

CMU Stars on Broadway's Biggest Night



HIGH-POWERED ALUMNI GATHER FOR A GROUP PHOTO WITH PRESIDENT SURESH (CENTER) IN THE BACCARAT HOTEL DURING TONYS WEEKEND. PICTURED ARE (L-R) TAMARA TUNIE, JUDITH LIGHT, PAULA WAGNER AND GLEN DE VRIES. COREY MITCHELL (TOP RIGHT) WAS THE RECIPIENT OF THE INAUGURAL EXCELLENCE IN THEATRE EDUCATION AWARD. ALUMNUS CHRISTIAN BORLE (BOTTOM RIGHT) WON THE TONY FOR BEST PERFORMANCE BY A FEATURED ACTOR IN A MUSICAL.



The stars came out on Broadway for the 69th Annual Tony Awards, but none shined as brightly as Carnegie Mellon.

From the red carpet strolled by President and Mrs. Suresh, the CBS telecast viewed by millions, to events throughout the weekend, university leaders and high-powered alumni represented CMU well as the first exclusive higher education partner of the Tony Awards.

One such high-powered alum, Joe Manganiello (A'04), recognized the winner of the first Excellence in Theatre Education Award created by CMU and

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\$31M Gift — Fifth Largest in CMU History — Creates Swartz Center for Entrepreneurship

Ken Walters

CMU alumnus James R. Swartz (MSIA'66), a distinguished entrepreneur and founding partner of the global venture capital firm Accel Partners, has donated \$31 million to support the university's entrepreneurship activities.

In recognition of this generous gift, the university will create the Swartz Center for Entrepreneurship, which will serve as a hub for university-wide entrepreneurial activities.

The investment comes as the university builds considerable momentum as a leader in innovation, artistic creativity, learning technologies and transformational discoveries at the crossroads of different academic fields and disciplines.

Startup activity among the university's faculty, students and alumni has been robust, with more than 138 companies created since 2009. And with work beginning on the David A. Tepper Quadrangle, the university's major new academic hub, CMU is poised to catalyze a new innovation corridor with global impact in research, invention and commercialization.

Along with his wife, Susan, Swartz has been a generous and deeply committed supporter of the university. Their latest gift, the fifth largest in university history, places them among the most generous benefactors in the university's history.

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"This investment will benefit the entire Carnegie Mellon University community," said President Subra Suresh. "We are grateful to Jim and Susan for their generous gift, and for their vision, time and commitment to building on the unique strengths of CMU.

"As one of the most successful Continued on page three

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Mother and Daughter To Embark on Haiti Adventure

Kelly Saavedra

When Lily Marty decided to accept admission to CMU for this fall, her mother wanted to celebrate in a memorable way. So, they're taking a trip to Haiti.

"I'm so excited for all that awaits her during this next phase of her life, but I will miss her terribly when she goes to college — even though it's only about a mile from my house," said Cari Marty, Lily's mother and director of finance at the university's Entertainment Technology Center.

The two had talked of traveling to Haiti for a few years, and this year plans are falling into place for them to embark on a tour of the Artibonite region of the country, led by Edward Rawson, a Pittsburgher and grandchild of Larry and Gwen Mellon who opened Hôpital Albert Schweitzer in Haiti in 1956.

The trip, scheduled for June 26 through July 3, is centered on the two-millionth tree that will be planted through a program organized by Haiti Friends. Rawson is executive director of the local nonprofit, which has an art gallery in the Point Breeze area of Pittsburgh.

"The planting of trees retains soil and promotes the growth of food crops and agriculture in the mountain areas of the country," said Bee Schindler, deputy director of Haiti Friends. "The economic impact of the tree-planting program on Haitian families has been life-changing."

Mother and daughter will partake in the two-millionth tree planting



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Avenue, Pittsburgh, PA 15213, telephone 412-268-2056. Carnegie Mellon University publishes an annual campus security and fire safety report describing the university's security, alcohol and drug, sexual assault, and fire safety policies and containing statistics about the number and type of crimes committed on the campus and the number and cause of fires in campus residence facilities during the preceding three years. You can obtain a copy by contacting the Carnegie Mellon Police Department at 412-268-2323. The annual security and fire safety report is also available online at www.cmu.edu/police/annualreports.

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INCOMING FRESHMAN LILY MARTY (LEFT) AND HER MOTHER, CARY, WHO WORKS AT THE ETC, WILL BE TRAVELING TO HAITI, WHERE THEY WILL PARTICIPATE IN THE TWO-MILLIONTH TREE BEING PLANTED THROUGH A PROGRAM ORGANIZED BY THE LOCAL NONPROFIT HAITI FRIENDS. BEE SCHINDLER (TOP RIGHT) IS DEPUTY DIRECTOR OF HAITI FRIENDS.

ceremony as well as go on an art-buying adventure in Petite Riviere, where they will seek out opportunities to connect Pittsburgh to Haiti.

The Martys have been following the humanitarian efforts of Haiti Friends on social media for years.

"I have always felt very impassioned about the plight of humans and societies all over the world that aren't as privileged as we are in America," Cari Marty said. "If you asked my kids, they would tell you I've said many times that I would love to become a missionary in another country after they have all grown."

She added, "The more I have read and learned about Haiti through Haiti Friends, and particularly since the earthquake, I have come to understand how much in need of humanitarian assistance this impoverished country is, while I also feel a sense of awe at the spirit and resilience of the Haitian people. I feel very fortunate to have the opportunity to see and experience this firsthand, especially with my daughter."

They plan to use what they learn on their summer adventure to further their involvement with Haiti Friends and expand awareness of the Haitian people's plight.

"This trip is particularly special to me as Lily embarks on her college career because I kind of look at this as both a graduation present and perhaps a last mother-daughter trip for a while, as her next few summers will likely fill up with travel, internships, working and so on.

"I am looking forward to exploring something together that's completely new to both of us, that I know will be extremely meaningful and — I anticipate — life-changing for both of us on a shared and deeply personal level," Marty said.

Since it's founding in 1985, Haiti

Entrepreneurs R Us

Piper Staff

LaunchCMU Returns to Silicon Valley

For three consecutive years, venture capitalists, angel investors and Carnegie Mellon alumni entrepreneurs have assembled at LaunchCMU, a showcase for technology startups, innovations and trailblazing research. The program returned to Silicon Valley in May, with the theme "The Business of Learning."

