



the PIPER

CMU'S NEWS SOURCE FOR FACULTY & STAFF 2/15 ISSUE

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Carnegie Mellon University

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Tinkering With the Ivories

Jahanian Named CMU Provost

■ Ken Walters

Vice President for Research Farnam Jahanian has been appointed CMU's provost and will begin his new role at the end of this academic year.

As the university's chief academic officer, Jahanian will have broad responsibility for leading CMU's schools, institutes and campuses, and will be instrumental in long-range institutional and academic planning and implementation.

"Farnam is an accomplished computer scientist, successful entrepreneur and administrative leader with broad experience in higher education, government and the private sector," said President Subra Suresh. "In the short time that he has served the university as vice president for research, he has garnered uncommon praise internally and externally for his vision, work ethic and passion for what Carnegie Mellon is and what we aspire to be."

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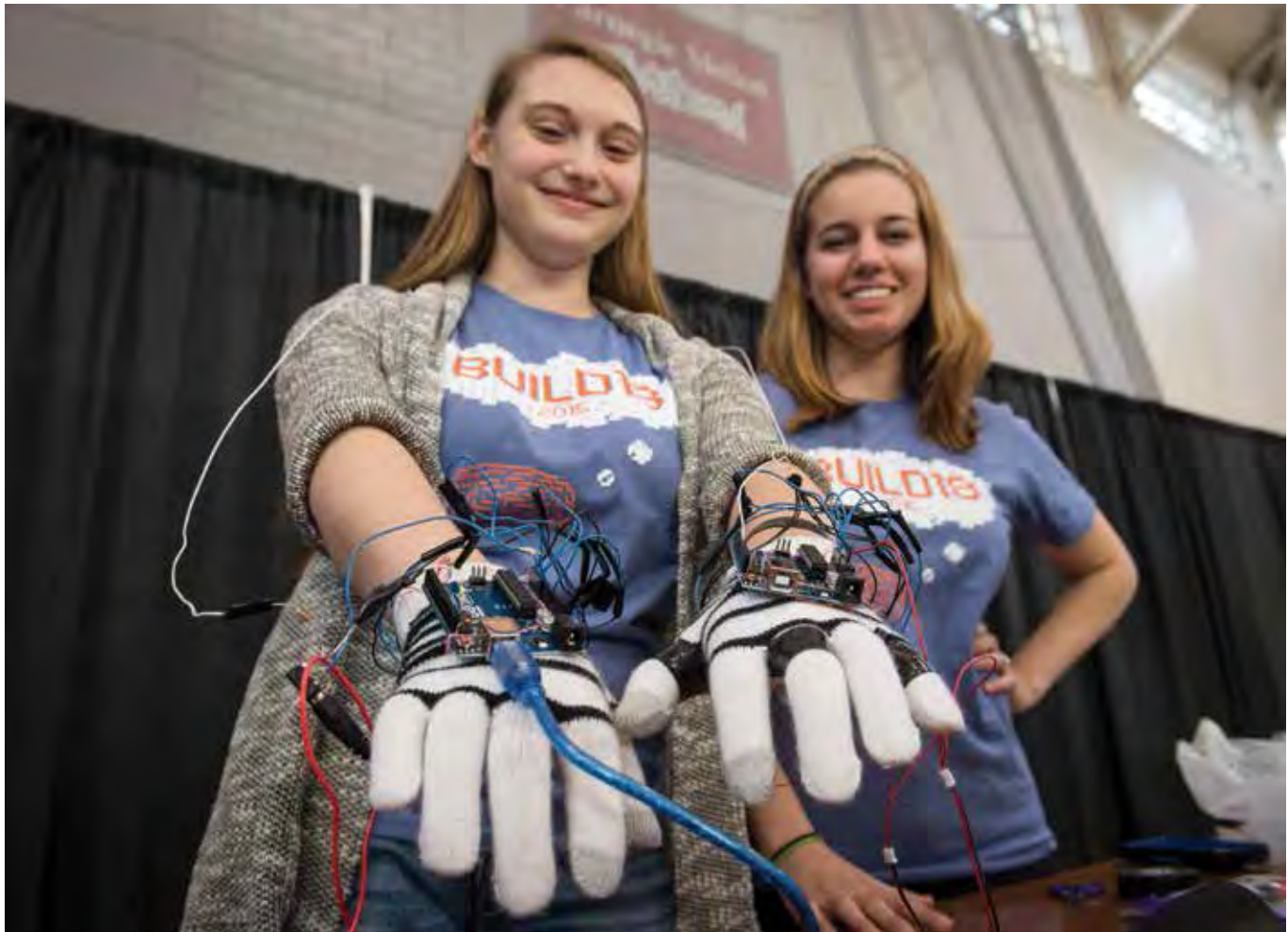


