



the PIPER

CMU'S NEWS SOURCE FOR FACULTY & STAFF

2/13 ISSUE

Carnegie Mellon University

CMU Names 9th President; Meet Him Feb. 21



SUBRA SURESH

■ Piper Staff

Carnegie Mellon's Board of Trustees has unanimously approved the selection of Subra Suresh as the university's ninth president, succeeding Jared L. Cohon, who is stepping down from the position after 16 years. Suresh will assume the post on July 1.

A welcome celebration for Suresh, his wife, Mary (Delmar), and their

daughters, Nina and Meera, will be held on the Pittsburgh campus on Thursday, Feb. 21. Further details will be announced.

Suresh is the director of the National Science Foundation (NSF), a \$7-billion independent government science agency charged with advancing all fields of fundamental science, engineering research and education. He was nominated in

2010 to be NSF director by President Barack Obama and unanimously confirmed by the U.S. Senate.

Previously, Suresh served as the dean of the School of Engineering at the Massachusetts Institute of Technology (MIT). He is on leave as the Vannevar Bush Professor of Engineering at MIT while serving as director of NSF.

CONTINUED ON PAGE FIVE

A More Welcoming Place

President Cohon Looks Behind the Numbers

■ Bruce Gerson

President Jared L. Cohon has been a champion for increasing diversity at Carnegie Mellon. And the effects of that are evident.

Statistically, there have been successes, notably in undergraduate enrollment, and Cohon admits there have been struggles and challenges, which will continue, he said, but it's behind the numbers where the university seems to have taken the biggest step forward.

"We've made a lot of progress. Some of that progress is very hard to measure, if it's even measurable at all. Much of it is anecdotal, but when I talk to faculty who have been here for the 16 years I've been here, staff as well, they will say to me we are a more welcoming university than we were 16 years ago. And I'd like to think we

CONTINUED ON PAGE TEN

Mission to Mars



PHOTO BY NORA SWISHER

DIANE TURNSHEK, A PHYSICS LAB TECHNICIAN, LECTURER AND WRITER, SPENT CHRISTMAS AT THE MARS DESERT RESEARCH STATION SIMULATION IN UTAH. TURNSHEK WAS ONE OF SEVERAL MEMBERS OF THE CMU COMMUNITY TO SPEND TIME THERE THIS WINTER. READ MORE ON PAGE 12.

Faculty Study Meter Rates

Focus is on Margaret Morrison, Schenley Dr.

TWO TEPPER SCHOOL FACULTY MEMBERS ARE WORKING WITH THE CITY OF PITTSBURGH TO OPTIMIZE STREET PARKING. SEE PAGE SEVEN.



PHOTO BY MARK BURD

Garrett Named CIT Dean

Alumnus Tapped for Leadership, Innovative Research, Teaching Excellence

■ Chriss Swaney

Carnegie Mellon is all in the family with the Garretts.

James H. Garrett Jr., a three-time CMU graduate in civil and environmental engineering and CMU faculty member renowned for his teaching and research aimed at improving the nation's infrastructure, became the new dean of the College of Engineering Jan. 1.

The three-time alum has three other connections to CMU — his wife, son and daughter. He is married to Ruth-Ann, a 1983 CEE graduate. His son, Patrick, earned his bachelor's degree in CEE in 2012 and his daughter, Ellen, graduated from the College of Fine Arts in 2011.

Garrett said he was honored and excited to be the next dean of CIT.

"I greatly look forward to engaging with the entire CIT community, and the greater university community, in discussions of existing and new education and research initiatives in CIT. I also plan to explore the initiatives that will improve the quality of life for faculty, students and staff and strengthen the college and university," Garrett said.

He succeeds Pradeep K. Khosla, who left in August to become chancellor of the University of California, San Diego.

"We know Jim's broad experience in research, teaching and creating meaningful partnerships with business and

industry make him an excellent choice to head our outstanding College of Engineering," said Mark S. Kamlet, provost and executive vice president.

A CIT faculty member since 1990 who earned his bachelor's (CE'82), master's (CE'83) and Ph.D. (CE'86) at CMU, Garrett has demonstrated leadership in research and education initiatives with Carnegie Mellon and internationally.

He was head of the top-ranked Department of Civil and Environmental Engineering (CEE) and co-director of the Pennsylvania Smarter Infrastructure Incubator (PSII), which is a research center aimed at creating, applying and evaluating applications of sensing, data analytics and intelligent decision support for improving the construction, management and operation of infrastructure systems.

Working closely with colleagues from IBM, Garrett established the IBM Smarter Infrastructure Lab, a research facility within the PSII.

During his tenure as CEE department head, the department successfully hired, mentored and promoted faculty, major investments in the educational and research facilities were made, and the department rankings remained very strong.

Garrett also has been successful in adding significant endowment for several named graduate fellowships, graduate travel support, strategic initiatives and a faculty chair honoring former Provost and CEE Professor Paul Christiano.

Garrett's research and teaching interests are oriented toward applications of sensors and sensor systems to civil infrastructure condition assessment; application of data-mining and machine learning techniques for infrastructure management problems in civil and envi-



JAMES H. GARRETT

ronmental engineering; mobile-hardware software systems for field applications; and representations and processing strategies to support the use of engineering codes, standards, specifications and knowledge-based decision support systems.

Prior to becoming department head in 2006, Garrett served for six years as an associate dean for Academic Affairs in the College of Engineering.

Elected a fellow of the American Society of Civil Engineers (ASCE) in 2009, Garrett has received numerous awards, including the 2007 Steven J. Fenves Award for Systems Research at

Carnegie Mellon, the 2006 ASCE Computing in Civil Engineering Award and the 2001 ASCE Journal of Computing in Civil Engineering Best Paper Award for a paper he co-authored with Han Kiliccote, titled "Standards Usage Language (SUL): An Abstraction Boundary Between Design Systems and Standards Processors."

Before joining CMU as a faculty member, Garrett was an assistant professor in the Department of Civil Engineering at the University of Illinois at Urbana-Champaign from 1987-1990. He worked for Schlumberger Well Services in the Houston Downhole Sensors Division from 1986-1987.



the PIPER

WINNER OF A 2012 GOLD CUPPIE AWARD FOR EXCELLENCE
2/13 ISSUE

PUBLISHER
Teresa Thomas

EDITOR
Bruce Gerson

MANAGING EDITOR
Heidi Opdyke

WRITERS

Mark Burd	Shilo Rea
Jocelyn Duffy	Abby Simmons
Bruce Gerson	Chriss Swaney
Sarah Nightingale	Ken Walters
Heidi Opdyke	Pam Wigley

CONTRIBUTORS

Lauren Goshinski	Kristen Sabol
Richard Lynch	Dennis Schebetta

DESIGNER
Melissa Stoebe
Communications Design and Photography Group

PHOTOGRAPHY
Ken Andreyo, Tim Kaulen
Communications Design and Photography Group

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

Carnegie Mellon University does not discriminate in admission, employment, or administration of its programs or activities on the basis of race, color, national origin, sex, handicap or disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Furthermore, Carnegie Mellon University does not discriminate and is required not to discriminate in violation of federal, state, or local laws or executive orders.

Inquiries concerning the application of and compliance with this statement should be directed to the vice president for campus affairs, Carnegie Mellon University, 5000 Forbes 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.

Produced for Media Relations by The Communications Design and Photography Group, February 2013, 13-342.

CMU To Co-host Pittsburgh Innovation Party

■ Ken Walters

Carnegie Mellon and the Pittsburgh Technology Council have joined forces to stage the Pittsburgh Innovation Party at South by Southwest (SXSW), a tech, music and media conference in Austin, Texas. The party, which will be open to SXSW Film and Interactive registrants, will highlight the best of Pittsburgh innovation and include a showcase of projects featuring companies and students.

AUSTIN TX



MUSIC
FILM
INTERACTIVE

MARCH 8-17

2013

An officially sponsored SXSW event, the party will be held from 9 p.m. to 2 a.m. on Saturday, March 9 in downtown Austin, and will be promoted through SXSW marketing channels to the more than 40,000 conference attendees. There will be an invite-only VIP networking event from 8 to 9 p.m. prior to the general event.

While Pittsburgh companies and students have always gone to SXSW — and some have hosted their own events — this marks the first time the city has come together to organize a sponsored event, said Brad Stephenson, director of online strategy for CMU's Heinz College, a lead sponsor along with CMU's Human-Computer Interaction Institute (HCII).

If other CMU organizations are interested in helping sponsor the event, they should contact Stephenson at 412-268-3695. Supporting sponsors include AlphaLab, The Entertainment Technology Center, Steeltown Entertainment and CMU University Advancement. The event also is supported by the Claude Worthington Benedum Foundation and the SPARK Kids & Creativity Network.

Scoring a Scholarship

Student's Interest in Soccer Nets Opportunities in Education City

■ Sarah Nightingale

Aayush Karki, a top student from Nepal's Kathmandu Valley, has soccer to thank for heading to Carnegie Mellon Qatar, majoring in computer science and receiving a full, four-year H.E. Sheikh Nasser bin Hamad bin Abdullah Al Thani Scholarship.