"The Business of Learning" showcased transformative efforts in improving education, including initiatives in technology-enhanced learning. Events included demonstrations of new products and services at the Demo & Poster Session and showcased talks by founders of successful startup companies and Carnegie Mellon faculty members.

"LaunchCMU provides an exclusive opportunity for the startup companies from Carnegie Mellon to connect with investors and entrepreneurs in our innovation ecosystem," said Provost Farnam Jahanian. "These connections represent potential funding paths and access to customers, suppliers and mentors."

Founders and leaders of featured technology startup companies, includ-



Friends has amassed a diverse and vibrant collection of Haitian artwork. Working directly with Haitian artists, the program supports the creative economy of Haiti, especially in the Artibonite Valley, offering support for Artibonite artists and initiating community arts initiatives in Haiti.

In the U.S., the Haiti Friends art collection is made available for sale and is available for traveling educational exhibitions.

"Art is a means of bringing Haiti to the rest of the world, sharing Haiti's energy and creativity, while also the complex problems of a troubled country," Schindler said. "Through art and education, we hope to build understanding and support."

The gallery is open from 9 a.m. to 5 p.m., Monday through Friday, and on Saturday by appointment.

ing Acrobatiq, Digital Dream Labs and Simcoach Games, pitched their companies, demonstrating problem-solving and value creation for customers.

Simcoach Games, for example, have enabled users to achieve sustainable behavior change in industries from health care to manufacturing to retail, while Acrobatiq is made up of educators, engineers, scientists and entrepreneurs focused on improving learning outcomes by converging learning science, data and technology.

Digital Dream Labs mixes nostalgia with the technology children love. The company's philosophy starts with fun first and enriches logic, sequencing and fine-motor skills through physical interaction and gameplay.

These and other startups were joined by CMU faculty members Emma Brunskill, assistant professor of computer science, and Vincent Aleven, associate professor at the Human-Computer Interaction Institute, who revealed some of their groundbreaking research on intelligent tutoring systems.

"This event is a celebration of CMU's leadership position in the startup world. We are reaching out to our colleagues in Silicon Valley to share the great innovations that are emerging from

\$31M Gift Creates Swartz Center for Entrepreneurship

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venture capitalists in the world, Jim understands the importance of nurturing innovators and creative thinkers. This gift will bring together cross-university initiatives in ways that will have a far-reaching impact on future generations of young entrepreneurs," Suresh said.

The gift includes \$13 million in permanent university endowment, which in combination with other resources will support Presidential Scholarships and Fellowships for students, a faculty chair, entrepreneurs-in-residence, an executive director and staff for the center.

An additional \$18 million will be directed to a number of programmatic and infrastructure projects over the next four years. This includes \$10 million committed last year for the creation of space for entrepreneurship activities in the new building in the David A. Tepper Quadrangle.

The remaining \$8 million, leveraged with additional support, will fund infrastructure projects at several other locations across campus, new campuswide curriculum development, a new fund to seed ideas across CMU's colleges and schools, and community outreach to engage local secondary schools in entrepreneurship learning opportunities.

"Carnegie Mellon is one of the world's leading centers for learning and discovery," Swartz said. "From its founding, entrepreneurship has been ingrained



Alumnus James R. Swartz says, "CMU is an ideal location to cultivate the ideas, technologies and ultimately solutions that will make a true difference in the world."

throughout the university's culture. With its strengths in technology, science and the arts, CMU is an ideal location to cultivate the ideas, technologies and ultimately solutions that will make a true difference in the world."

With its university-wide scope, the Swartz Center and its director will report to the provost and will serve as the hub that seamlessly connects and incorporates a number of ongoing efforts through the Center for Innovation and Entrepreneurship, the James R. Swartz Fellows Program, the Innovation Fellows Program, Project Olympus, LaunchCMU and the Open Field Entrepreneurs Fund, as well as related workshops, competitions and training programs. As founding partner of the Palo Alto, California-based Accel Partners, Swartz has led a global venture capital firm that counts many of the most revolutionary technology businesses among its investments, including Facebook, Veritas Software, Riverbed, Etsy and Dropbox. In 2007, he was honored with the Lifetime Achievement Award from the National Venture Capital Association.

Swartz serves as a trustee of the Sundance Institute and the San Francisco Museum of Modern Art. From 1999-2002, he served on the management committee of the Salt Lake Organizing Group for the 2002 Winter Olympics. In 2007, he co-founded Impact Partners, a major provider of funding to a long line of notable documentary films. And as an accomplished Grand Prix sailboat skipper, he has won numerous championships and World Cups.

Swartz is a founding member and chair of President Suresh's Global Advisory Council at CMU, which comprises a distinguished group of about 20 leaders, entrepreneurs and chief executives of major organizations.

He also is a member of the Tepper School's Business Board of Advisers. In 2013, the Tepper School honored Swartz with a Lifetime Alumni Achievement Award in recognition of both his professional accomplishments and his commitment to education.



PROJECT OLYMPUS FOUNDER LENORE BLUM AND PROVOST FARNAM JAHANIAN VISIT WITH PITTSBURGH'S CHIEF INNOVATION AND PERFORMANCE OFFICER DEBRA LAM, WHO SPOKE AT THE 19TH SHOW & TELL.

CMU," said Dave Mawhinney, co-director of the Center for Innovation and Entrepreneurship (CIE).

The applications of these discoveries in many key market sectors were displayed by more than two dozen startups at the Demo & Poster Session, companies that have emerged out of programs such as Project Olympus, the James R. Swartz Entrepreneurial Fellows Program, the NSF I-Corps Site program, the Open Field Entrepreneurs Fund, Traffic 21/UTC, Quality of Life Technology Center, the Disruptive Health Technology Institute and Innovation Works. LaunchCMU is organized biannually by the CIE, which was created in 2012 to strengthen and serve the entrepreneurial ecosystem at Carnegie Mellon, and to accelerate the commercialization of university research and ideas.

Project Olympus Presents 19th Show & Tell

In Pittsburgh, CMU's innovation, creativity and entrepreneurial spirit was on display for the 19th time, in Project Olympus' vastly popular "Show & Tell." Founded by Lenore Blum and part of the Center for Innovation and Entrepreneurship, Project Olympus has been highly successful in helping students and faculty turn their research into commercial enterprises. It was the first incubator in the region to focus on student initiatives.