PHOTO BY TIM KAULEN

SAMANTHA SPEER (E'18) AND PAULA ZUBIRI (E'18) DEMONSTRATE A VIRTUAL PIANO THAT PLAYS REAL NOTES WHEN THE USER MOVES HER FINGERS. THE PROJECT WAS JUST ONE EXAMPLE OF THE CREATIVITY ON DISPLAY AT THE ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT'S ANNUAL "BUILD18" FREESTYLE TINKERING FESTIVAL. READ THE STORY ON PAGE NINE.

Lifting Up Latham Street



DESIGN PROFESSOR KRISTIN HUGHES (LEFT) AND MARY-LOU ARSCOTT OF THE SCHOOL OF ARCHITECTURE SHARE A LIGHT-HEARTED MOMENT ON LATHAM STREET IN PITTSBURGH, WHERE THEY ARE TURNING AN ABANDONED GARAGE INTO A SHARED SPACE THAT WILL BENEFIT TWO NEIGHBORING COMMUNITIES. READ THE STORY ON PAGE ELEVEN.

U.S. & Cuba

Hispanic Studies Professor Optimistic About Renewed Relations

■ Kelly Saavedra

Change doesn't happen overnight, especially if you're talking about two neighbors who haven't spoken to each other in more than 50 years.

But Cuban-born Kenya Dworkin, a professor of Hispanic Studies at Carnegie Mellon, is optimistic about the possibilities between Cuba and the U.S., now that President Barack Obama has begun to re-establish diplomatic relations with the island nation.

The relationship turned cold in 1959, when Fidel Castro and his rebels ousted President Fulgencio Batista, replacing his government with a socialist state.

"I tell my students that you have to know a little bit of history to fully understand the momentous nature of these

announcements," said Dworkin, who moved from Cuba to New York when she was 8 months old. "I'm all for it, but change takes time. It is yet to be seen who will benefit from these decisions and how."

Americans traveling to Cuba as tourists will benefit by no longer having to apply for a license from the Treasury Department. But Dworkin said an increase in American tourism is unlikely to benefit Cubans.

CONTINUED ON PAGE EIGHT

New Vice Provost Envisions Borderless CMU

■ Michael Yeomans

Jimmy Hsia has only been at Carnegie Mellon for a month, but he is already beginning to think about what the university may look like 20-30 years from now.

As Vice Provost for International Programs and Strategy, Hsia believes that strengthening and expanding CMU's international programs is not a luxury.

"To remain at the top of the list of elite universities, we have to be global," he said, drawing an analogy to commerce, where most of the world's top companies have adopted global strategies to compete in an increasingly borderless marketplace for goods, services and human capital.

"Society's needs are now global, so we must produce a product that has global experiences and global perspectives," he said.

Hsia said Carnegie Mellon has been a trendsetter among U.S. universities in establishing an international network of campuses, programs and partnerships.

"CMU is one of the very few American universities that has a presence in numerous countries, and likely the only one with degree-granting campuses and programs on five continents," he said.

In keeping with the bottom-up CMU innovation culture, the university's international programs have been established over the past two decades primarily at the grass roots level with the departments and colleges.

"My role is to support and help coordinate these programs at the university level with the goal to enhance and ensure the high quality of education,



JIMMY HSIA

research and student experiences for all international programs on all campuses," he said. "Importantly, our international programs and partnerships must help strategically position CMU as a top

university in the world. To achieve these goals, active involvement of faculty, students and staff in international programs and strategy is critical."

Hsia is joining CMU at a fortuitous moment for strategy development, as the university is in the midst of rewriting its strategic plan to guide CMU's evolution over the next five to 10 years and beyond. He is leading the planning process for fleshing out the university's international strategy, and plans to solicit input from faculty and students from all of CMU's campuses.

