! University Launches Public Phase of \$1 Billion Campaign CONTINUED FROM PAGE ONE

Zachary Quinto of NBC’s “Heroes” and Aaron Staton of AMC’s “Mad Men” served as emcees for the kickoff party on Friday, Oct. 24, which drew more than 2,000 students, alumni and staff and ended with a fireworks display that sparked a great homecoming weekend.

Cohon noted that the initial phase of the campaign started in a time of near economic recession; yet the university has been able to raise more than half of its goal.

“We know the current economic crisis does not change the world’s needs for innovative solutions to urgent problems,” he said. “If anything, we feel these needs more deeply than ever. Campaigns are for the long term and our campaign is about ensuring that we will be successful for centuries to come.”

Raymond J. Lane, general partner of Kleiner Perkins Caufield & Byers and a member of Carnegie Mellon’s Board of Trustees, is chair of the campaign. He and his wife, Stephanie, recently endowed the Ray and Stephanie Lane Center for Computational Biology with



a \$5 million gift.

“I am honored to serve as chair of this historic campaign. Philanthropy is about making decisions today that will ensure a better outcome in the future. Investors recognize this, especially amid economic uncertainty. In times like this, investors make strategic decisions about what the future will bring by investing in the most promising ideas and innovation. Carnegie Mellon certainly delivers those big ideas,” Lane said.

The campaign also has non-financial goals. It is aimed toward growing and sustaining a vibrant university community that includes alumni, parents and friends, as well as students, faculty and staff. During this campaign and beyond, the university plans to enhance

its partnership with, and recognition of, its 75,000-plus alumni through enhanced communications, engagement activities, events and volunteer opportunities.

Carnegie Mellon already has received more gifts than in any of its previous campaigns. Since the campaign started in 2003, the university has been the recipient of some landmark gifts, including its single largest personal donation, a \$55 million gift in 2004 from alumnus David Tepper and his wife, Marlene, to the graduate business school now named in his honor.

Also in 2004, the Bill and Melinda Gates Foundation gave the university \$20 million to start construction of the Gates Center for Computer Science, part of its new computer science complex.

A gift of \$10 million from the Henry L. Hillman Foundation provided funding for the Hillman Center for Future-Generation Technologies, a second building in the complex.

Adding to its record of historic gifts, Carnegie Mellon announced in 2007 that it had received its largest private foundation gift ever, \$25 million from the Richard King Mellon Foundation for life sciences initiatives. Last year, The Heinz Endowments announced that it would give Carnegie Mellon \$22 million for several initiatives in public policy and the sciences.

“With the support that we’ve gotten and the support we will get, Carnegie Mellon will achieve greater things,” Cohon said.

One of the campaign’s first gifts has also been one of its most successful. Trustee Jerry Holleran and his wife, Carolyn, established a scholarship matching gift challenge with their grant. More than 50 donors responded to the challenge, and more than 50 students benefited from the scholarship program.

Barkin Offers Tips to Stay Healthy This Winter

■ Bruce Gerson

AhhhhhChoosoooo!!!! It's that time of year again for sneezing, runny noses, scratchy eyes and sore throats, and nagging, persistent coughs. Is there anything we can do to prevent colds and the flu?

Get a flu shot and practice "good health etiquette" says Anita Barkin, longtime director of Student Health Services.

"By learning a few simple, yet essential, healthy habits, you can help protect yourself from getting sick this winter," Barkin said. "There are no guarantees, but if you are diligent in following a few easy steps, you'll increase your chances of staying healthy."

Barkin says the two most important



GETTING A SHOT IS ONE WAY TO PREVENT THE FLU.

at least three feet away from someone coughing or sneezing.

Take your time when hand washing,

she said.

Another basic health practice is cough etiquette.

"Everyone needs to be considerate of others when they have a cold. Don't cough or sneeze into your bare hands. Use a tissue to cover your nose and mouth and then throw the tissue in the trash," Barkin said. "If you don't have a tissue

handy, cough or sneeze into the bend of your arm, and then wash your hands with soap and water as soon as possible. When everyone practices good cough etiquette, it helps limit the spread of an infection in the community."