Ironically, it took sports to connect Karki with Education City. Even before Qatar Foundation's logo made it onto the shirts of FC Barcelona, Karki read a story online about a partnership between the foundation and the professional soccer club. From there, he discovered Education City, the six American universities that call it home, and, most excitingly, that Carnegie Mellon's world-renowned computer science degree was being offered in Qatar.

In addition to studying computer science at CMU, Karki, who recorded the highest English language score in Nepal at the very selective Budhanilkantha School, said he was drawn to Carnegie Mellon Qatar by its small but diverse community and by being a part of Education City.



AAYUSH KARKI IS THE FIRST H.E. SHEIKH NASSER BIN HAMAD BIN ABDULLAH AL THANI SCHOLARSHIP RECIPIENT AT CARNEGIE MELLON QATAR.

The scholarship will allow Karki to complete his undergraduate degree and attend graduate school.

"To be able to attend Carnegie Mellon was like a dream come true. And I owe this largely to the generosity and

kind spirit of the family who made the scholarship available to me," Karki said. "The scholarship allows me to put my focus entirely on my studies and interests during and after my time at Carnegie Mellon. I am very thankful for this

opportunity."

Karki is the first person to receive the H.E. Sheikh Nasser bin Hamad bin Abdullah Al Thani Scholarship, which was established in 2012 following a \$1 million gift to the university from an anonymous donor. Three additional scholarships will be awarded.

The H.E. Sheikh Nasser bin Hamad bin Abdullah Al Thani Scholarship can be offered to students who qualify for financial aid and apply to any of Carnegie Mellon Qatar's five majors — biological sciences, business administration, computational biology, computer science and information systems.

"We are incredibly appreciative for this commitment to Carnegie Mellon, which helps to attract and support outstanding students who otherwise could not afford to study at a world-renowned institution like Carnegie Mellon," said Ilker Baybars, dean of Carnegie Mellon Qatar.

"I hope this scholarship brings Aayush one step closer to fulfilling his goal of advancing the field of computer science and achieving his dream of bringing technology to underserved communities."

Drama To Rock Purnell with Raucous and Racy "Spring Awakening"

■ Dennis Schebetta

School of Drama actors, crew and directors are gearing up to rock the house with its next production in the Purnell Center's Philip Chosky Theater.

Drama students are rehearsing the pop-musical adaptation and Tony-Award winning play "Spring Awakening" by Duncan Sheik and Steven Sater, directed and choreographed by Tomé Cousin, assistant professor of dance, with musical direction by Thomas Douglas, associate teaching professor of voice.

The original "Spring Awakening" was written by the German dramatist Frank Wedekind in 1891 and created quite a scandal due to its subject nature and racy exploration of adolescent sexuality, abuse and suicide. The newly revised and raucous score by Sheik and Sater was written in 2007, and follows the original story of a group of students as they struggle with repression and double standards from teachers and parents, leading to more confusion and pain. The modern music includes songs such as "The Bitch of Living" and "Touch Me."

"All our plays this season seem to be about the difficulties and the con-



sequences of ill-fated love," says Peter Cooke, head of the School of Drama. "Spring Awakening is a wonderful musical and we're thrilled to have recent addition Tomé Cousin make his directing debut at CMU with this production."

Cousin, a Point Park University alumnus who has spent time in New York, joined the School of Drama faculty in the fall of 2011. Since his return to Pittsburgh he has been busy directing

around town, most recently directing and choreographing "The Producers" at Point Park Conservatory Theatre Company.

"Spring Awakening" begins performances in the Philip Chosky

Theater Feb. 21 and runs until March 2. Ticket prices begin at \$15 for adults and \$10 for students. For complete ticket prices and ticket orders, call the School of Drama box office at 412-268-2407.



WE ARE MAKING A DIFFERENCE. CARNEGIE MELLON HAS CROSSED THE \$1 BILLION MILESTONE OF OUR INSPIRE INNOVATION CAMPAIGN. BUT WE ARE NOT DONE YET. THANKS IN PART TO THE SUPPORT OF THE CMU CAMPUS COMMUNITY, WE ARE EXPERIENCING THE AMAZING IMPACT THE CAMPAIGN HAS GENERATED ACROSS THE ENTIRE UNIVERSITY. VISIT CMU.EDU/CAMPAIGN FOR THE LATEST CAMPAIGN NEWS AND PROGRESS, OR TO MAKE YOUR GIFT TODAY. PROGRESS SINCE DECEMBER 1, 2012: \$11,642,838.

LECTURE SPOTLIGHT: DICKSON PRIZE WINNER STUDIES GREENHOUSE GAS EFFECT ON OCEANS

■ Jocelyn Duffy

Carbon dioxide emissions have skyrocketed since the industrial revolution, leading to calamitous consequences. While much attention has been paid to the atmospheric effects of CO₂ and its contributions to global warming, the release of the greenhouse gas also is dramatically altering our oceans.

About one-quarter of the CO₂ released into the atmosphere gets absorbed into the Earth's oceans. As the amount of CO₂ in the oceans increases, the pH of the water decreases, a process referred to as ocean acidification. Over time, acidification could lead to large-scale changes in the ocean's ecosystem, which some say could lead to crashes in fisheries stock and the disappearance of coral reefs.

The recipient of the 2012 Dickson Prize in Science, François M. M.



FRANÇOIS M. M. MOREL

Morel, the Albert G. Blanke Professor of Geosciences at Princeton University, is world renowned for his contributions to understanding the biological and chemical processes that influence the marine ecosystem.

WHAT: DICKSON PRIZE LECTURE, "OCEAN ACIDIFICATION: CAUSES, TIME SCALES AND CONSEQUENCES"

WHEN: 4:30 P.M., MONDAY, MARCH 4

WHERE: MCCONOMY AUDITORIUM

During this year's Dickson Prize Lecture, titled "Ocean Acidification: Causes, Time Scales and Consequences," Morel will discuss how the increasing CO₂ concentration in the oceans and resulting drop in pH impact key processes, such as photosynthesis and nitrogen fixation. The lecture, which is free and open to the public, will be held at 4:30 p.m., Monday, March 4 in McConomy Auditorium.

Morel's work has been widely recognized by the scientific community.

A member of the National Academy of Sciences, he was awarded the C.C. Patterson Medal from the Geochemical Society, the Maurice Ewing Medal from the American Geophysical Union, the Urey Medal from the European Association for Geochemistry and the ENI Award's Protection of the Environment Prize.

Given annually since 1970, the Dickson Prize in Science is awarded by Carnegie Mellon to an individual who has made outstanding contributions to science in the United States.

Unordinary Eyes

Documentarian Profiles Writer in Exile

■ Heidi Opdyke

Andy Prisbylla describes the world through a camera lens and pen.

You can see some of his descriptions through his documentary photography in "Writer-in-Exile: Israel Centeno & City of Asylum Pittsburgh," now on display on Hunt Library's fourth floor through March 10.

"My work tends to meld writing and photography. The photos wouldn't work without the captions and the captions wouldn't work without the photos," said Prisbylla, a staff member in the Hunt Library mailroom. "I want to tell a beautiful story and learn something about somebody's life, which through ordinary eyes you may not be able to see."

The exhibit features City of Asylum and writer Israel Centeno. Founded in 2004 by Henry Reese and artist Diane Samuels, the nonprofit organization located in Pittsburgh's Mexican War Streets neighborhood provides a safe harbor to exiled authors who have experienced oppression and persecution in their home countries. The group provides a number of additional literary programs to encourage cross-cultural exchanges and is planning to open a bookstore and literary center in the future.

The organization's signature program offers a two-year residency for writers-in-exile, who are provided a living wage, medical coverage and help in transitioning to a permanent residency.

Reese said that Prisbylla spent several days with Centeno on the project.

"He really put his whole heart into it, which is really impressive," Reese said.

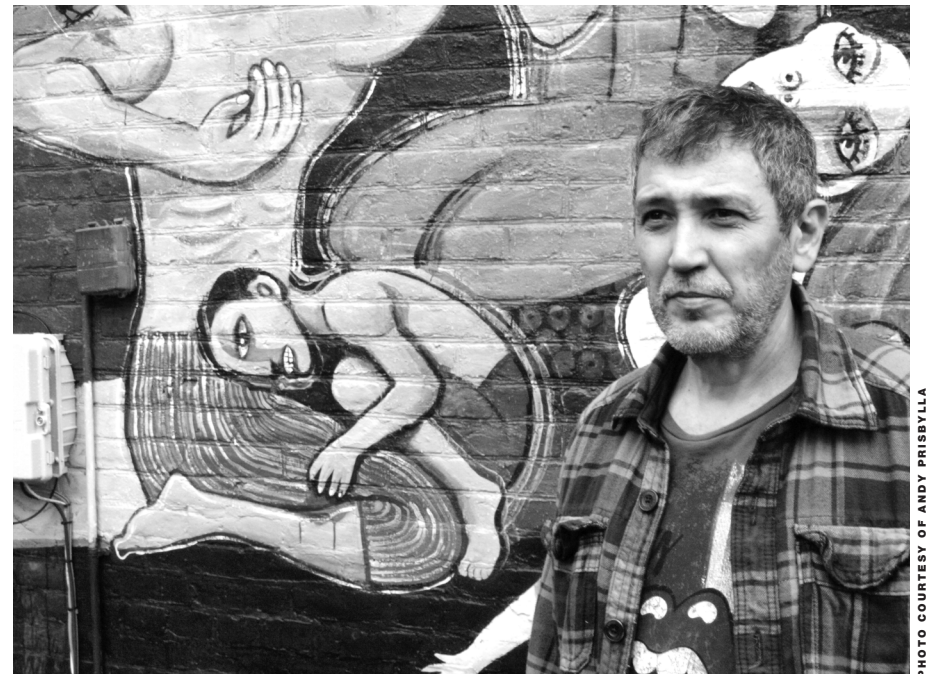
Centeno, a Venezuelan writer with more than a dozen books to his credit,

has been in the program since 2010. As part of his exhibit, Prisbylla interviewed Centeno about his persecution by Hugo Chavez' government. His arm was broken and his car damaged.