This Show & Tell featured research by Physics Professor Shirley Ho, who spoke on "How Far Can We See in the Dark," and Marlene Behrmann, psychology professor and CMU director of the Center for the Neural Basis of Cognition, discussed "How We See What We See."

A focus on startups and spinoffs highlighted Mathematical Sciences Professor Po-Shen Loh and his startup expii.com, a website that leverages crowdsourcing to develop interactive experiences to teach math and science. Biology and Chemistry Professor Marcel Bruchez discussed his spinoff "Sharp Edge Labs."

"This forum shows off the incredible interdisciplinary collaborations between our students and faculty," said Mawhinney. "Designers, engineers and business people come together to innovate and create new value in the form of products and companies." Several students and recent alumni discussed their startups before special guest Debra Lam, chief innovation officer for Pittsburgh, spoke on "The Pittsburgh Innovation Roadmap."

"I am so impressed with the caliber of the professors and student entrepreneurs here," Lam said. "It reminds me from a city perspective how lucky we are to have CMU right in our backyard. There are wonderful activities going on. It's a tremendous asset."

Project Olympus has nurtured 161 PROBEs (Problem-Oriented Business Explorations) through which teams of faculty and students have explored the commercial potential

of their research and ideas. Also through Project Olympus, 122 companies have been formed —84 of them student-based and 38 of them faculty or Innovation Fellow (IF)-based.

Over \$166 million in funding has been awarded to 63 student and 31 faculty/IF PROBEs, and PROBEs have won 42 awards and prizes worth over \$3.2 million from competitions.

Decisions That Matter Aim to Provoke Moral Reflection

Shilo Rea

There is no question that sexual assault is a huge problem in American society and on college campuses. While there recently have been some ideas to try and prevent assaults from happening, none have seemed to work.

That may just change with "Decisions That Matter: An Interactive Experience," a new game created by students in a unique class offered by CMU's Dietrich College of Humanities and Social Sciences and the Entertainment Technology Center (ETC).

"Morality Play: Laboratory for Interactive Media and Values Education" allows students from different majors and backgrounds to collaborate and solve a real-world problem, all in just 15 weeks.

"We did two classes like this before — one on income inequality and another on privacy and government surveillance — both very large and broad subjects. What was different this time is we focused on a specific issue and worked closely with an actual client," said Ralph Vituccio, the ETC professor who cotaught the course with the Philosophy Department's Andy Norman. Chris Klug, assistant teaching professor at the ETC, also worked with the students.

"Carnegie Mellon — and many other colleges and universities — have a real need for an educational piece for freshmen that deals with date rape," Vituccio added.

Fifteen students, both undergraduate and graduate, spent the semester developing a concept, creating the interactive graphic novel and testing and retesting it to ensure the game's scenarios came across as genuine. The ETC students served as artists, sound engineers, programmers and producers, while the others did background research, led user testing and gave feedback on everything from the script to the game's look and feel.

"A challenge was coming up with a realistic but morally ambiguous storyline that creates a powerful emotional message," Norman said. "To combat sexual assault, you need to change attitudes, and this requires an experience that not only provokes moral reflection but also evokes deep emotion. 'Decisions That Matter' is a marvelous example of creative problem-solving by some hard-working students committed to making a difference."

The game includes five characters plus the game player. In roughly 10 minutes, the player makes decisions throughout a typical college day with friends. The player's decisions ultimately lead to a character being assaulted or not. At the end, College of Fine Arts actors bring the characters to life and explain their emotional responses to the outcome.

Jess Klein, coordinator of gender programs and sexual violence prevention at CMU, absolutely loves the game and believes it is a tool that they will want to use in the future.

"When Andy and Ralph came to me, the first thing I thought was, 'Not another app!' Sexual violence 'prevention' apps just do not work," Klein said. "Many 'rape prevention' products on the market put the onus of defending oneself on the



survivor. One important component of primary prevention is effective bystander intervention. 'Decisions That Matter' addresses this head-on and allows users to really think about what they would do if they were in a situation where they had to intervene."

For the students, creating the game was about more than just completing coursework.

"I care about the issue because I know people who have been affected. I'm interested in intervention methods that could make a difference," said Anna Malone, a human-computer interaction graduate student. "As we tested, we could see people were affected by it it was making them think about sexual assault."

Following a simulation presentation to the CMU community, Dean of Student Affairs Gina Casalegno had high praise for the students' work.

"This is incredible," Casalegno said. "I have done this work for over two decades, and it is hard to get this content right."

Vituccio strongly believes that the potential to extend these types of interactive awareness experiences to addressing other forms of sexual violence, online sexual harassment, hate crimes and LGBT violence is huge.

"If these experiences can get people to reflect on their actions, to become more introspective, that is the beginning of change," he said.

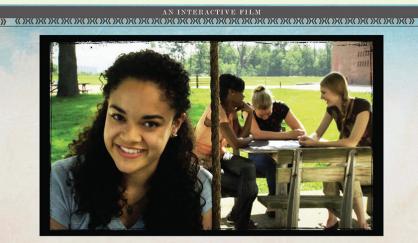
The Morality Play courses were part of a three-year pilot program supported by CMU Trustee Lowell Steinbrenner. They are examples of how CMU harnesses a cross-disciplinary ecosystem of learning science, a hallmark of the university's Simon Initiative. Named for Herbert Simon, the late CMU Nobel laureate, professor and co-founder of artificial intelligence, the Simon Initiative's goal is to measurably improve student learning outcomes.

MOBILE APP EDUCATES TEENS ON RISKY SEXUAL BEHAVIOR

Teenagers, parents, educators and clinicians have a new tool to help adolescents make more informed decisions about their sexual behavior.

"Seventeen Days," a mobile app based on the interactive movie of the same name, is available at no cost on iPhone, iPad and Android devices.

"Our goal is to create and make readily available a tool that will help teenagers make better decisions for themselves," said Julie Downs, associate research professor of social and decision sciences, who studies



There are lots of decisions to make. It's up to **YOU** to make them.



how social influences affect decision making and how people can make better decisions by understanding these influences.

"For the most part, adolescents don't want to get pregnant. They definitely don't want to contract a disease. By building on our research about what goes into their decisions, we have crafted an application that will help them avoid these negative outcomes," she said.

Seventeen Days — in both the video and mobile app form — is the result of a five-year, \$7.4 million grant from the U.S. Department of Health and Human Services to update Downs' earlier interactive video, "What Could You Do?" that was shown to increase abstinence among teenage girls.