A final reminder from Barkin is to keep your telephones, computer keyboard and other frequently handled machines and equipment clean and disinfected.

If you follow the above tips and still get sick, Barkin recommends resting at home, staying warm and drinking plenty of fluids.

But there's no need to call her, or any health professional, in the morning unless you develop a fever greater than 101 and your symptoms worsen after five to seven days.

FOR MORE HEALTHY TIPS AND INFORMATION, SEE THE STUDENT HEALTH SERVICES WEB SITE AT WWW.STUDENTAFFAIRS.CMU.EDU/HEALTHSERVICES/

steps to a healthier winter are getting a flu shot and washing your hands, especially before touching your eyes, nose or mouth.

Clean your hands after touching things handled by many people, using the bathroom, handling garbage or before and after eating and drinking.

"You also should wash your hands after being near someone who is sick," said Barkin, who recommends staying

Barkin says.

"Use warm water, soap, or a sanitizer, and wash your fingers, between your fingers, the backs of your hands, your palms and your nails. Keep washing for about 30 to 45 seconds before stopping.

"Dry your hands with paper towels or an electric hand dryer. And use a paper towel to turn off the tap. Using a paper towel to turn the door knob when leaving the bathroom is also helpful,"

New Smoking Policy Goes Into Effect Jan. 1

SMOKERS MUST USE DESIGNATED AREAS OR FACE \$25 FINE

■ Bruce Gerson

A new university smoking policy effective Jan. 1, 2009, has good news and bad news for campus smokers. The good news is that they'll still be able to smoke on campus. The bad news is that they no longer will be able to just walk outside to light up.

The policy, overwhelmingly approved by the President's Council, Faculty Senate, Student Senate, the Graduate Student Assembly (GSA), the Student Dormitory Council (SDC) and Staff Council, was passed in support of the Healthy Campus 2010 initiative, a university-wide effort to make the campus a healthier place to live, work and play by 2010.

In short, the change will permit smoking on campus only in designated outdoor areas, which will be determined by a committee led by the Environmental Health & Safety Department (EHS). The old policy required smokers to be outside and at least 20 feet away from any building entrance, air intake or open window.

"As we went around to speak to various constituencies, it was apparent that people weren't comfortable

with a smoke-free policy, but what they did want was enforcement of the current policy or to create designated smoking areas," said Anita Barkin, director of Student Health Services (SHS) and a leader of the Healthy Campus 2010 effort.

"We believe this policy provides clear guidance and is an enforceable policy. We're not relying on folks to pace off 20 feet from an entrance of a building or to figure out where the air intake is or if there's an open window above them," Barkin said.

by a committee of representatives from Faculty Senate, Student Senate, the GSA, the SDC and Staff Council. We will also have smokers represented on the committee, and we've also discussed having a campus police officer and a representative from Campus Design and Facility Development on the committee," said Madelyn Miller, director of EHS.

While the designated areas have yet to be determined, Barkin and Miller said there would be a smoke-free zone around the Cut, the Ham-

Barkin said. She noted areas along Frew Street, Morewood Avenue and the driveway of Roberts Hall as locations that will be reviewed.

Once locations are determined, signs will be installed and some areas may include coverings, such as a canopy, for inclement weather.

Barkin realizes that the new policy may inconvenience smokers, but she feels it's a necessary step to reach the Healthy Campus 2010 goal.

"I think we're here, first and foremost, for the health of our students. We want to provide a healthy environment for our students, and we want a green campus," Barkin said. "Social norms around smoking are changing, and we're part of that movement."

Barkin said she hopes the new policy will encourage some smokers to quit. To help smokers kick the habit, SHS, Human Resources (HR) and EHS are partnering to launch a free smoking cessation program for students, faculty and staff. Information about the program will soon be available on the SHS, EHS and HR Web sites.

UNIVERSITY POLICE WILL START ENFORCING THE NEW POLICY ON APRIL 1. THERE WILL BE A \$25 FINE FOR EACH VIOLATION OF SMOKING IN A NON-DESIGNATED AREA AND/OR NOT PROPERLY DISPOSING OF CIGARETTE BUTTS.