In his first months on the job, Hsia said he will be immersing himself in learning about Carnegie Mellon's international footprint, which includes a campus in Qatar and programs in Australia, Rwanda and Portugal, and partnerships in China, the U.K., India and Ireland, among others. These programs may benefit from sharing best practices, collaborating with the Pittsburgh campus and seizing opportunities for shared course content leveraging CMU's unique technology-enhanced learning platforms.

Hsia said he will be an advocate for enriching international experiences for all CMU students. His own experience is a testament to the value of a global background.

After earning his undergraduate and master's degrees in engineering in China, Hsia earned his Ph.D. at MIT, where he first became acquainted with CMU President Subra Suresh, who had taken a similar route from India to MIT.

Although most of his career since earning his doctorate has been spent at the University of Illinois at Urbana-Champaign, Hsia has been very active in international collaborations. He spent his

sabbatical leaves as a visiting professor at several international institutions, such as the Max Planck Institute in Germany and the Nagoya University in Japan. He also holds a visiting Chair Professorship at his alma mater, Tsinghua University, and a Guest Professorship at Zhejiang University in his native China.

At the University of Illinois, Hsia helped develop and establish several international educational programs, such as a Joint Institute with Zhejiang University and the so-called 3+2 programs with Tsinghua University, whereby students earn a bachelor's degree from the home university and a master's degree from the University of Illinois.

"This turned out to be a very successful model and has been expanded to several other universities in China, as well as to universities in other countries," Hsia said.

(STC) in collaboration with MIT and Georgia Tech focused on creating cellular machines.

At CMU, Hsia will continue to be involved in research with faculty appointments in the Biomedical Engineering and Mechanical Engineering departments. He is trained in applied mechanics and has studied failure mechanism of nanoscale materials and mechanics of living cells.

For two years he served at the NSF as director of the Nano and Bio-Mechanics program. He is also the director of the Global Enterprise for MicroMechanics and Molecular Medicine, or GEM4, which was founded by President Suresh to carry out interdisciplinary research and education at the interface of engineering, biological sciences and medicine. A GEM4 Summer Institute focused on mechanobiology of the brain will be held this summer at CMU from June 22-July 3.

If that's not enough, Hsia is also the co-editor-in-chief of a new academic journal, Extreme Mechanics Letters, published by Elsevier.

Hsia is married with three children, ages 11, 16 and 25. He enjoys hiking, skiing and reading. He relaxes by playing the piano, which he took up when his oldest son began taking lessons.

"I have four pieces of furniture in my Pittsburgh apartment — a bed, a sofa, a dining table and a grand piano," he said.

DO YOU HAVE THOUGHTS ABOUT HOW CARNEGIE MELLON SHOULD APPROACH INTERNATIONAL EXPANSION OR PARTNERSHIPS? SEND THEM TO THE STRATEGIC PLANNING WORKING GROUP AT STRATEGIC-PLAN@ANDREW.CMU.EDU.

Hsia's work at the University of Illinois included helping establish a number of interdisciplinary research and educational centers, including an Integrative Graduate Education and Research Traineeship (IGERT) supported by the National Science Foundation (NSF), and an NSF Science and Technology Center

Kudos for Kamlet



DIETRICH COLLEGE DEAN RICHARD SCHEINES TOASTS FORMER PROVOST AND EXECUTIVE VICE PRESIDENT MARK KAMLET DURING A RECEPTION IN DANFORTH LOUNGE LAST MONTH. THE EVENT, SPONSORED BY THE FACULTY ORGANIZATION, WAS HELD TO PAY TRIBUTE TO KAMLET AND INCLUDED REMARKS FROM PRESIDENT SUBRA SURESH AND FORMER FACULTY SENATE CHAIRS JAY KADANE AND ROBERTA KLATZKY, WHO RECALLED KAMLET'S ANSWERS TO THE TOUGH QUESTIONS AS ALWAYS BEING "REASONED, COMPASSIONATE AND WISE."

DURING THE CEREMONY, KAMLET WAS PRESENTED WITH A PLAQUE INSCRIBED WITH A RESOLUTION PASSED BY FACULTY SENATE LAUDING HIM FOR HIS NEARLY 40 YEARS OF SERVICE AS PROVOST, EXECUTIVE VICE PRESIDENT, DEAN OF THE HEINZ COLLEGE, HEAD OF THE SOCIAL AND DECISION SCIENCES DEPARTMENT, ASSOCIATE DEAN OF THE DIETRICH COLLEGE, AND AS A FACULTY MEMBER SINCE 1976.