Preliminary research indicates that giving young women access to the Seventeen Days film leads to better knowledge about the risks associated with different sexual behaviors and a stronger sense that they can carry out safer behaviors themselves.

In addition to CMU, the mobile app was developed with researchers at West Virginia University, the University of Pittsburgh and Nationwide Children's Hospital in Columbus, Ohio. The goal of creating the mobile app is to get the interactive tool into as many hands as possible.

"We know that teenagers are having sex, and addressing this is a very important part of their health care needs," said Dr. Pamela Murray, professor of pediatrics at the WVU School of Medicine and section chief for WVU Healthcare's Adolescent Medicine.

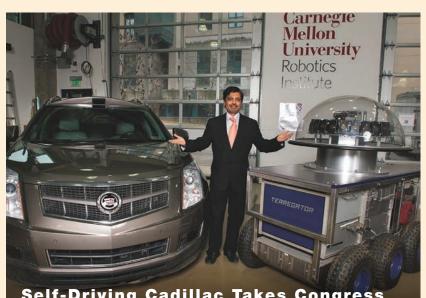
"The Centers for Disease Control and Prevention has highlighted teen pregnancy as a winnable public health battle. In the same way that we've reduced infectious diseases with immunization, we can reduce teen pregnancy rates and unwanted pregnancies with better communication," she said.

Year in Review

Throughout the 2014-2015 academic year, CMU pushed its boundaries, set new benchmarks and reached new heights. From Birdman to Baymax, breaking ground to breaking records, soccer to Spring Carnival and unprecedented honors, achievements and awards, take a few minutes to reflect on some of CMU's top moments.



Women, who historically have been underrepresented among computer science majors nationwide, made up 41 percent of this year's incoming class in the School of Computer Science (SCS), setting a new benchmark for the school. SCS has been a leader in efforts to increase the number of women in computer science and its female enrollment has long exceeded national averages.



Self-Driving Cadillac Takes Congress for a Ride

CARNEGIE MELLON TOOK ITS SELF-DRIVING CADILLAC SRX TO WASHINGTON, where researchers led by Raj Rajkumar gave members of Congress a ride they won't soon forget. The lawmakers experienced the autonomous technology up close and personal on the streets and highways of the nation's capital. The CMU car looks like any other Cadillac SRX, but with built-in sensors, cameras and computers. It is the product of three decades of research at CMU. Above is Rajkumar with the Cadillac SRX and tesselator, CMU's first autonomous vehicle.



BrainHub Will Help Us Better Understand the Brain

CMU LAUNCHED BRAINHUBSM, A GLOBAL RESEARCH INITIATIVE THAT WILL LEVER-AGE CMU'S STRENGTHS IN BIOLOGY, PSYCHOLOGY, STATISTICS AND ENGINEERING TO CONDUCT RESEARCH ON THE BRAIN AND THE RELATED FIELDS OF DATA SCIENCE AND THE SCIENCE OF LEARNING. TOGETHER WITH RESEARCH PARTNERS FROM AROUND THE WORLD, THE INITIATIVE AIMS TO HELP DEVELOP A BETTER UNDERSTANDING OF THE BRAIN'S STRUCTURE AND FUNCTION — WHY WE DO THE THINGS WE DO — AND TO CREATE NEW TOOLS TO ACCELERATE DISCOVERY AND REDUCE THE HUMAN AND ECONOMIC COSTS OF BRAIN DISORDERS. THE WHITE HOUSE AND NATIONAL INSTITUTE OF MENTAL HEALTH PRAISED CMU'S INITIATIVE.



Women's Soccer Team Enjoys Sweet Season

The women's soccer team FINISHED THE 2014 SEASON WITH ITS FIRST UNIVERSITY ATHLETIC ASSOCIATION CHAMPIONSHIP AND ITS THIRD CONSECUTIVE TRIP TO THE NCAA DIVISION III TOURNA-MENT WITH A 16-2-1 RECORD. THE TARTANS ADVANCED TO THE SWEET 16 ROUND OF THE NCAA TOURNAMENT FOR THE SECOND TIME IN SCHOOL HISTORY. SENIOR SAVINA REID (RIGHT WITH BALL) LED THE POSTSEASON PARADE OF ACCOLADES FOR THE TARTANS, EARNING ALL-AMERICA HONORS AND AN NCAA POSTGRADUATE SCHOLARSHIP.



Members of the CMU community spray painted their farewells to the turnaround at the Cohon University Center to mark the groundbreaking for an addition that will add 62,000 square feet of space to the facility. The enhancements will include new fitness space, balcony seating for the swimming pool, a studio theater for student performance groups and a stunning university presence along Forbes Avenue. Completion is anticipated next spring.

Year in Review



Donut Dash Raises More Than \$100K

More than 500 students, faculty AND COMMUNITY MEMBERS PARTICIPATED IN THE SIXTH ANNUAL DONUT DASH raising a record \$100,510.68 for LIVE LIKE LOU, A PITTSBURGH-BASED ORGANIZATION FOCUSED ON FUNDING RESEARCH TO HELP FIND A CURE FOR Amyotrophic Lateral Sclerosis (ALS). OR LOU GEHRIG'S DISEASE. THE ANNUAL EVENT, WHICH CHALLENGES PARTICIPANTS TO RUN A MILE, EAT DO-NUTS AND RUN SOME MORE, IS ORGA-NIZED BY THE SIGMA ALPHA EPSILON (SAE) FRATERNITY. THIS YEAR'S EVENT HONORED ALUMNI ADVISER BOB DAX. WHO WAS DIAGNOSED WITH ALS. THE TOTAL RAISED STANDS AS THE LARGEST SUM RAISED BY A CMU ORGANIZATION.



An inflatable robotic arm made at CMU out of balloon-like material was the inspiration behind "Baymax," a pivotal character in Disney's Oscarwinning animated feature film "Big Hero 6." In the comedy-adventure, Baymax, a gentle robot designed to care for humans, is transformed into a warrior and joins a band of high-tech heroes. The inflatable robotic arm was developed by Siddharth Sanan during his Ph.D. thesis research in Robotics Professor Chris Atkeson's lab. The arm was a project in CMU's Quality of Life Technology Center, which adapts robotic technology to meet the needs of the elderly and people with disabilities. Above, Atkeson presents a "Baymax" replica to President Suresh.