A 90-day grace period will begin Jan. 1. University Police will start enforcing the new policy on April 1. There will be a \$25 fine for each violation of smoking in a non-designated area and/or not properly disposing of cigarette butts.

"The number and location of the designated areas will be determined

erschlag Mall, athletic facilities, the Student Health Center, the Children's School and the Cyert Center for Early Childhood Education.

"I think the areas will be on the periphery of campus, but in well-lit, secure areas that are around a cluster of buildings so that students, faculty and staff would have easy access,"

Tsamitis Q&A

CONTINUED FROM PAGE TWO

only two women of 37 students. In the past few years, our percentage of INI female students has increased — this year 30 percent of our incoming class of 106 are women.

This increase is a result of a variety of initiatives aimed at attracting, recruiting and retaining women in the INI. The INI has cultivated an environment that is welcoming to women interested in careers in technology.

What program did you develop to draw more women into the IT field?

Three years ago, we founded Women@INI, or WINI, with the goal of creating a nurturing and inspiring learning environment that promotes and celebrates gender and cultural equality and diversity, within and beyond the INI. Through a WINI essay contest, we offer five female students scholarships to represent the INI at the leading conference for women in information technology.

Also among those efforts is a mentoring program in collaboration with the Executive Women's Forum (EWF) on Information Security, Risk Management and Privacy that matches female students with top women executives in the information networking industry. Through the EWF, the INI offers one full scholarship to a female student entering the INI master of Science in Information Security Technology and Management Program (MSISTM) each year.

Winds of Orbis

ACTIVE-ADVENTURE GAME SPURS PLAYERS TO GET MOVING

■ Heidi Opdyke

The winds of fortune seem to be blowing in the right direction for one graduate student team at the Entertainment Technology Center (ETC). The group is working on a revolutionary idea for the gaming industry, combining the power of the Nintendo Wii Remote and Nunchuk with a Dance Pad to create a new game genre: active-adventure.

"It basically amazes us that this wasn't already out there. Action-adventure games sell, and exercise games sell millions of units," said Ryan Hipple, one of the programmers for the team. "All we're doing is combining the two genres."

The group is taking the interactive controls and applying them to a game with a storyline in which the goal is to become the champion of Orbis, a world with floating islands. The main character is a bullcat, which looks like a feline with horns. The character is quick and strong — qualities it needs to fight opponents as it advances in the game.

"We wanted to try to build a seamless adventure world with a quest," said Garth DeAngelis, the team's producer and sound composer. "Right now, the only active games available on the market are dance-inspired or 30-second minigame compilations."

The Winds of Orbis is aimed at children ages 7-12 and is similar to classics like "The Legend of Zelda" or "Mario Brothers." However, instead of using buttons on a controller to fight, run and jump, players use their feet to determine how fast the character will move, and

they swing their arms while stepping forward, which translates into punches on the screen.

"It makes the kids feel really strong to take a punch and see the character break blocks," said Seth Sivak, another programmer. "It's a lot more fun to have that direct connection to the character."

The group also includes ETC graduate students Zikun Fan, who produced more than 100 animations for the main character, and Bard McKinley, who created much of the art design. The concept for the game came out of the idea to get players to exercise without thinking about it. And they're having success.

More than 500 children have played the demonstration level of the game, and the game was on display as part of homecoming festivities. Doctors at UPMC have tested the game for use in therapy

and have served as consultants for the project. In October, the group delivered the game to George Washington University's Exercise Science Lab, where it will be tested from a medical stance against commercially available games such as



GRADUATE STUDENT ZIKUN FAN WATCHES A GIRL PLAY "THE WINDS OF ORBIS," AN ACTIVE-ADVENTURE GAME THAT HE AND OTHER STUDENTS CREATED TO HELP PLAYERS EXERCISE.

PHOTO BY CARNEGIE MELLON UNIVERSITY PHOTOGRAPHER

"Dance Dance Revolution."