"In this moment, we have historical evidence of victimization in Venezuela," Centeno is quoted in Prisbylla's captions. "The political thing was very strong for everybody, and for the dissident even more. The regime made threats against my life and threats against my daughter. Still during this time I maintained a militant attitude against the government, but after this I went against this militant attitude and focused on my writing."

Prisbylla called Centeno impassioned and willing to put everything on the line just to be able to write.

"When I saw the trouble that he went through — he's writing novels in a country where you say the least little thing you're going to be persecuted for that — it kind of made me wonder if I



ISRAEL CENTENO IS A VENEZUELAN AUTHOR AND THE SUBJECT OF AN EXHIBIT ON DISPLAY AT THE HUNT LIBRARY THROUGH MARCH 10.

"My time spent with Israel was a revealing one. As an independent documentarian I seek to tell interesting stories, but rarely acknowledge the inalienable right I have to do so. I learned we must remember to value our ability to make statements, regardless of their popularity or dissent, for there are others

An alumnus of Kent State University, he is a contributor to PhotoPhilanthropy.org, Akron Life Magazine and BenevolentMedia.org.

His book/portfolio of artist Brinsley Tyrrell's public art space, "Behind the Brain Plaza," was published and accepted into the Special Collections section of the Kent State Library. He is a member of the National Press Photographers Association, and his work has been used by various nonprofit organizations for marketing and fundraising purposes.

Prisbylla's next project will be chronicling the working class and unions. He said his photography has been influenced by the New York Photography League, a group of working-class people who held regular jobs but would document the lives around them during the mid-1900s.

"I'm inspired by that aesthetic of living the creative life and still working doing what needs to be done," he said.



ONLINE

FOR MORE INFORMATION ON CITY OF ASYLUM VISIT

CITYOFASYLUMPITTSBURGH.ORG

TO VIEW MORE OF PRISBYLLA'S WORK, VISIT WWW.ANDYP.ORG

take for granted the advantages I have, being able to tell these stories," he said.

During their time together Centeno gave Prisbylla candid insight into his life in exile, recounted his tumultuous and nearly fatal time in Venezuela under the Chavez regime, discussed his ever-growing body of novels and poetry, and expressed his hope and humor about the future.

who don't share this liberty," he wrote in his artist's statement for the exhibit.

Prisbylla, originally from Steubenville, Ohio, moved to Pittsburgh in 2011, and has been at Carnegie Mellon since last May.

"Since I've been here I've found I really enjoy CMU, the people here are great and I really enjoy the job," he said.

Dietrich College Faculty Brief Lawmakers

■ Shilo Rea

Carnegie Mellon's Jendayi Frazer joined Oscar winner Ben Affleck, founder of the Eastern Congo Initiative, and others at a briefing before the House Armed Services Committee. The panelists updated the committee on the evolving security situation in the Democratic Republic of the Congo (DRC) and the implications for U.S. National Security.

Frazer, a distinguished service professor in the Dietrich College and the Heinz College and director of the Center for International Policy and Innovation, is a leading architect of U.S.-Africa policy over the last decade. She most recently served as the U.S. Assistant Secretary of State for African Affairs from August 2005 to January 2009 and previously as the U.S. ambassador to South Africa.

This past December and January, Joseph B. (Jay) Kadane briefed Capitol Hill lawmakers on how Argentina's government has been repressing statisticians. For the past several years, Argentina's government has not provided accurate statistics on the country's inflation rates. In fact, to prevent truthful figures from being released, the government has gone so far as firing staff at its national



JENDAYI FRAZER AND BEN AFFLECK WERE AMONG PANELISTS AT A RECENT CONGRESSIONAL BRIEFING.

PHOTO COURTESY OF THE HOUSE ARMED SERVICES COMMITTEE

statistics agency and fining and filing criminal charges against statisticians who publish inflation estimates that are not approved by the government.

Kadane, who recently became chair of the American Statistical Association (ASA) Committee on Scientific Freedom and Human Rights, urged

lawmakers to implement policies that will protect statisticians from persecution by countries that commit such egregious violations of human rights.

"It is time to stop writing letters and figure out a way to prevent Argentina's government from prohibiting the independent reporting of statistics,"

Kadane said. "The rights to free speech and press in Argentina are at stake. We must implement strategies to stop this from happening in Argentina and to deter other governments from engaging in similar behaviors."

KADANE'S LATEST BOOK NAMED 2012 OUTSTANDING ACADEMIC TITLE

■ Shilo Rea

Choice, the magazine published by the Association of College and Research Libraries (ACRL), has named Carnegie Mellon's Joseph B. (Jay) Kadane's latest book, "Principles of Uncertainty," as an Outstanding Academic Title for 2012.

Widely considered to be the premier source for reviews of scholarly titles, Choice annually recognizes the most significant print and electronic works it reviews in a calendar year. The 2012 honorees include 644 titles in 54 disciplines and subsections.

"Libraries worldwide rely on Choice to guide their selection decisions," said Gloriana St. Clair, dean of University Libraries. "The books on this distinguished list represent the top one tenth of one percent of scholarly offerings."

In its February 2012 issue, Choice highly recommended "Principles of Uncertainty" and called it "remarkable."

Kadane, the Leonard J. Savage University Professor of Statistics and Social Sciences, Emeritus, considers statistics to be an adventure in understanding how people make decisions and draw conclusions from data. Throughout his career, he used the Bayesian theory, both in its decision-theoretic foundations and in problems of elicitation and computation, to solve political science, law, physics, medicine



JOSEPH B. (JAY) KADANE

and computer science problems. Kadane drew on his vast experiences in "Principles of Uncertainty" as an effort to explain Bayesian statistics and math.

In August 2012, the International Society for Bayesian Analysis awarded "Principles of Uncertainty" its coveted DeGroot Prize, which is given every two years to honor an outstanding statistics science book. The award was established to recognize Morris H. (Morrie) DeGroot, the founding head of Carnegie Mellon's Department of Statistics and renowned author of statistics and decision theory books.

CMU Names Ninth President

CONTINUED FROM PAGE ONE

"Dr. Suresh possesses the strategic vision, international expertise and commitment to technology research and education that will continue to build CMU's reputation as a world leader in higher education," said Ray Lane, partner at Kleiner Perkins, chairman of Hewlett-Packard and chairman of Carnegie Mellon's Board of Trustees.

CMU established a 17-member presidential search committee, featuring trustees, faculty and alumni. James Rohr, chairman and CEO of PNC Financial Services Group and CMU life trustee, served as chairman of the committee. The faculty committee was chaired by Anthony Rollett, former chair of the Faculty Senate and professor in the Department of Materials Science and Engineering.

"I am truly honored to have the opportunity to lead Carnegie Mellon University as its ninth president," Suresh said. "The extraordinary ability of the CMU faculty and students in bringing together cutting-edge research and education across multiple disciplines positions CMU uniquely to address national and global challenges. I look forward to working with the CMU community to further our global impact."

While at NSF, Suresh launched several initiatives aimed at furthering innovation, interdisciplinary research, global engagement, international collaboration and human capital development, as well as broadening participation.

Under his leadership, and in response to an invitation from the White House Office of Science and Technology Policy, NSF hosted a Global Summit on Scientific Merit Review in May 2012. This summit included the participation, for the first time, of the heads of leading science funding agencies from nearly 50 countries.

"Dr. Suresh's ability to bring groups together to solve problems fits perfectly with Carnegie Mellon's collaborative and interdisciplinary approach," Rohr said. "Along with his global expertise, CMU will benefit from his work as a researcher, educator and entrepreneur."

Suresh received his bachelor's degree with distinction from the Indian Institute of Technology, Madras, a master's degree from Iowa State University and a Ph.D. from MIT.

For more biographical information, visit www.cmu.edu/news/stories/archives/2013/february/feb5_ninthpresident.html.

Young Innovators

Entrepreneurs Fund Greenlights 6 More Alumni Startups

■ Ken Walters

Ryan Bove (DC'12) and his business partner Doug Foster each had a problem. Foster has celiac's disease and Bove a gluten intolerance that require them to avoid wheat. That meant no beer, until now.

They solved their problem and quenched their thirst by creating a gluten-free beer in several flavors.

"Our immediate goal is to bring our beer to the local area," Bove said. "The gluten-free consumer is really underserved, and so we want to go out there and get our beer to as many customers as possible."

To help their Aurochs Brewing Company reach their market goal, the business was recently named one of six recipients of Carnegie Mellon's Open Field Entrepreneurs Fund (OFEF) award.

The fund, established by CMU alumnus and Flip Video Camera creator Jonathan Kaplan and his wife, Marci Glazer, provides early-stage business financing and support to alumni who have graduated from CMU in the last five years.