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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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Jahanian Named Provost



FARNAM JAHANIAN

CONTINUED FROM PAGE ONE

Jahanian brings to his new role extensive leadership experience in higher education administration, an impressive background in scholarly achievement and a strong commitment to teaching and learning.

“He understands the extraordinary opportunities and challenges that we face, and he has ultimate respect for our faculty, students, staff and alumni,” Suresh said. “His insights on the student experience, and his commitment to rigorous, experientially-based education and research at all levels make him ideally suited to serve as our provost. I am very pleased that Farnam has agreed to take on this new role, and I look forward to working with him.”

Jahanian was appointed CMU’s vice president for research in April 2014, leading the university’s efforts to expand its world-class research and innovation ecosystem. Building on his role as vice president for research, Jahanian will now focus on supporting and advancing the teaching and scholarship of CMU’s faculty with the support of the academic deans, as well as providing leadership for all other facets of the university’s academic life.

“I am honored by this appointment and eagerly anticipate the opportunity to work closely with President Suresh and the CMU faculty, deans and the campus community to help shape the university’s future,” Jahanian said. “Carnegie Mellon is a remarkable institution with deep traditions in promoting excellence in education and research.

“The way in which science and technology are intertwined with social science, humanities and the arts at CMU creates a nurturing environment for learning and discovery that advance human knowledge and the human condition. I admire and personally share CMU’s commitment to this mission.”

Prior to CMU, Jahanian led the National Science Foundation Directorate for Computer and Information Science and Engineering (CISE) from 2011 to 2014. He was the Edward S. Davidson Collegiate Professor at the University of Michigan, where he served as chair for Computer Science and Engineering from 2007 to 2011 and director of the Software Systems Laboratory from 1997 to 2000.

His research on network routing and security formed the basis for the Internet security company Arbor Networks, which he co-founded in 2001 and where he served as chairman until its acquisition in 2010.

Jahanian has testified before Congress on a broad range of topics, including cybersecurity, next-generation computing and big data. He has received numerous honors for his scholarly research, commitment to education and technology commercialization impact.



PHOTO COURTESY OF SUN YAT-SEN UNIVERSITY

Hands-On Partnership

CARNEGIE MELLON PRESIDENT SUBRA SURESH PARTICIPATED IN THE DEDICATION OF A NEW BUILDING ON THE CAMPUS OF SUN YAT-SEN UNIVERSITY (SYSU) IN GUANGZHOU, CHINA, FOR THE JOINT INSTITUTE OF ENGINEERING GRADUATE PROGRAM AND THE COMPLEMENTARY JOINT RESEARCH INSTITUTE, ESTABLISHED IN 2012 BY CARNEGIE MELLON AND SYSU. IN THE PHOTO ABOVE, PRESIDENT SURESH AND OFFICIALS FROM SYSU AND THE GUANGDONG PROVINCE GOVERNMENT PLACE THEIR HANDS ON A CEREMONIAL GLOBE TO COMMEMORATE THE NEW FACILITY. PRESIDENT SURESH WAS ACCOMPANIED ON THE TRIP BY INTERIM PROVOST NATHAN URBAN, DEAN OF THE COLLEGE OF ENGINEERING JAMES GARRETT, NEW VICE PROVOST FOR INTERNATIONAL PROGRAMS AND STRATEGY JIMMY HSIA, AND MORE THAN 20 CMU FACULTY MEMBERS. WHILE IN CHINA, HSIA ACCOMPANIED PRESIDENT SURESH DURING MEETINGS WITH THE FOUNDER AND CEO OF BAIDU AND CTO OF ALIBABA, TWO OF CHINA’S LARGEST INFORMATION TECHNOLOGY COMPANIES.

CMU Names New VP for Marketing & Communications

Following a national search, Carnegie Mellon has named Steve Kloehn, associate vice president for news and public affairs at the University of Chicago since 2009, to the newly created position of vice president for Marketing and Communications.

“HIS REPUTATION AS A HANDS-ON, INNOVATIVE LEADER AND COMMUNICATOR MAKE HIM A PERFECT FIT FOR THIS NEW ROLE AND CMU.”

— SUBRA SURESH, CMU PRESIDENT



STEVE KLOEHN

Kloehn said he was excited to make the move to CMU.