Along with creating a new genre, the team redesigned how the dance pad is used, making it more ergonomic for the player. By following a sequence of steps, the character can make different moves, from sprinting, jumping and

ing part is when parents of playtesters also request this for their home. They're thrilled to see something active that their kids can do instead of sitting sedentary on the couch all afternoon."

This semester the team is working to give the character more abilities and to explore funding and publishing options from major gaming industry companies. Carnegie Mellon's contacts in the industry are helping the students on their way.

"It's a pretty unique situation we've got here, you couldn't do this at any other graduate school," Sivak said. "It's nice to have all of these resources available."

ONLINE: WWW.ACTIVEADVENTUREGAME.COM

climbing a vine to casting a spell.

"So far, our greatest reward is watching our demographic not want to stop playing. We get asked by kids 'When can I have this at home?'" DeAngelis said. "But the most amus-

NEWS BRIEFS

Spatt Joins Economic Research Board

Chester Spatt, the Mellon Bank Professor of Finance and director of the Center for Financial Markets at the Tepper School of Business, was elected as a research associate



in the Asset Pricing Program by the Board of Directors of the National Bureau of Economic Research (NBER). Founded in 1920, the NBER is a nonprofit, nonpartisan research organization dedicated to promoting a greater understanding of how the economy works.

University Ranked Among Best in World

Carnegie Mellon is ranked 21st in The London Times Higher Education Supplement's 2008 rankings of world universities. In specialty categories Carnegie Mellon is rated 5.4 in research strength and sixth in the world in engineering and information technology. For more, visit www.topuniversities.com.

Team Receives Grant From AT&T

Carnegie Mellon Civil and Environmental Engineering professors H. Scott Matthews and Deanna H. Matthews received a \$25,000 environmental research grant from AT&T and were named AT&T faculty fellows in industrial ecology.

The grant will support the team's research work, "The Role of Information and Communication Technology in Carbon Risk Management," which will analyze the impact information and communications technology can have in helping other industries manage the risk of carbon emissions, such as carbon dioxide from fossil fuel combustion.



Early Drug Exposure Causes Lifetime of Risks, Nagin Says

People who begin drinking and using marijuana regularly prior to their 15th birthday face a higher risk of early pregnancy, school failure, substance dependence, sexually-transmitted disease and criminal convictions that lasts into their 30s, according to a study co-authored by Carnegie Mellon Professor Dan Nagin.

Published online by the journal Psychological Science, the study sorts out the difficult question of whether these adverse outcomes are restricted only to drug-abusing adolescents who were already troubled or whether they also occur to drug-abusing teens who weren't troubled.

The answer is that both types of adolescents are affected, according to Nagin, the Teresa and H. John Heinz III University Professor of Public Policy and Statistics. He was part of a team of researchers from the United States, Britain and New Zealand that analyzed data



tracking the health of nearly 1,000 New Zealand residents from birth through age 32.

Bill Gates, ICTD Conference To Be in Qatar

Carnegie Mellon University in Qatar is hosting the third International Conference on Information and Communication Technologies and Development (IEEE/ACM ICTD) conference in April 2009. ICTD is the premier conference for innovating technology accessible and relevant to developing communities. It is a multidisciplinary forum for academic researchers and practitioners designing computing solutions for developing economies. Microsoft founder Bill Gates, who is transitioning from company chairman into a full-time philanthropic role, will deliver a keynote address.

"This conference is one of the most important new directions for computing. By hosting the ICTD conference here in Doha we can get the Middle East and Qatar more involved in this emerging field," says M. Bernardine Dias, assistant research professor at Carnegie Mellon.

All sessions of the conference will be held at Carnegie Mellon's new building in Education City. For more information on the ICTD conference, visit www.ictd2009.org.