"Open Field is dedicated to helping Carnegie Mellon graduates dream big and create the next great product or service," said Kaplan, a five-time entrepreneur. "We are pleased to provide these investments and encouraged by the success previous Open Field recipients have experienced in just a few short months."

Since June 2012, the OFEF has provided support to 16 startup companies from across the country and a variety of industries. The most recent award recipients operate in the medical, technology, consumer and educational fields.

Tunessence is another recent OFEF recipient. Alexander Soto (E'11) and Matthew Bauch (E'12) want to use technology to make learning to play music more fun and accessible. The company is starting with guitars but hopes to branch out in the future into other instruments.

"The analogy would be the Rosetta Stone for music," Soto said. "I want to help people teach all of the instruments and show how you can bring technology into music classrooms."

Bove and Soto credit CMU's network of advisers in helping them prepare to launch their businesses. Prior to winning an OFEF award, both companies were a part of AlphaLab, a startup accelerator in Pittsburgh, and Aurochs Brewing Company was part of the university and Innovation Works' i6 program, which helps commercialize university research and nurture local startups.

"It's a great environment. I expect the next five years to get even better," Bove said.

The OFEF is part of CMU's Greenlighting Startups initiative, which is designed to speed CMU faculty and student innovations from the research lab to the marketplace.

CMU's entrepreneurial culture has helped to create more than 300 companies and 9,000 jobs over the past 15 years, and CMU spinoffs represent 34 percent of the total companies created in Pennsylvania based on university technologies in the past five years.

The OFEF provides \$50,000 in matching investment to each recipient, who also gain access to other funding

sources, receive personalized mentoring and attend an annual OFEF business workshop. The university will provide legal and accounting support for OFEF recipients. Peter Stern, a CMU classmate of Kaplan, CEO of Bitly and a serial entrepreneur, will be providing advisory support for the fund, as well as serving as a mentor to one of the OFEF award recipients. The fund will select award recipients biannually.

Mentors will be assigned to each OFEF award recipient, including select CMU alumni who are serial entrepreneurs who have helped to create more

than of \$1 billion in shareholder value. Mentors also will include entrepreneurs based at Carnegie Mellon, including OFEF Managing Director Dave Mawhinney, a professor of entrepreneurship and four-time entrepreneur.

Bove and Soto credit Mawhinney; Art Boni, director of the Donald H. Jones Center for Entrepreneurship; and Kit Needham, senior business adviser for Project Olympus, for providing guidance and support.

"The support networks have been instrumental," Bove said.

2013 OPEN FIELD ENTREPRENEURS FUND AWARD RECIPIENTS

ActivAided Orthotics, Pittsburgh

Kelly Collier (E'11)



ActivAided Orthotics has created a line of postural training apparel to eliminate back pain by training rehabilitative habits and behaviors to address and correct the root causes of spine disorders and back pain. The company developed a product that offers continuous care in a convenient, effective, wearable treatment for long-term relief of back pain. Its first product, "RecoveryAid," was released in July 2012 after beta testing found that 89 percent of users experienced a decrease in back pain.

Aurochs Brewing Company, Pittsburgh

Ryan Bove (DC'12)

Aurochs Brewing Company uses unique ingredients to provide great



tasting craft beers that are naturally gluten-free. The company is commercializing a brewing method that is

not currently available in the United States. This technology allows Aurochs to brew with the grains millet, quinoa, buckwheat and amaranth. The product addresses a void for the millions of Americans who follow a gluten-free diet for medical reasons and those who choose to follow the gluten-free diet for improved health and well-being.

PECA Labs, Pittsburgh

Doug Bernstein (E'12)



PECA Labs' Masa Valve is the first valved conduit to be specifically designed for pediatric heart conduit reconstruction. The valve is specifically designed with the needs of pediatric patients in mind, unlike current options on the market, and reduces the need for additional surgeries. With implantation in 49 people for more than four years and excellent results, the Masa Valve is fully developed, clinically validated and going through the FDA approval process. Clinical results have shown that the Masa Valve should save children from one-to-two open-heart surgeries during the course of their pediatric years.

Pixite, San Diego

Scott Sykora (A'12)



Pixite is a software development company focusing on delivering high-quality photography apps to the market. Pixite is developing a revolutionary service that will provide a seamless photo management and viewing experience across computers, tablets and smartphones. Unlike current solutions, Pixite's app-centric approach will offer an elegant user experience for sharing and organizing albums, ultimately allowing users to do more with their photos, be more organized and save time.

StatEasy, Pittsburgh

Tom Matta (DC, E'07)

Mike Ressler (CS'02)

StatEasy provides a free and easy-to-use platform to high school and collegiate teams



to manage statistics and video of their sporting events. Current sports information systems and coaching software programs are expensive, difficult to use and labor intensive. StatEasy's platform makes the process more efficient, and the company generates revenue by selling highlight videos to players, parents, recruiters and television stations. StatEasy currently serves more than 120 teams.

Tunessence, Pittsburgh

Alexander Soto (E'11)

Matthew Bauch (E'12)



Tunessence offers a virtual guitar teacher in your Web browser. While millions of Americans at any given time are trying to learn how to play the guitar, 70 percent of them quit within two months. To make the learning process more engaging, Tunessence combines advanced audio processing software with instructional video to replicate the experience of an in-person lesson in an online setting. The company's software gives note-by-note feedback to the user, tracks progress and generates personalized lesson plans. Lessons also are taught in the context of popular songs as a way to keep users interested.

Bright Idea

Doctoral Student's Work Brings Light To Haitian Households

■ Chriss Swaney

Daniel Schnitzer is helping to reinvent the world. That's the headline describing his recent honor as one of Forbes Magazine's innovators in its "30 Under 30" listing of tomorrow's brightest stars.

Schnitzer, 27, a Ph.D. student in CMU's Department of Engineering and Public Policy (EPP), is one of 30 entrepreneurs under age 30 featured in the magazine's January listing impressive up-and-comers in the energy sector.

"Being named on the Forbes 30 Under 30 list for energy was humbling and a tremendous honor. It's validating to see EarthSpark's work in Haiti being recognized in such a way," said Schnitzer, co-founder and executive director of EarthSpark International. Haitians use more than 10 percent of their household incomes on lighting, which is 20 times what the average U.S. household spends.

Forbes readers and a star-studded panel of industry experts compiled the magazine's "30 Under 30" lists.

Working in Haiti, Schnitzer's Earthspark International creates retail businesses that sell inexpensive solar lighting products and energy-efficient stoves. The

CMU grad student's organization also developed a pay-as-you-go "micro-grid" electric system that has been serving customers with 24-hour electricity since December 2012. More such grids are being planned.

"We are so proud of Dan as he continues to develop problem-solving solutions for a wide range of energy-related challenges in rural communities worldwide," said University Professor M. Granger Morgan, EPP head and director of CMU's newly launched Wilton E. Scott Institute for Energy Innovation.

Schnitzer also was recognized for his efforts in 2010 by President Bill Clinton's Clinton Global Initiative, which convenes global leaders to devise and implement innovative solutions to some of the world's most pressing challenges.

Following the devastating earthquake that struck Haiti in 2010, EarthSpark distributed more than 8,000 solar lamps to women and girls in displaced persons camps in Haiti.

For more information about EarthSpark's micro-grid work and CMU's Schnitzer, see www.youtube.com/watch?v=oVmeH3G_g_I.



BETH ANNE KATZ, LEFT, EXPLAINS THE IROBOTIC HAND DURING BUILD18, A HACKATHON HOSTED BY STUDENTS FEATURING TECH-SAVVY PROJECTS. KATZ WORKED WITH IVANA STEVENS, WINNIE LEUNG AND MILLWE SUKMAR ON THE PROJECT, WHICH CAN DETECT AND MIMIC A HUMAN HAND'S POSITION. THE HAND ALSO CAN PLAY ROCK, PAPER, SCISSORS AGAINST A HUMAN OPPONENT.

Hand Made

Build18 Provides Chance To Create Products

■ Chriss Swaney

More than 140 Carnegie Mellon engineering students tapped into their entrepreneurial DNA with a hackathon, dubbed "Build18," to display a cache of tech savvy prototype products — from a robotic first-aid kit to a bicycle sporting an automatic transmission.

"Build18 is a great opportunity to complement our studies with the application of real-world engineering skills. We use what we have learned in electrical and computer engineering to create a cool product in a very short period of time," said Build18 leader Collin Buchan, a senior electrical and computer engineering (ECE) major from Austin, Texas.

Some of the projects showcased included a robotic Halloween candy dispenser, a programmable T-shirt embedded with LEDs to allow the user to change the graphic design on the fly and a Lego-inspired tool to teach digital logic to high school students.

The festival evolved out of ECE students' desire to designate time during the semester to work on their own creative technical ideas and to realize out-of-the-box solutions to real-world problems.

"We operate under strict deadlines and limited funding as is the case for most entrepreneurial startups," Buchan said.

Faculty Work To Optimize Street Parking Rates

■ Mark Burd

At 50 cents per hour, street parking near the Tepper School of Business was very tough to find. But, today, at \$2 per hour, many spaces, particularly in Schenley Park, are unused.