CMU Experts Among Leaders at World Economic Forum

Carnegie Mellon faculty were on the global stage among the world's most influential thought leaders at the World Economic Forum's Annual Meeting of the New Champions 2014, also known as Summer Davos, in Tianjin, China. The theme, "Data Science in Action," was in CMU's wheelhouse and CMU President Subra Suresh and five faculty members — Manuela Veloso, Marlene Behrmann (below), Marsha Lovett, James H. Garrett Jr. and Justine Cassell — provided their perspectives. Also participating were three faculty members who were selected among the forum's 40 top scientists under the age of 40 — Inês Azevedo, Jessica Hammer and Chris Harrison.





"Birdman" Joins Entertainment Technology Center

Actor Michael Keaton, who won a Golden Globe Award for Best Actor for his performance in "Birdman," agreed to join CMU's Entertainment Technology Center as a visiting scholar. A Pittsburgh native, Keaton became popular for his early comedic film roles, notably for his performance as the title character in "Beetlejuice," and later gained international fame for his dramatic portrayal of Bruce Wayne/Batman in "Batman" and "Batman Returns."



U.S. President Barack Obama presented Mary Shaw with the National Medal of Technology and Innovation, the nation's highest honor for achievement in the field of technology, innovation and invention. Shaw, the Alan J. Perlis University Professor of Computer Science, is a leader in software engineering research whose work on software architecture — the large-scale structure of software systems helped establish it as a recognized discipline. Selecting an appropriate architecture is now recognized as a critical step in engineering complex software systems for everything from the anti-lock braking systems in cars to the international banking system.

Student Among First in Qatar to Study Bacteriophage

UMM-KULTHUM UMLAI, A JUNIOR ON THE QATAR CAMPUS, BECAME THE FIRST PERSON TO DISCOVER AND CHARACTERIZE A BACTERIOPHAGE (PHAGE) FROM A SAND SAMPLE IN QATAR, PAVING THE WAY FOR FUTURE STUDENTS TO WORK ON PHAGES FROM QATAR AND THE REGION. HER RESEARCH WON THE AWARD FOR BEST POSTER IN THE ENERGY AND ENVIRONMENT CATEGORY AT THE QATAR FOUNDATION ANNUAL RESEARCH FORUM. THE PHAGE GENOMICS RESEARCH PROGRAM ENCOURAGES BIOLOGY MAJORS TO WORK IN THE LAB RIGHT AWAY AS THEY LEARN IMPORTANT CONCEPTS, DESIGN EXPERIMENTS AND ANALYZE RESULTS.





Greek Sing Raises Over \$86K for Charity

GREEK SING, THE ANNUAL TALENT SHOW AMONG FRATERNITIES AND SORORITIES, RAISED MORE THAN \$86,000 FOR OUR CLUBHOUSE, A SUPPORT ORGANIZATION FOR THOSE TOUCHED BY CANCER. OUR CLUBHOUSE, FORMERLY KNOWN AS GILDA'S CLUB WESTERN PENNSYL-VANIA, WAS ORIGINALLY NAMED FOR BELOVED SATURDAY NIGHT LIVE COMEDIAN GILDA RADNER, WHO DIED OF OVARIAN CANCER IN 1989. IN THE SINGLES DIVISION ALPHA EPSILON PI TOOK FIRST PLACE WITH A HILARIOUS RENDITION FROM MONTY PYTHON'S "SPAMALOT." KAPPA ALPHA THETA AND SIGMA PHI EPSILON TOOK THE DOUBLES CROWN WITH A PERFORMANCE TITLED "SEUSSICAL THE MUSICAL."

Carnival Enters Second Century

CMU'S MOST CELEBRATED TRADITION ENTERED ITS SECOND CENTURY IN APRIL when students, faculty, staff and alumni enjoyed the legendary Spring Carnival, a time for amusement park rides and games, booths, buggy races, live music and comedy, and fun on the Midway. This year's booths, including "The Princess Bride," "Jumanji," "Jurassic Park" and "Sherlock Holmes," reflected the "Living Library" carnival theme.





ANDY, A FOUR-WHEELED LUNAR ROVER DESIGNED AND BUILT BY CARNEGIE MELLON, WAS AWARDED THE GOOGLE LUNAR XPRIZE'S MILESTONE PRIZE FOR MOBILITY AFTER JUDGES CONCLUDED IT WAS THE ONLY ROBOT AMONG THE COMPETING TEAMS, THUS FAR, TO MEET DEVELOPMENT BENCHMARKS FOR FLIGHT READINESS. "ANDY HAS PROVEN TO BE A TOUGH, SMART, SURE-FOOTED MACHINE," SAID WILLIAM "RED" WHITTAKER (ABOVE), CMU PROFESSOR OF ROBOTICS. CMU IS WORKING WITH UNIVERSITY SPINOFF ASTROBOTIC TECHNOLOGY TO WIN THE \$20 MILLION-PLUS GOOGLE LUNAR XPRIZE BY LANDING AND OPERATING A ROBOT ON THE MOON.

Year in Review

Students Protest Grand Jury Decisions

Several hundred members of the CMU community participated in a peaceful demonstration on campus protesting grand jury decisions in response to tragic events in Missouri and New York. During the "die-in," student organizers Dominique MacCalla and Kayla Serrano read the names of, and circumstances surrounding, many African-Americans who allegedly died unjustly at the hands of law enforcement officials.





\$17M in Gifts Support Strategic Initiatives

At an event in San Francisco celebrating CMU's leadership at the intersection of human and machine intelligence, three gifts were announced totaling \$17 million to support the Tepper Quadrangle and Presidential Fellowships and Scholarships. Trustee James E. Rohr and his wife, Sharon, and Legendary Entertainment, whose founder and chairman is Trustee Thomas Tull, made gifts to support the Tepper Quad. Alumnus Wallace Sadauskas and the estate of his late partner, Patricia Chotiner Traylor, provided a gift to support Presidential Fellowships and Scholarships. The Tepper Quad at the corner of Forbes and Morewood avenues, will house a new home for the Tepper School of Business and be a new hub for technology-enhanced learning initiatives, collaborative learning, entrepreneurship and innovation. At left are James Rohr, President Suresh and Thomas Tull.

CMU Partners With AHA to Create New Heart Science Program

The Biomedical Engineering Department received a grant from the American Heart Association (AHA) to create a new undergraduate heart science program that will train students to develop new technologies for cardiovascular medicine. Students will spend 10 weeks working with faculty on a research project in a cardiovascular area of biomedical engineering, and also shadow doctors at Allegheny General Hospital.