Student's Theoretical Work Will Help Interpret Collider's Data

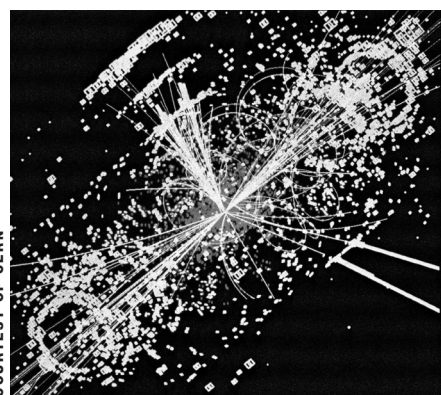
■ Amy Pavlak

Duff Neill spends his days looking for a needle in a haystack. Or, more specifically, he's calculating how to recognize the needle. Neill, a third-year physics graduate student, makes theoretical calculations to help physicists interpret the data that will emerge from the high-energy proton collisions at the Large Hadron Collider (LHC), the world's most powerful particle accelerator. When it is restarted next year, beams of protons will zip around the 17-mile track at nearly the speed of light, crashing into each other with unprecedented energies.

"The environment in which collisions take place is exceedingly complex," Neill says. "Protons create a mess when they collide, with particles flying off in every direction. You have to filter the noise so that you can see the more subtle effects."

At the LHC, some 600 million proton-proton collisions will take place every second, generating roughly 15 million gigabytes of data a year. Scientists from around the world will analyze the data, sifting through the myriad particles produced by the collisions in search of answers to some of physics' greatest mysteries, like the elusive Higgs boson, extra dimensions and dark matter particles, just to name a few.

Neill is one of six postdoctoral fellows and graduate students who received 2008 LHC Theory Initiative Awards. Administered by The Johns Hopkins University and funded by the National Science Foundation, the LHC Theory Initiative awards provide selected young theorists with funds to underwrite the costs of their research, computing and travel needs. Neill was one of two recipients of a \$5,000 LHC Theory Initiative Graduate Travel Award.



SIMULATION OF A PROTON-PROTON COLLISION IN THE CMS DETECTOR AT CERN'S LARGE HADRON COLLIDER.

"These fellowships will stimulate the work of theoretical physicists who will help interpret the data that will emerge from the Large Hadron Collider," said Jonathan Bagger, a member of the LHC Theory Initiative and chair of the Henry A. Rowland Department of Physics and Astronomy at The Johns Hopkins University, in a statement announcing the fellowships.

Neill is fine-tuning theoretical predictions about what will happen during the proton-proton collisions in the LHC.

These predictions should help scientists in their quest for the elusive Higgs boson,

a fundamental particle predicted by the Standard Model of particle physics but never seen, which physicists believe may be linked with the way particles acquire mass.

Theoretical predictions like those Neill is working on can estimate how many Higgs particles will be produced in any given collision. Things get tricky, however, because each collision produces many particles — not just Higgs bosons — that must be accounted for in order to reconstruct the whole process.

Neill and his advisor, Professor Ira Rothstein, represent a small contingent of theoretical physicists in the United States doing LHC-related research with Effective Field Theory. Neill hopes that the LHC award will allow him to visit CERN, the LHC's home at the Franco-Swiss border near Geneva, and to travel to various conferences to expand his knowledge on Effective Field Theory and other techniques, which will get him even closer to finding that elusive needle in the haystack.

Renaissance Man

TARR GARNERS 2ND CONSECUTIVE LEONARDO DA VINCI MEDAL FOR CARNEGIE MELLON

■ Kelli McElhinny

For the second consecutive year, the Society for the History of Technology has awarded its Leonardo da Vinci Medal to a Carnegie Mellon faculty member. Joel A. Tarr, the Richard S. Caliguiri University Professor of History and Policy in the Department of History, received the award at a celebration last month in Lisbon, Portugal.

The 2007 Leonardo da Vinci Medal was bestowed on David Hounshell, the David M. Roderick Professor of Technology and Social Change and Tarr's colleague in the History Department.

The recognition, which is the society's highest honor, goes to an individual who has made an outstanding contribution to the history of technology through research, teaching, publication and other activities.

Tarr, a faculty member since 1967 and a University Professor since 2003 — the highest honor a faculty member can achieve — also has appointments in the H. John Heinz III College and in the Engineering and Public Policy Department. His research focuses on the environmental history of cities and the impact of urban technological systems. In 1992 the university awarded him the Robert Doherty Prize for "substantial and sustained contributions to excellence in education."