Two faculty members are working with the City of Pittsburgh to optimize the street parking in the area by instituting a rate schedule that fluctuates each month based on usage. Initially, the hourly rate will drop from \$2 to \$1 on Margaret Morrison Street and portions of Schenley Drive adjacent to Carnegie Mellon. The rate will remain unchanged on Frew Street and Tech Street.

Mark Fichman, an associate professor of organizational behavior and theory, and Stephen Spear, a professor of economics, said they will use economic principles to research the "ideal" rate, which will balance commuter usage with parking revenues.

"Ideally, slightly more than three quarters of available parking spaces should be utilized during normal business periods," Fichman said.

The researchers will monitor parking usage during normal business periods for a year and will determine, on a month-to-month basis, whether street parking rates should be raised or lowered to achieve optimal usage.



PHOTO BY MARK BURD

OPTIMAL PARKING RATES NEAR SCHENLEY PARK ARE THE SUBJECT OF AN ONGOING TEPPER STUDY. COMMENTS AND SUGGESTIONS FOR THE STUDY CAN BE SENT TO CMUPARK@ANDREW.CMU.EDU.

Celebration of the Humanities

Over the past 10 years, Carnegie Mellon has strengthened its standing in the humanities, thanks to distinguished faculty and talented students in the English, History, Modern Languages and Philosophy departments.

To celebrate CMU's excellence in the humanities, the Dietrich College and the Center for Arts in Society will host a program and reception featuring:

Remarks by Dean John Lehoczky

Keynote address by Michael Witmore, director of the Folger Shakespeare Library, on "What is Access: Perspectives on the Archive"

Poster presentations by humanities students

4:30 p.m., Friday, Feb. 15

Reception to follow: Giant Eagle Auditorium, Baker Hall

Learning Science and Engineering

New Program Builds On Big Data, Research And Educational Technology Expertise

■ Ken Walters

A first-of-its-kind program offered at Carnegie Mellon will help create the learning engineers of the future.

The new Learning Science and Engineering Professional Masters' Program at CMU will teach students how to use and analyze "big data" to develop and evaluate educational programs in a variety of settings, including schools, workplaces, museums and other locations. Through the use of data, the program's students can better understand human learning and create educational technologies that increase student achievement.

The program combines the disciplines of computer science, cognitive psychology, education, information technology and design, and builds on CMU's decades-long expertise in creating educational technology solutions. Students will be able to develop and implement advanced tools that use state-of-the-art technologies and methods, such as artificial intelligence and machine learning.

"Technology has really transformed how we teach," said Ken Koedinger, professor at the Human-Computer Interaction Institute and director of the Pittsburgh Science of Learning Center.

"The availability of data on how people learn provides us with the opportunity to create more engaging and effective instruction. We want to create learning engineers — people who not only understand their subject area, but the science behind learning."

One problem with relying only on subject matter experts for course development is that experts can only articulate about 30 percent of their knowledge, Koedinger said. Using data, learning engineers can identify trouble areas for students and address issues that a subject expert may miss.

Graduates of the program will be ready to assume key positions in schools, universities and corporations, he said. These positions include designers, developers and evaluators of educational technologies and learning environments, as well as domain experts, learning technology policymakers and chief learning officers.

Through case studies and real-world applications, students will learn to engineer and implement innovative educational solutions employing "in vivo" experiments and educational data-mining techniques. They will learn how to develop continual improvement programs that identify best practices as well as opportunities for change. Students will gain depth in psychometric and educational data-mining methods, interaction design, cognitive and social psychology principles, design, implementation and evaluation of educational interventions.

The program builds on CMU's work with LearnLab, the Pittsburgh Science of Learning Center (PSLC), which researches instructional methods that lead to robust learning. Sponsored by the National Science Foundation,

PSLC partners include CMU, the University of Pittsburgh and CMU spinoff Carnegie Learning, a leading publisher of innovative, research-based math curricula for middle school, high school and post-secondary students.

SILICON VALLEY CAMPUS ANNOUNCES NEW CONCENTRATION IN SOFTWARE ENGINEERING

■ Sylvia Leong

Computing has transitioned from its earliest form in mainframes, to mini computers, to the PC era, to mobile computing, a significant force in today's society.

With that in mind, Carnegie Mellon's Silicon Valley (CMU-SV) campus has added a concentration in Connected Embedded Systems as part of its Software Engineering master's degree program.

The concentration focuses on the fusion of hardware and software as it relates to cloud-based sensor networks and is available to full-time students.

"The Connected Embedded Systems concentration will equip students for the next generation of computing: 'The Internet of Things,'" says Bob Iannucci, director of the CyLab Mobility Research Center, who will teach the first course this spring.

"If we go forward five or 10 years, we are going to see pervasive sensor networks installed around the world. There is going to be a need for more software written to handle the massive amounts of data coming out of the sensor networks," added Todd Sedano, director of Software Engineering. "We want to prepare CMU-SV students to be future leaders in this space."

"The Internet of Things" includes sensors, actuators and the fusion of the cyber and physical worlds. Students will learn to not only build sensor-laden devices but also how those devices connect to each other and to cloud services.

The new concentration is ideally suited to those who have a background in both software and hardware and are interested in where they intersect.

The Software Engineering program also features a technical track focusing on technical leadership skills and a development management track focusing on project management leadership skills.

SCS Alum Wins Oscar for Technical Achievement

■ Byron Spice

The Academy of Motion Picture Arts and Sciences has announced that Drew Olbrich (CS '92) will receive an Academy Award for his role in creating a system for computer graphics lighting, which has been used for "Shrek," "Madagascar" and other animated DreamWorks features.

Former faculty member Doug James also will receive an award.

Olbrich, along with fellow honorees Lawrence Kesteloot and Daniel Wexler, created Light for PDI/DreamWorks, part of DreamWorks Animation, where he worked until 2006. They will be honored at the academy's annual Scientific and Technical Awards Presentation at The Beverly Hills Hotel Feb. 9.

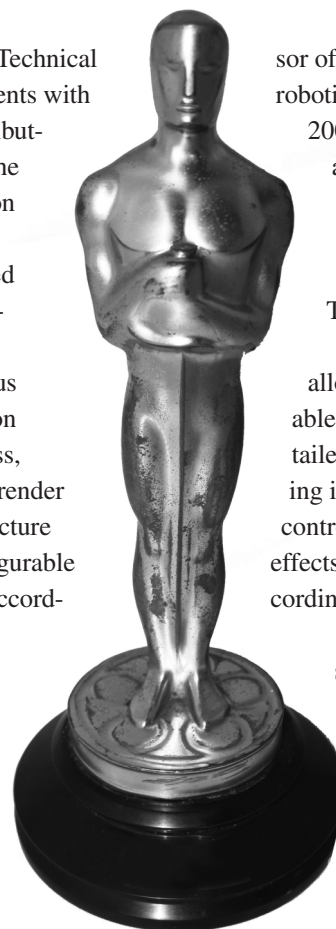
Unlike other Academy Awards to be presented this year, which only recognize achievements of

2012, the Scientific and Technical Awards honor achievements with a proven record of contributing significant value to the process of making motion pictures.

"Virtually unchanged from its original incarnation over 15 years ago, Light is still in continuous use due to its emphasis on interactive responsiveness, final-quality interactive render preview, scalable architecture and powerful user-configurable spreadsheet interface," according to the academy.

Olbrich now works at Jig, which is part of TastyLabs, in Mountain View, Calif.

James, who was an assistant profes-



sor of computer science and robotics at CMU from 2002-2006, will be honored, along with Theodore Kim, Nils Thuerey and Markus Gross, for the invention of Wavelet Turbulence software.

"This technique allowed for fast, art-directable creation of highly detailed gas simulation, making it easier for the artist to control the appearance these effects in the final image," according to the academy.

James is an associate professor of computer science at Cornell University.

New CTO Joins SEI

■ Richard Lynch

Kevin R. Fall, a computer scientist and engineer with broad experience in government and industry, joined Carnegie Mellon's Software Engineering Institute (SEI) Jan. 30 as deputy director for research and chief technology officer.

In this role, Fall will direct the research and development portfolio of the SEI's technical programs in cybersecurity, software architecture, process improvement, measurement and estimating, and unique technical support to sponsors.

Prior to joining the SEI, Fall was principal engineer at Qualcomm, where he worked on adaptive video streaming technology and networking-related programs with QGOV, Qualcomm's government systems subsidiary.

Previously, Fall was co-founder of NetBoost Corp., which was acquired by Intel, where he became a principal engineer. For several years, he also researched simulation, network scalability and protocols at the Lawrence Berkeley National Laboratory.

MLK Writing Awards Gives Voice To Young Adults' Stories

■ Piper Staff

Jim Daniels, professor in the Department of English's Creative Writing Program, established the Martin Luther King, Jr. Day Writing Awards in 1999. The contest guidelines specifically request personal narratives on race and discrimination.

The King Writing Awards provides a common ground for different communities. As part of the university's daylong schedule of discussions and performing arts presentations, the winners of this contest read in Rangos Ballroom.

In addition, each year, a book of award winners' work is published and distributed at the event. An archive of those books is meant to keep the discussion going by making this writing accessible to an even larger audience. Past winners and their work are available online at www.cmu.edu/hss/english/courses/writing-awards/mlk/.