Marlene Behrmann Elected to National Academy of Sciences

MARLENE BEHRMANN, THE GEORGE A. AND HELEN DUNHAM COWAN PROFESSOR OF COGNITIVE NEUROSCIENCE AND CMU CO-DIRECTOR OF THE CENTER FOR THE NEURAL BASIS OF COGNITION, WAS ELECTED TO THE NATIONAL ACADEMY OF SCIENCES (NAS) FOR HER DISTINGUISHED RESEARCH. SHE IS THE FIRST FEMALE SCIENTIST FROM CMU AND THE 14TH FACULTY MEMBER OVERALL TO BE ELECTED TO THE NAS. BEHRMANN IS ONE OF THE FOREMOST EXPERTS IN THE COGNITIVE NEUROSCIENCE OF VISUAL PERCEPTION. SHE ALSO IS RENOWNED FOR USING BRAIN IMAGING TO UNCOVER WHAT IS HAPPENING IN THE BRAINS OF INDIVIDUALS WITH DEVELOPMENTAL DISORDERS, SUCH AS AUTISM AND DYSLEXIA.



CMU is Transforming Health Care Through Big Data

CMU IS PARTNERING WITH UPMC AND THE UNIVERSITY OF PITTSBURGH TO FORM THE PITTSBURGH HEALTH DATA ALLIANCE, AN EFFORT TO LEVERAGE THE EXPLOSION OF HEALTH-RELATED DATA TO CREATE NEW TECHNOLOGIES, SERVICES AND PRODUCTS TO IMPROVE HEALTH CARE. THE ALLIANCE BRINGS TOGETHER CMU'S EXPERTISE IN COMPUTER SCIENCE AND MACHINE LEARNING, PITT'S STRENGTHS IN HEALTH SCIENCES AND UPMC'S PROFICIENCY IN CLINICAL CARE AND COMMERCIALIZATION. PRESIDENT SURESH CALLED THE PARTNERSHIP "A WATERSHED MOMENT FOR DATA SCIENCE AND HEALTH CARE." UPMC'S JEFFREY ROMOFF, PRESIDENT SURESH AND PITT CHANCELLOR PATRICK GALLAGHER (ABOVE, L-R) ANNOUNCED THE PARTNERSHIP.

Qatar Researchers Launch Alice for the Middle East

A team at Carnegie Mellon in Qatar, led by Assistant Professor of Computer Science Saquib Razak, launched "Alice Middle East," an interactive animation software designed to help children in Arabic-speaking countries learn the basics of programming in an entertaining and appealing way. The program is based on the Alice software developed by the late Professor Randy Pausch. To localize Alice for children in Qatar and the Middle East, artists created models of local buildings, a Qatari police officer, a sheikh, camels and other Arabic objects.

Meandering Matters A 'Zany Zeal' for Writing Drives Poetry Prize Winner

Kelly Saavedra

When it comes to writing, meandering matters to Terrence Chiusano.

In his prize-winning book, "On Generation & Corruption," the Hunt Library staff member digresses in both his poetry and his prose — a lot.

But, that's the point.

"There's no 'about' about the book. No theme proper. There is no hook," Chiusano said of his work, which ruminates on notions of permanence and change as it deconstructs a "picturepostcard" American town.

Fordham University Press deemed the composition worthy of its 2013-14 Poetry Out Loud Editor's Prize.

"It means a great deal to me to have won," Chiusano said. "It brought with it some small sense of satisfaction and, at the time, a sense of elation — and relief. But, it's only a start."

Chiusano, who has been handling Hunt Library's acquisitions of new books for 10 years, says he wanted to concoct a book of poems unlike standard and non-standard books of poetry.

"Along the way, it sometimes resembles an unfinished book the main character is attempting to write," he said.

While his words do wander a winding course, Chiusano is a noticeably skilled navigator of narrative and realism. His prose is proof that he also is mindful of how to construct a sense of place on the page as well as how to best technically achieve humor in a written piece.

"In the end it's an odd-duck, shaggydog sort of affair," he said. "It has a lot to do with narrative but without actually constructing one."

Chiusano finds it impossible to think of himself as a poet, and he is not entirely sold on calling himself a writer either.

"I wrote my first poem in sixth grade and, in an appropriate twist of foreshadowing, I suppose it wasn't really about anything," he said.

The poem was based on the image of a wolf overlooking a canyon that he says "visited" him one night while he was lying in bed unable to sleep. The image haunted him well into the next day before Chiusano eventually transformed it into words on a rudimentary computer during some unstructured hours in school.

"It's comical because when I think back on that image I see only what looks like a cheap velvet painting, coyote-withbig-moon-behind-it, the sort you see for sale at filling stations in Nebraska or New Mexico or Kansas. The 'real image' was much more realistic," he said.

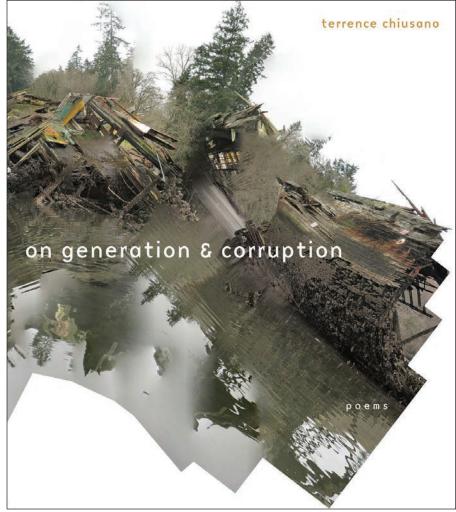
Chiusano's motivations for writing are many, and they range from boredom to "a zany zeal" to an endless "itch-like" irritation.

"I like best the sense of satisfaction when I've 'hit the right note,' so to speak; solved a difficult sentence; salvaged a stanza or a scene; properly pruned a poem," he said. "It's the kind of thrill I experience only when completing a simple manual task, like building a flower box or fixing a broken fan."

Chiusano earned his bachelor's degree in poetry writing at the University of Pittsburgh and his master's degree in literature from the University of Buffalo. His book is available from Fordham University Press as well as Amazon and other retailers.



TERRENCE CHIUSANO, AUTHOR OF THE AWARD-WINNING "ON GENERATION & CORRUPTION," IS NOT ENTIRELY SOLD ON CALLING HIMSELF A WRITER.