"Carnegie Mellon has such flexibility with regard to disciplines," Tarr said. "For a person of my interests in moving out into different areas, it's a great place. I truly appreciate the environment here tremendously and the receptiveness of faculty from other disciplines to relate to a historical perspective."

Tarr served as president of the

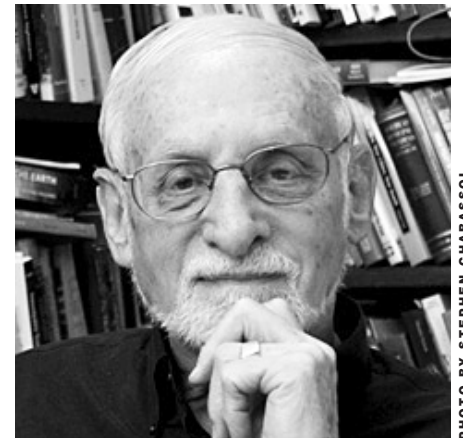


PHOTO BY STEPHEN CHABASSOL
JOEL TARR WAS AWARDED THIS YEAR'S LEONARDO DA VINCI MEDAL BY THE SOCIETY FOR THE HISTORY OF TECHNOLOGY.

Public Works Historical Society in 1982-83 and president of the Urban History Association in 1999. He has served on National Research Council committees dealing with issues of urban infrastructure, public transit, water pollution and the human dimensions of global change. He has also taken an interest in the brownfield problem caused by industrial contamination that was so prevalent in the Pittsburgh area.

Using "retrospective technology assessment," Tarr traces the development of such contemporary problems, identifying critical decisions made and pivotal turning points. He works with a system-wide perspective, noting the widespread ramifications of these historical moments.

"The Society for the History of Technology's Leonardo da Vinci Medal is a tremendous honor, and I am humbled by the recognition," Tarr said. "Receiving the award just one year after my colleague David Hounshell makes the experience even more fulfilling."

PHYSICS STUDENTS HELP KEEP SWISS OPERATIONS SAFE

■ Amy Pavlak

While Duff Neill is hard at work making theoretical calculations to help physicists interpret the data that will emerge from the Large Hadron Collider (LHC), two of his fellow physics graduate students are ensconced 300 feet underground in the LHC cavern, involved in the experimental side of things. Bora Akgun and Ryan Carroll, both third-year graduate students, will spend the next few years at CERN, the European Organization for Nuclear Research, in Geneva, Switzerland. Akgun and Carroll first visited CERN in the summer of 2007 to help assemble and install the 12,500-ton Compact Muon Solenoid (CMS) detector, one of four detectors that will record some of the 600 million proton-proton collisions that will occur every second when the LHC is operational.

"Both Bora and Ryan have rapidly become valuable members of the CMS collaboration," said Physics Professor Helmut Vogel, a member of the team led by Professor Tom Ferguson that constructed state-of-the-art

electronics for the CMS's endcap muon system.

Since arriving at CERN, Akgun has become invaluable in the control room and is an expert-on-call during commissioning and cosmic-ray testing of the detector. Carroll has written diagnostics software to monitor the efficiency of the large-area muon chambers within the detector. He is also a shift leader in matters of safety. During his eight-hour shift, he is the on-site person in charge of safe operation of the entire \$500 million CMS experiment, according to Vogel.

Aside from playing these important roles in the CMS experiment, Akgun and Carroll are also gearing up for their thesis work, which involves analyzing data from proton-proton collisions in the LHC. They'll be looking for heavy Upsilon mesons among the many particles produced in the collisions. It may come in handy that Akgun and Carroll know a theoretical physicist who can help.

LECTURE SPOTLIGHT: ST. CLAIR'S LOVE OF LIBRARIES RIVALS HER AFFECTION FOR LITERATURE

"I'LL TALK ABOUT THE JOURNEY OF MY LIFE AND THE BOOKS AND AUTHORS WHO WERE MY COMPANIONS."

■ Cindy Carroll

Gloriana St. Clair's Journeys lecture on Nov. 24 will reflect on how her life has been intertwined with literature and writing, from her childhood in Tonkawa, Okla., through her most recent adventures as University Libraries' dean and co-director of The Universal Library.