Senior professional writing major Kristen Swanson, whose work is printed here, won first place for College Poetry this year.

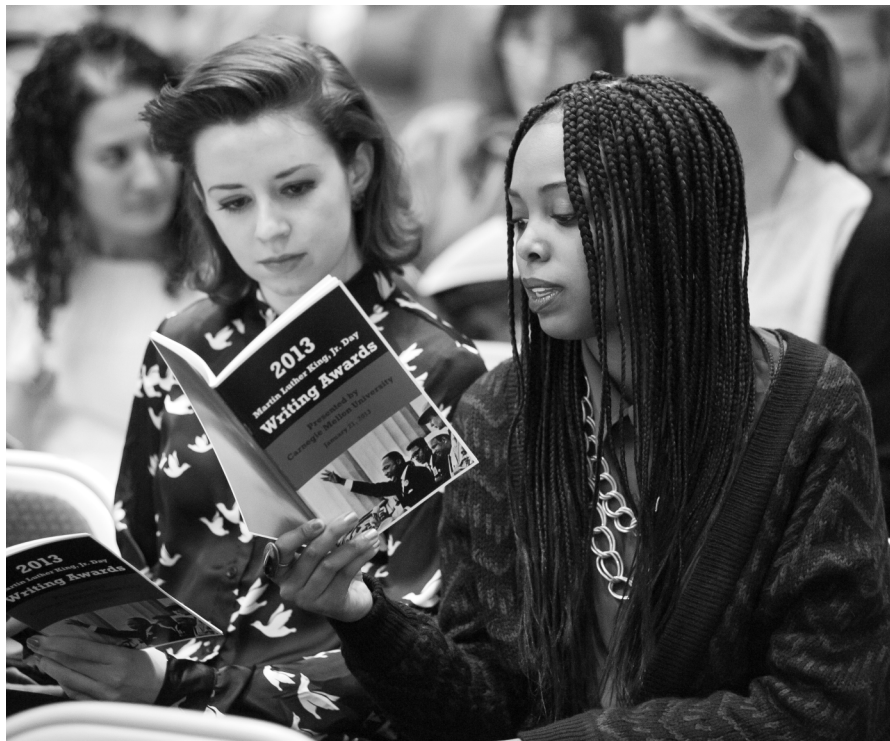
One Shade Too Many

To all the girls who ever judged me

By: Kristen Swanson

Brown, brown, brown,
why are they always trying to pull me
down, down down?

Spanish girls thought because
we all had brown
eyes, that we share Latina pride.



CAROLYN SUPINKA (DC'13) AND JORDAN STEPHENSON (DC'13) READ AT THIS YEAR'S MARTIN LUTHER KING, JR. DAY WRITING AWARDS BOOK. STEPHENSON WON FIRST PLACE IN THE COLLEGE PROSE CONTEST LAST YEAR.

My father left when I was almost two.
Maybe he went back to Mexico—
nobody knew. They thought I
was trying to act tough and bold
because I was Mexican like them.

They thought because we all had brown
hair that looked black when the light
hit just right, that the root of our hair
was longer than the square root
of any number created out of thin air.

We were sistas, homies, tighter
than the braids gripping their scalps—
immigrant children, bilingual beauties.

They thought because we all had
brown skin—they said calling
it that is almost a sin.
“We aren't brown, girl—we're tan,”
we're the caramel light mocha that melts
in your mouth. The sun-kissed chicas
all the boys dream about. A tan that
never fades—we don't need the sun
to make our complexion a perfection.

Brown, brown, brown,
why are they always trying to pull me
down, down down?

White girls thought because
we all had brown
eyes that I grew up in the same suburban
neighborhood. They thought
I was Italian and that it was ironic
I hated pasta—I thought their attitudes
smelled like sour garlic bread.
My mom had speckled freckles around
her light green eyes—
they assumed all my brown,
brown genes came from my dad's side.

They thought because we all had brown
hair, wavy when it rains,
that the same blood ran
through our veins.
That the root of our bond
could be explored
like that math problem in third grade
we could never figure out, but found
the answer to by cheating.

They thought because we all had brown
skin, excuse me—tan, not brown—
I was cool enough to have around.
Tanning-bed skin that that
wasn't just a trend, it was
a marker, a true sign of fitting in.

To all the girls who ever judged me:
I'm Mexican, I'm white, I'm brown,
I'm pale, I'm yellow,
I'm sick of being down.
I'm all the shades you
ever painted me as.
If the world was painted
using a box of crayons,
we'd run out of all the
brown, brown, browns.

STUDY: Grammar Can Undercut Password Security

Researchers Devise Password Cracker Aware of Sentence Structure

■ Byron Spice

When writing or speaking, good grammar helps people make themselves be understood. But when used to concoct a long computer password, grammar — good or bad — provides crucial hints that can help someone crack that password, researchers at Carnegie Mellon have demonstrated.

A team led by Ashwini Rao, a software engineering Ph.D. student in the Institute for Software Research, developed a password-cracking algorithm that took into account grammar and tested it against 1,434 passwords containing 16 or more characters. The grammar-aware cracker surpassed other state-of-the-art password crackers when passwords had grammatical structures, with 10 percent of the dataset cracked exclusively by the team's algorithm.

“We should not blindly rely on the number of words or characters in a password as a measure of its security,” Rao concluded. She will present the

findings on Feb. 20 at the Association for Computing Machinery's Conference on Data and Application Security and Privacy (CODASPY 2013) in San Antonio, Texas.

Basing a password on a phrase or short sentence makes it easier for a user to remember, but the grammatical structure dramatically narrows the possible combinations and sequences of words, she noted.

Likewise, grammar, whether good or bad, necessitates using different parts of speech — nouns, verbs, adjectives, pronouns — that also can undermine security. That's because pronouns are far fewer in number than verbs, verbs fewer than adjectives and adjectives fewer than nouns. So a password composed of “pronoun-verb-adjective-noun,” such as “Shehave3cats” is inherently easier to decode than “Andyhave3cats,” which follows “noun-verb-adjective-noun.” A password that incorporated more nouns would be even more secure.

“I've seen password policies that say, ‘Use five words,’” Rao said. “Well, if four of those words are pronouns, they don't add much security.”

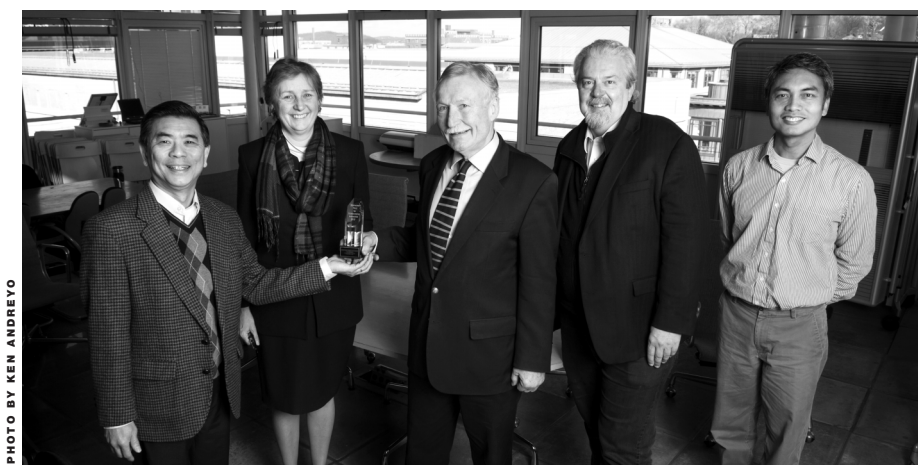
For instance, the team found that the five-word passphrase “Th3r3 can only b3 #1!” was easier to guess than the three-word passphrase “Hammered asi-nine requirements.” Neither the number of words nor the number of characters determined password strength when grammar was involved. The researchers calculated that “My passw0rd is \$uper str0ng!” is 100 times stronger as a passphrase than “Superman is \$uper str0ng!” which in turn is 10,000 times stronger than “Th3r3 can only b3 #1!”

The research was an outgrowth of a class project for a masters-level course at CMU, Rao said. She and Ganand Kini, a fellow CMU graduate student,



and Birendra Jha, a Ph.D. student at MIT, built their password cracker by building a dictionary for each part of speech and identifying a set of grammatical sequences, such as “determiner-adjective-noun” and “noun-verb-adjective-adverb,” that might be used to generate passphrases.

Rao said the grammar-aware password cracker was intended only as a proof of concept and no attempt has been made to optimize its performance. But it is only a matter of time before someone does, she predicted.



FROM LEFT, KHEE POH LAM, VIVIAN LOFTNESS, VOLKER HARTKOPF, STEPHEN LEE AND AZIZAN AZIZ WON THE NSF'S 2013 ALEXANDER SCHWARZKOPF PRIZE.

Architecture Team Wins NSF Prize

■ Pam Wigley

The School of Architecture's Center for Building Performance and Diagnostics (CBPD) team was recently recognized as the winner of the National Science Foundation's (NSF) 2013 Alexander Schwarzkopf Prize for Technological Innovation for its "exemplary research contribution to technology innovation and its positive impact on technology, industry and to the society as a whole."

The CBPD was selected by the Industry University Cooperative Research Center (IUCRC). Team members honored for their contributions are: Volker Hartkopf, director of the CBPD; Stephen

Lee, head of the School of Architecture; University Professor Vivan Loftness; Professor David Archer; Senior Researcher Azizan Aziz and Professor Khee Poh Lam.