Carrying the Torch for Special Olympics



Sgt. Chris Micknowski (red shirt) led the way along Forbes Avenue as CMU's police department joined other law enforcement agencies statewide in carrying the torch for Special Olympics across Pennsylvania. The annual Torch Run is one of several efforts by CMU's police department to raise awareness and

support for Special Olympics Pennsylvania (SOPA), the state's largest year-round organization devoted to sports training and competition for children and adults with intellectual disabilities.

CMU police raised more than \$12,000 for SOPA when they braved a quick dip into Pittsburgh's icy rivers during January's Polar Bear Plunge. At this year's Spring Carnival, they raised more than \$3,000 by hosting the Dunk-a-Cop water tank.

Meeting of the Minds Celebrates 20 Years



GRANTS AND FELLOWSHIPS OFFERED THROUGH THE UNDERGRADUATE Research Office keep students like John Choi moving forward in their research and bringing their ideas to life.

At this year's university-wide Meeting of the Minds Symposium, where many of the university's brightest and most creative students showcase their original work, Choi demonstrated Halley, a 2.6-foot humanoid robot built for "the purpose of exploring what it means to be human from a non-human perspective."

HALLEY POSSESSES AN ARRAY OF FACE-TO-FACE COMMUNI-CATION TECHNIQUES. A SPEAKER, CAMERA AND MICROPHONE SERVE AS BASIC SENSORY INPUT AND OUTPUT. GESTURES, SUCH AS RAISING A HAND TO GIVE A HIGH-FIVE, ARE SUPPORTED BY HALLEY'S MOVABLE ARMS AND LEGS.

 ${\sf Halley} \text{'s ability to express emotions is achieved} \\ {\sf through the clever use of an Android phone as a face.}$

This year's Meeting of the Minds marked the 20th anniversary of the symposium, which has blossomed from its initial 157 presenters in 1995 to over 500 participants.

Big Night on Broadway CONTINUED FROM PAGE ONE

the Tonys. Corey Mitchell, a theater arts teacher from Charlotte, N.C., was chosen from more than 4,000 nominees.

While introducing Mitchell, the Carnegie Mellon University wordmark flashed on the television screen as Manganiello made his way to Mitchell in the audience. Along the way he stopped and introduced CMU alumna Sutton Foster (A'92-'93), one of the award presenters during the show, to ask who inspired her theater career. It was her teacher, Rick Bodick.

"We never forget the names of people who are there to give us inspiration and guide us," Manganiello said.

Prior to the telecast, in the Creative Arts portion of the awards ceremony, President Suresh, Peter Cooke, head of the School of Drama, and Judith Light (A'70) presented the award to Mitchell.

"I don't accept this just for me. I accept this on behalf of every theater teacher and every young student out there who aspires to this stage and to Broadway," Mitchell said. "I am overwhelmed and so appreciative. Thank you for legitimizing us. Theater education matters and art matters, and we thank you."

Two alumni took home awards. Christian Borle (A'95) earned the Tony for Best Performance by a Featured Actor in a Musical for his role in "Something Rotten!" raising the number of Tony Awardwinning alumni to 41. And Stephen Schwartz (A'68) won the Isabelle Stevenson Award for his work with the American Society of Composers, Authors and Publishers and the Dramatists Guild.

"This is terrific recognition for Christian's hard work and dedication to his role in 'Something Rotten!' It is just one of his many truly transformational and remarkable performances in film, television and on stage," said Dan Martin, dean of the College of Fine Arts. "We are very proud of Christian as a CMU alumnus. He is an exemplary graduate and deserves this recognition."

Alumni Corey Cott (A'12) and Michelle Veintimilla (A'14) starred in the show's performances of "Gigi" and "The Visit," respectively. CMU's commercial, "Ideas That Shape The World Start Here," narrated by Josh Gad (A'03), aired twice. And commercial breaks were hosted by Patina Miller (A'06).

Behind the scenes, approximately 15 alumni, including David Tepper (TPR'82), joined the Sureshes, Martin, Cooke and other university leaders, including Pam Eager (E'87, TPR'95), interim vice president for University Advancement, for VIP alumni events held throughout the weekend.

These events included a talkback hosted by Borle at St. James Theatre after his Saturday afternoon performance; a dinner hosted by Light and CMU Trustee Paula Wagner (A'69) at the Baccarat Hotel with special guest Tamara Tunie (A'81); a lunch hosted by Holly Hunter (A'80) at the Redeye Grill; and a pre-performance reception hosted by Billy Porter (A'91) and David Steiner (E'51, H'11) in the Roxy Suite at Radio City Music Hall.

The Tony Effect

What does the partnership with the Tony Awards mean for CMU? And how did the Tony Awards impact the university?

Answer: GLOBAL VISIBILITY.

Consider:

- More than 7 million viewers watched the 69th Annual Tony Awards telecast on Sunday, June 7, as the spotlight shined brightly on CMU and its role in theater education.
- The number of views of CMU's commercial on YouTube and Facebook reached 21,669, up from 7,400 last year.
- Twitter impressions reached 19.9 million, up from 9.3 million last year. Sofia Vergara retweeted Joe Manganiello's tweet about representing his alma mater to her more than 8 million followers (right).
- Alumnus Kai-Fu Lee's plaid pride showed in a tweet to his 1.38 million followers about his alma mater being not only a top tech school but also a Tony Awards partner.



- Josh Groban retweeted CMU's tweet that the university was cheering him on.
- More than 325 news outlets mentioned CMU's work with the Tony Awards, including The Associated Press, The New York Times, The Washington Post and ABCNews.

Bravo!

"Mr. Everything," Dick Tucker, Retires

Piper Staff

It's no wonder he's been called "Mr. Everything."

Since arriving at Carnegie Mellon in 1992, Richard "Dick" Tucker has served as head of the Department of Modern Languages, interim dean of Student Affairs, associate vice provost for education for CMU-Q, interim dean of CMU-Q and Title IX coordinator.

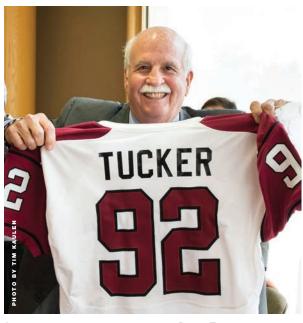
This spring, following a glittering career that has taken the beloved and respected Tucker to numerous countries around the world, he announced his retirement to begin the next phase of his colorful life journey.