A voracious reader, St. Clair says she often relates the events in her life to her reading, or seeks a creative solution through a parallel of a current problem and a literary analogue. With this background, St. Clair will speak volumes as she reviews how she got to Carnegie Mellon in a highly personal talk illustrated with photos from many decades.

St. Clair's love affair with books began in the playpen, where books were a reliable pacifier. Like Randy Pausch, she adored World Book Encyclopedia, citing it as a source for her very first school paper — the beginning of her writing career. Advancing through high school, college and into the world, St. Clair was counseled by her mother to

follow the traditional path at that time and marry, while her father urged her to find security and happiness in a career. Reminiscent of the medieval mystery play, she naturally heard the opposing arguments as the voices of the good angel on one shoulder and the bad angel on the other.

In the end, her father's advice won out. St. Clair immersed herself in literary studies, and found a great passion as well as she earned her Ph.D. studying "Beowulf," old Norse saga and J.R.R. Tolkien's "The Lord of the Rings." Her love of Tolkien's masterpiece is a mainstay that she has shared through the years with many people, young and old — teaching, discussing and reading it — most recently, with our university president and students here and at Pitt.

Colleagues have often questioned whether literature or the library is her truest passion. Her national and international reputations are as an editor of journals in librarianship and as a director

WHO: GLORIANA ST. CLAIR, DEAN OF UNIVERSITY LIBRARIES

WHAT: JOURNEYS: MY READING AND WRITING LIFE

WHEN: 4:30 P.M., MONDAY, NOV. 24

WHERE: ADAMSON WING, BAKER HALL 136A

of the Million Book Project. And those interests compete with a profound dedication to Carnegie Mellon.

St. Clair's journey traces a uniquely book-lined road through academia, libraries and service to her profession. It demonstrates the richness and enjoyment to be gained by finding your particular muse, building on interests and experience in a natural progression and, of course, being open to serendipity along the way. Wrapping up her reminiscences, St. Clair will remark about convergence, in work and in life, and give a peek into her ongoing extra-curricular joys: life with Roger, her longtime companion; swimming around the world; and the companionship of three lively book groups.



GLORIANA ST. CLAIR

PHOTO COURTESY OF GLORIANA ST. CLAIR

Neurosurgeon Teaches Cutting-Edge Care in Biomedical Engineering

■ Chriss Swaney

Students in Carnegie Mellon's new class, dubbed "Surgery for Engineers," received some hands-on experience last month with a new futuristic robot named "da Vinci." The da Vinci surgical system, created by California-based Intuitive Surgical, is a robot with four arms. Three of them hold tools, such as a scalpel or scissors, and the fourth arm is for a camera with two lenses that gives surgeons a 3D image of the medical procedure.

Allegheny General Hospital Neurosurgeon James Burgess, who developed the Carnegie Mellon biomedical engineering course, said students see how technology is helping surgeons go through smaller incisions, causing less damage and allowing patients to leave the hospital quicker.

"The purpose of this course is to introduce student engineers to real-life clinical situations, to develop relationships between the students and clinicians and to explore those areas of technology that these students have never seen," Burgess said.

Because advances in medical technology don't just happen, Burgess believes inspiration comes first. That is why he created the course, which takes Carnegie Mellon students on field trips into operating rooms around Pittsburgh.

The course is part of a regimen

of studies offered in a fast-growing field called biomedical engineering. During the fourth month of the semester, the students watch surgeons at work. In three-hour sessions each week, they observe operations that

depend on robotic tools and computer devices developed by engineers. Students work with local hospitals and surgeons to acquire the knowledge they need to develop the next generation of biomedical devices.

The course also is designed to get students excited about these new technologies and to perhaps help develop some technology projects beyond the course, Burgess said.



STUDENTS FROM CARNEGIE MELLON AND PROVIDENCE HEIGHTS ALPHA ELEMENTARY SCHOOL IN NORTH HILLS WATCHED A DEMONSTRATION OF THE DA VINCI SURGICAL SYSTEM IN THE LOBBY OF SCAIFE HALL.

PHOTO BY KEN ANDREYO