The prize to Carnegie Mellon is especially significant, Loftness said, because the NSF has not traditionally recognized building science.

"Now, however, building science is gaining in awareness among engineers, scientists and federal agencies, primarily because of concerns relating to energy consumption and the world's focus on reducing our carbon footprint," she said.

CMU Is a More Welcoming Place

CONTINUED FROM PAGE ONE

are a better university for that as well," said Cohon in his annual State of Diversity address during CMU's Martin Luther King Jr. Day celebration.

"We're a university where students and faculty and staff are more likely to say today [than 16 years ago], 'I feel comfortable here. I feel welcome here. I feel that I have as much of a chance to excel, to realize my potential as any other member of this community.' Which I believe is true, and of course that's the way it should be," Cohon said.

Students, faculty and staff agree. Student Body President Will Weiner (DC'13) said he's found "many great experiences and great people from all over the world" at Carnegie Mellon. And he's seen many students from different backgrounds and cultures working together.

"Everybody has a place in this place, which I think is somewhat the definition of inclusive. Everybody can find a home, find a friend group. There's a lot of acceptance between groups," he said.

History Professor Joe Trotter said he would "unequivocally" say Carnegie Mellon is a more welcoming environment today. He praised President Cohon for making diversity a top priority of the university.

"I'm especially appreciative of the tone he set for diversity," said Trotter, who's been a faculty member for more than 25 years. "I've not seen a president who has been as committed to put himself out on the line to say that he will articulate this as an agenda. Since he's been here, year in and year out, he's been willing to come here and talk to us about the good and the bad news of diversity. And that means that he's willing to embrace the issue."

Don Coffelt, director of Facilities Management Services, said working with a diverse group of individuals with different perspectives is more expected today. He calls it the "new normal."

Suzanne Laurich-McIntyre, assistant vice provost for graduate education, has been at Carnegie Mellon for 10 years. She said she's seen "great change" and credits President Cohon, faculty and departmental initiatives for making a "world of difference."

NEWS BRIEFS

McHenry To Lecture for IEEE Magnetics Society



Michael E. McHenry, a professor in materials science and engineering, will tour the world in 2013 giving more than 30 talks as a distinguished

lecturer of the IEEE (Institute of Electrical and Electronics Engineers) Magnetics Society.

His lecture will focus on the development of high frequency magnetic materials for grid integration of renewable energy sources for bridging the gap between materials development, component design and system analysis, as well as future applications for nanocomposite magnets.

McHenry also is developing new materials and processes for improving the efficiency of multicore transformers. The work is expected to impact the economic success of America's manufacturing sector.

CMU Joins HathiTrust

Carnegie Mellon has joined HathiTrust, a partnership whose goal is to build a comprehensive digital archive of published literature from around the world. Members have access to more than 10,600,000 works that have been digitized by Google, the Internet Archive and Microsoft, or by partners' individual initiatives. Full-text search features allow

users to mine content and create customized collections while remaining compliant with U.S. copyright law.

HathiTrust began in 2008 as a collaboration of 13 universities to establish a repository for archiving and sharing library collections that were digitized as part of the initial Google Book project. Today, more than 60 research libraries worldwide have committed to long-term availability of the cultural record.

HathiTrust was named for the Hindi word for elephant, hathi, symbolic of the qualities of memory, wisdom and strength evoked by elephants, as well as the huge undertaking of congregating the digital collections of libraries in the United States and beyond.

Hug Awarded NSF Early Career Development Award



Gabriela Hug, an assistant professor in electrical and computer engineering and engineering and public policy, has received the National Science Foundation Early Career Development Award, its most prestigious award for junior faculty.

She was awarded a five-year, \$400,000 grant to make the electric power grid more secure and flexible. Hug reports that she is recommending a "distributed approach" to grid operations, which is capable of handling the computational complexity resulting from the placement of a large number of power flow devices in the system.

Balmert Produces Music Video for Local Band

Jeffrey Balmert, instructional multimedia developer at the SEI, recently produced and co-directed a music video for Paul Luc, a local Pittsburgh band. Many of the cast and crew are from CMU, including lead actors Colleen Pulawski and Steven Robertson, who are students in the School of Drama. You can view the video at <https://www.youtube.com/watch?v=KAY7PSNxMBE&hd=1>.

Book Drive Honors Sandy Hook Victims

The Office of the Dean of Student Affairs is coordinating a book drive through the We Can Read project in memory of the students and faculty who died in the December shootings at Sandy Hook Elementary School in Newtown, Conn.

Donations from CMU will benefit the library at Pittsburgh Public Schools' Arsenal PreK-5 in Lawrenceville. The school's librarian has created an Amazon Wish List, www.amazon.com/registry/wishlist/WVJHC-ZGR4207/ref=cm_wl_search_3, of more than 300 books, and the drive will run until all of the books are purchased. Books purchased through the Wish List will be directly shipped to the school.

Those interested in purchasing books from the Wish List at a different retailer are asked to click "Buying this gift elsewhere?" to mark the book(s) as purchased and drop them off at 301 Warner Hall.

For more information, contact Joanna Dickert at joannad@andrew.cmu.edu or 412-268-2075.

Holt Recognized for Neuroscience Research



Psychology Professor Lori Holt, a specialist in auditory cognitive neuroscience, has been named a 2013 winner of the National Academy of Sciences Troland Research Award for "studies

advancing our understanding of the sensory and cognitive processes that are fundamental to the perception of speech."

The prestigious honor, which includes a \$50,000 prize, is given annually to two psychology researchers under the age of 40 to recognize extraordinary scientific achievement and to further promote empirical research on the relationship between consciousness and the physical world.

As director of CMU's Speech Perception and Learning Laboratory, Holt investigates how the brain interprets sound to solve problems related to speech perception and communication disorders.

Book Explores Art, Controversy and Society

One of the first projects formed through Carnegie Mellon's Center for the Arts in Society (CAS) focused on the role art controversies play in the public.

The results of the multi-year work by CMU faculty and other experts have been captured in a new scholarly book, "Outrage! Art, Controversy, and Society." Edited by Carnegie Mellon's Andreea Deciu Ritivoi and

Student Stress Focus of Town Hall Meeting

■ Bruce Gerson

“The graduate student organizations have grown. We’ve got a strong black graduate student organization, but we’ve also in the last couple of years had tremendous growth in the Latino graduate student association and the Asian American Pacific Islander Caucus. We’ve been open for those organizations to start and I think that’s made a huge difference,” she said.

University Center Director Marcia Gerwig said the university community has become more educated about how to welcome others, particularly international groups. “I believe we’ve grown over the years. We’ve become more educated on how to be more inclusive and sensitive,” she said.

Perhaps Kenny Blair of Network Media and Events in Computing Services, who has been a member of the CMU community for 21 years, expressed it best. “You interact with everybody. You see everybody. You talk to everybody and everybody wants to talk to you. It’s nice,” Blair said.

The rigorous academic culture at Carnegie Mellon and how students cope with the stress it can cause was the focus of a late January town hall meeting.

The meeting was hosted by Dean of Student Affairs Gina Casalegno, Vice Provost for Education Amy Burkert and Student Body Vice President Meela Dudley.

Although the meeting came in the wake of a student death this past December and an editorial in the Tartan urging the university to do more to address student stress, Casalegno and Burkert said the well-being of the campus community has been and always will be a university priority.

“We are all in this together, and we have a responsibility to each other,” Burkert said.

About 250 students, faculty and staff attended the meeting, which Casalegno directed to focus on the problems students face.

About 20 students discussed their experiences, how they felt success was defined at CMU and what one student called a “4.0 mentality.” Some offered remedies to alleviate some of the pressure and noted how fellow students

have provided a much-needed support network in times of stress.

Students described heavy workloads that drove them to forgo eating and sleeping for extended periods, bouts of depression, frustration with not getting into desired courses, perceived stigma associated with seeking counseling, fears of failure and being “addicted to success.”

One student called for the need to re-evaluate extracurricular activities, implying they add time commitments, while another spoke about not having enough distractions from studies.

Additional recommendations included creating a required “Caring at CMU” course for freshmen, in which students would be taught time management skills and be encouraged to form healthy habits such as eating right, sleeping right and exercising.

Other suggestions covered re-evaluating courses so that the amount of weekly hours needed to complete the work matches with course credits and granting students access to seek more than the 12 allowable sessions at Counseling and Psychological Services (CAPS) during the academic year.

Kurt Kumler, CAPS director, said after the meeting that when a student reaches his or her maximum number of sessions and more therapy is indicated, the therapist will help facilitate a referral for long-term therapy or other treatment options in the community.

“Some students feel satisfied with 12 sessions and plan to resume their work in the following academic year. We make all of our treatment determinations on a case-by-case basis, so it always depends,” he said.

For some students, he said, it makes more sense to help them find treatment in the community at the start. For any student who needs a referral for community resources, CAPS works to assist them throughout the referral process.

At the town hall meeting students advised their peers to put their own well-being before work and allow themselves to lower their expectations.

Casalegno said the meeting was a first step, and more community discussions will be scheduled.

“We close with a commitment to figure out a way to move the needle. We’re going to find a way,” she said.