For the past 23 years, Tucker, the Paul Mellon University Professor of Applied Linguistics, has been a member of the Dietrich College of Humanities and Social Sciences' Modern Languages Department, where his sunny office was decorated with a McGill University football jersey.

While Tucker was admitted to graduate programs at schools including Yale and Michigan, he decided to attend McGill because "I could play intercollegiate football there," he said with a laugh.

That, and he could study bilingualism and psycholinguistics at McGill, subjects he became interested in after rooming with a fellow from Hong Kong at Williams College, where he earned his undergraduate degree before studying abroad in that very city.

By the time Tucker moved to



At a reception in his honor, Dick Tucker was presented with a #92 CMU football jersey in recognition of his arrival at CMU in 1992.

Pittsburgh to join CMU's faculty, he had, among other things, participated in a longitudinal study that resulted in the availability of language immersion education in all Canadian provinces and in much of the United States. While serving as president of the Center for Applied Linguistics (CAL) in Washington, D.C., he increased the organization's annual budget, nearly tripled its staff and oversaw the opening of CAL field offices in the U.S. and overseas.

A proven leader, Tucker took the helm of the Modern Languages Department after only three years on the faculty and led it for a dozen more. During his successful tenure, Tucker gave shape to

Leave the Driving to CHIMP



DRIVING A CAR WAS ONE OF THE TASKS CHIMP ACCOMPLISHED DURING THE DARPA CHALLENGE THAT PITTED 24 OF THE WORLD'S MOST ADVANCED ROBOTS AGAINST EACH OTHER IN A TEST OF THEIR ABILITY TO RESPOND TO DISASTERS. DEVELOPED BY CMU'S TARTAN RESCUE TEAM, CHIMP PLACED THIRD AND WON \$500,000. the department's educational mission, scholarship and culture, and was instrumental in establishing its Ph.D. program in second language acquisition.

Not surprisingly, when he stepped down as department head, he was immediately tapped to serve in a variety of top administrative roles.

"I cannot think of anyone at CMU in the last two decades who has had such a varied and important set of institution-building roles as Dick," said Mark Kamlet, University Professor of Economics and Public

Policy and provost emeritus. "In these roles he accomplished such a great deal and always did so in a contagiously enthusiastic and constructive fashion."

Colleagues including Susan Polansky, who succeeded Tucker as department head in 2007, attribute Tucker's success in large part to his communal approach.

"Everywhere Dick has contributed, he has been a vital force promoting positive growth and a strong sense of community," Polansky said.

John Lehoczky, former Dietrich College dean, called Tucker's retirement "bittersweet," saying he is "an all around great guy from all corners of campus."

He said Tucker was a "great, outstanding department head."

Richard Scheines, current dean of the Dietrich College, called Tucker the whole package, saying he is made up of "all of the attributes that we need to make a university great," and it is extremely rare to h9ave that "rolled up in one person."

Indira Nair, University Professor of Engineering and Public Policy, and vice provost emeritus, echoed the sentiment.

"[Dick has] respect and love for diverse voices and opinions," Nair said. "I realized that this is the foundation of the great, welcoming atmosphere of the Department of Modern Languages that continues under Susan Polansky."

Nair called Tucker "one of her heroes of leadership," a "world citizen and renowned scholar" and "a dear friend and mentor," whom she often turned to for advice.

Polansky added that Tucker is a "role model" and a "statesman with a huge, generous heart."

"There are many words, and still they are inadequate, to describe Dick and the extraordinary impact he has had on the Department of Modern Languages, the Dietrich College, and this entire university. We will miss him," Polansky said.

CONGRATULATIONS, AND THANK YOU!

During this year's commencement ceremony, Interim Provost Nathan Urban recognized 11 faculty members — "scholars, scientists, artists and, above all, teachers" — who retired at the conclusion of the 2014-15 academic year. He thanked them for their commitment and service to Carnegie Mellon.

This year's faculty retirees are:

Patricia Bellan-Gillen

Stubnitz Professor of Art School of Art

Alfred Blumstein

J. Erik Jonsson University Professor of Urban Systems and Operations Research Heinz College

Edmund M. Clarke

Fore Systems University Professor Department of Computer Science

Chris Hendrickson

Hamerschlag University Professor Civil and Environmental Engineering

Thomas M. Keating

Assistant Teaching Professor Department of Computer Science

Wojciech Maly

U.A. and Helen Whitaker Professor Department of Electrical and Computer Engineering

Jack Mostow

Research Professor Robotics Institute

Charles Neuman Professor

Department of Electrical and Computer Engineering

Joan Stein

Principal Librarian for Assessment, Marketing and Training University Libraries

Donald Sutton

Professor of History and Anthropology Department of History

G. Richard Tucker

Paul Mellon University Professor of Applied Linguistics Department of Modern Languages

COMMENCEMENT 2015



Embracing uncertainty — even the weather under threatening skies — was the overarching theme at Carnegie Mellon's 118th Commencement.

"Uncertainty can be good," said keynote speaker Alan Alda, whom Nathan Urban called a "CMU kind of guy" for his passion for the arts, science and technology.

"I think the way to handle it is not to resist, but to surf uncertainty. Keep your balance, stay agile and expect the unexpected bumps," he said.

Alda encouraged the graduates to live their values. "Your values really are not so much what you say as what you do. The more you bring those two things in line the easier it may be to get where you're going," he said. "But things do take time. Getting your brain or your body in shape takes more than a weekend, no matter what they tell you in the brochure."

Alda parted with some humorous words of wisdom. "If all else fails, floss and wear your sunscreen." President Subra Suresh said the Class of 2015 was uniquely qualified for the next chapter in their lives. "As you anticipate your next endeavor, I want to encourage you to do so confident in the knowledge that CMU has equipped you for whatever comes next, and in ways that are totally unpredictable today and that you might not yet recognize," Suresh said.

Noting Alda's achievement of being nominated for an Oscar, Tony and Emmy Award, and publishing a bestseller, all in one year, Suresh predicted that someday CMU would be the likely place to produce an alumnus who would in one year win those performance awards, write a bestseller and also win a Turing Prize and Nobel Prize.

Parting shots: (clockwise from left) Alpha Kappa Delta Phi sisters toss their caps in the air; student speaker Brooke Kuei gives Maggie's tired legs a break; newly minted grads take a selfie; Phi Delta Theta brothers ham things up; Alda gives a parting wave; and it's thumbs up for Civil and Environmental Engineering grads.