QoLT Textbook Released

■ Kristen Sabol

The Quality of Life Technology (QoLT) Center has published the first book on QoLT.

Now available from CRC Press, “The Quality of Life Technology Handbook” is a comprehensive resource on the process of developing, testing, and commercializing advanced technologies that improve the quality of life and functioning of older persons, persons with disability, and ultimately, everyone.

The book describes the QoLT Center’s key learnings from its interdisciplinary team approach to the process of technology development, and discusses the state of the art and future directions of technologies that improve people’s everyday lives. The work also provides direction on how to identify user needs and preferences, engage end-users in the design and development process, and evaluate and commercialize the technologies.

Contributors include award-winning faculty, researchers and staff of the Quality of Life Technology Center at Carnegie Mellon and the University of Pittsburgh. CMU-based authors include: QoLT Center Director Daniel P. Siewiorek, Anind Dey, Takeo Kanade, Martial Hebert, Reid Simmons, Siddhartha Srinivasa, Asim Smailagic, and James F. Jordan.

The book is edited by Rich Schulz, professor of psychiatry and director of the University Center for Social and Urban Research at Pitt.

Judith Schachter, along with Richard Howells of King’s College London, “Outrage!” examines art controversies and how they are shaped by, and shape, a social context. The volume includes essays by 17 contributors — most with a direct connection to CMU — in fields ranging from art and visual studies to philosophy, literature and social sciences.

Grossmann Honored By Mexican Institute



Ignacio Grossmann was selected as the Agustin Vazquez Vera Lecturer by the Instituto Tecnológico de Celaya in Mexico in recognition of his contributions to chemical engineering and his support to the scientific development of Mexico.

On Jan. 15, Grossmann delivered the lecture “Discrete and Continuous Optimization Models for the Design and Operation of Sustainable and Robust Process Systems.”

Computing Services Opens Lending Center in UC

Computing Services has opened a Lending Center on the first floor of the University Center, making renting audio-visual equipment for your event more convenient and less expensive. At the Lending Center, which is near the ATM machines on the first floor across from the McConomy Auditorium entrance, you can pick up cameras, flat-screen monitors, microphones, projectors and other equipment.

To rent equipment, submit your order at least 24 hours in advance using the online order form (www.cmu.edu/computing/class-event/orders/other) or send email to MediaTech at mediatech@andrew.cmu.edu. Include your Oracle String for payment. You can pick up your order from noon to 4 p.m., Monday through Friday. Use the drop slot near the ATM machines to return small items. Return large items during Lending Center hours.

For more details, including a complete list of equipment and pricing, visit www.cmu.edu/computing/uc-lending.

PSC Names Public Health Applications Director



Shawn T. Brown has joined the Pittsburgh Supercomputing Center (PSC) as director of Public Health Applications.

In this role, he will lead a new group at the PSC whose re-

search addresses the problems of predicting disease spread via large-scale agent-based modeling, vaccine supply chain logistics in developing countries, and public health decision-making support via high performance computational modeling.

This position is a unique one for a high-performance computing facility such as the PSC, and is part of a general trend to use supercomputing to address “big data” problems in the life and public health sciences.

Brown comes to the PSC from the University of Pittsburgh Graduate School of

Public Health, where he was an assistant professor of biostatistics. During the 2009 H1N1 influenza pandemic, Brown provided decision support through modeling and advised a number of government offices on the response to the pandemic.

Student Employee of the Year Nominations Due Feb. 20

Nominations are now being accepted for the Student Employee of the Year Award sponsored by the Northeast Association of Student Employment Administrators and the National Student Employment Association.

This award program recognizes the outstanding contributions of college students who work while attending college. All student employees, undergraduate and graduate, are eligible for nomination.

Application deadline is Feb. 20. The nomination process and nomination form are available online at: www.cmu.edu/career/student-employment-experiential/index.html. For questions, contact Pati Kravetz at pk13@andrew.cmu.edu.

Mars Adventure

Two-week Simulation Spurs Imagination of Students, Lecturer

■ Piper Staff

A Mars simulator in the Utah desert has captured the imagination of CMU students and staff alike.

Diane Turnshek, a physics lab technician, lecturer and writer, never imagined spending Christmas on Mars until last summer when she heard about the Mars Desert Research Station.

“It was the best sky I’ve ever seen in my life,” she said. “No light pollution, brilliant Milk Way. There were no airplanes or contrails — no evidence of humans in the whole sky.”

She and Nora Swisher, a doctoral student in physics, applied for the same two-week crew stint in late December. While there, they met Dan Wilcox, a Master of Fine Arts student who was wrapping up his own two-week experience.

The simulation program is run by the Mars Society from December through May each year. Teams of volunteers explore the surrounding terrain and conduct experiments. Turnshek, Swisher and Wilcox all received support for the experience through Carnegie Mellon, which included the College of Fine Arts, the School of Art, the Mellon College of Science and the Department of Physics.

The experience is designed to help astronauts prepare for human exploration on the red planet. Swisher said oftentimes they completed normal tasks in unusual ways, such as cleaning and eating.



TEAMS OF VOLUNTEERS, INCLUDING THREE FROM CARNEGIE MELLON THIS YEAR, CONDUCT EXPERIMENTS AND EXPLORE THE UTAH DESERT AS PART OF THE MARS DESERT RESEARCH STATION PROGRAM.

“You have to approach cooking in a different way. You have a lot of dehydrated vegetables that you had to soak for 20 or 30 minutes beforehand and then cook them,” Wilcox said. Because of the altitude of the site, water also boiled at a lower temperature.

All of the water was trucked in to the site, so water conservation was important. Showers were quick, dishes were often left soapy and the hot water pipes were frozen for a few days.

But even the extraordinary became ordinary.

“We each had a day where we forgot we were wearing a suit, like the day when I tried to blow dirt off my pen while I had my helmet on,” Wilcox said. “But of course you just fog up your helmet. And that’s an interesting thing. It’s such a big deal on the first day when you come and it takes an hour to put it on and then a week in, you don’t even notice it.”

As many conditions needed to live on Mars were simulated as much as possible. While outdoors, the team wore spacesuits, entered and exited airlocks

and tested all-terrain vehicles.

Indoors, they were subjected to close quarters including sharing a single bathroom. Downtime was limited to an hour or two in the evenings for journaling, resting and emailing friends and family. Any communications with the outside world included a 20-minute time lag.

Turnshek, Swisher and Wilcox weren’t the only ones with CMU connections to “visit Mars” this past year.

During a January session, Simon Engler, a 2012 Robotics Institute Summer Scholar was there. Engler has worked on CMU astrobiology robotic projects being designed for a mission on Mars. Since leaving CMU Engler has been a member of the Hawaii Space Exploration Analog and Simulation (Hi-SEAS), which has been testing food designed to sustain astronauts on Mars and other deep-space missions.

The trio said they would love for a full CMU crew to go to the station next year. Wilcox said the experience would be valuable particularly for freshmen and sophomores uncertain of what they want to do.

“I could see them saying, ‘I know what I want to do, I want to go to Mars,’” he said. “They would come out in awe.”

There are a lot of indirect advantages for space exploration, Swisher said.

“We develop technologies for space but the same technologies can benefit people on Earth,” she said. “Or it inspires young people to go into science and technology, even if they’re not specifically working on space. I think there are a lot of scientists and engineers who wanted to be astronauts as kids.”

Turnshek said she’d like to take her writing students with her. She also serves as an adviser to a number of university clubs and helps organize trips.

“I like to drag people out to cool things,” she said. She added that she hopes their adventure will inspire more women to consider careers in science.

Turnshek is using the experience to finish a young adult science fiction novel. Plus, she and Swisher have already lined up a number of presentations about the experience.

Wilcox also is writing about the trip. He is using the experience as the basis of his thesis project “Onward to Mars,” which includes a live musical performance with visual elements and a concept album about the theme of humanity crossing the sea of space and touching down on a familiar new world. His wife, Anika, also a media artist, is creating a spacesuit for the performance, which will premiere in April.

But while they may have their eyes on the stars, there’s still more on Earth they’d like to see.

“Being in the desert and looking through the helmet really made me want to go look at all of Earth’s other crazy, beautiful places,” Swisher said.

Burgess Exhibits Space Art

■ Lauren Goshinski

Art Professor Lowry Burgess is exhibiting his work in “Free Enterprise: The Art of Citizen Space Exploration,” the first contemporary art exhibition in the United States to present an international array of artists and organizations exploring the implications of civilian space travel.

The exhibition at UCR ARTSblock at the University of California, Riverside, runs through May 18.

Burgess, an internationally renowned artist and educator, is one of only 25 artists, collectives, organizations and initiatives to be invited to exhibit in “Free Enterprise.”

Considered to be one of the few pioneers of the burgeoning Space Art movement, Burgess created the first official art payload taken into outer space on NASA’s Shuttle Discovery in 1989. Five works in “Free Enterprise” are either by Burgess or documentation of his work by others, including two videos.



CONSIDERED BY MANY TO BE ONE OF THE FEW PIONEERS OF THE BURGEONING SPACE ART MOVEMENT, LOWRY BURGESS CREATED THE FIRST OFFICIAL ART PAYLOAD TAKEN INTO OUTER SPACE ON NASA’S SHUTTLE DISCOVERY IN 1989.