“CMU has a long history of innovation that changes lives and enriches the world,” Kloehn said. “As a communicator, I am excited to have the opportunity to tell the CMU story.

“I look forward to working in partnership with CMU’s scholars, students and alumni around the globe to shine a light on their outstanding and far-reaching work. I am honored, too, to join CMU’s outstanding leadership team and its talented staff,” he said.

Prior to becoming an associate vice president at Chicago, Kloehn was director of the university’s News Office from 2008-2009. Previously, he was a journalist and editor at the Chicago Tribune from 1996-2008.

Before moving to Chicago, Kloehn was a columnist and reporter for newspapers in Massachusetts and Maine.

Kloehn earned a bachelor’s degree in English at Princeton University.

Uplifting

Hrabowski Puts Focus on Student Support

■ Bruce Gerson

Behind every dream fulfilled is someone who has helped along the way.

Enter the dynamic Freeman Hrabowski, who is helping many minority students reach their full potential, and working to make Martin Luther King Jr.'s dream of equal opportunity come true for all students in higher education.

Hrabowski, president of the University of Maryland, Baltimore County, is nationally recognized for his work in transforming UMBC into a research institution with a culture of innovation and record of high achievement among African-American students.

Today, with the help of hands-on learning activities, technology, effective learning strategies, and a robust student support program, UMBC has produced more African-American graduates who have gone on to earn Ph.D.s or joint master's degrees and Ph.D.s in the science, technology, engineering and mathematics fields (STEM) than any other predominately white university in the United States.

In a talk at Carnegie Mellon last month, titled "Dr. King's Dream and the American University Today" — which doubled as a MLK Jr. keynote address and a Simon Initiative Distinguished Lecture — Hrabowski spoke about the importance of producing graduates in the STEM fields "if we are going to be as competitive as possible as a nation."

He cautioned against allowing students to fail. He said teachers are sometimes too quick to direct students away from the STEM fields after a poor test score or experiment, rather than help them succeed.

"We need to empower students to believe they can change the world. It's our moral responsibility. Are we doing all we can to be helpful?" he asked.

"[At UMBC] we build community among students, helping students of all races to work in groups. We're creating a culture in that students learn to say they need help and then to get help



PRIOR TO HIS ADDRESS, FREEMAN HRABOWSKI (SECOND FROM LEFT) MET WITH VP FARNAM JAHANIAN (LEFT) AND STUDENT LEADERS TO LEARN MORE ABOUT THEIR EXPERIENCES AT THE UNIVERSITY.

early," he explained.

Hrabowski recalled the reaction of a UMBC student when she received her first "A" in genetics. He said it was a "transformational experience" for her.

"The joy only comes after the struggle," he said.

Psychology Professor Marsha Lovett, director of the Eberly Center for Teaching Excellence and Educational Innovation, said like UMBC, CMU is leveraging data and research to improve practices in teaching and learning.

from research on learning, an individual's mindset — one's beliefs about learning and the ability to succeed — can make a huge difference," Lovett said.

Like UMBC, CMU has several rich student support programs. In fact, it starts with high school students.

Carnegie Mellon's Summer Academy for Math and Science (SAMS) is a pre-college program that attracts and enrolls students from diverse backgrounds who are interested in pursuing STEM courses of study.



WATCH HRABOWSKI'S LECTURE ONLINE AT [HTTPS://WWW.YOUTUBE.COM/WATCH?V=P1VWNMQT YQ0](https://www.youtube.com/watch?v=P1vwNmqtYQ0)

"Through the Simon Initiative, we seek to apply learning science research along with educational technology to measurably improve learner outcomes — for our own students and beyond.

"One of the themes that struck me during Dr. Hrabowski's visit to CMU was the power of beliefs. As we know

Since its inception in 2001, SAMS has prepared more than 1,100 high-achieving minority students for admission to some of the nation's most selective institutions. Twelve percent of SAMS graduates have enrolled at CMU.

Once students enroll at CMU they can receive academic support from several programs, including Academic Development and the Carnegie Mellon Advising Resource Center (CMARC).

"Academic Development enhances student learning and increases student retention by offering high quality support programs," Linda Hooper said.

Under Hooper's direction, Academic Development offers Supplemental Instruction review sessions, collaborative study groups, Peer Tutoring and Academic Counseling for study strategies.

Last fall, Supplemental Instruction supported seven courses (1,132 students) and conducted 286 review sessions. The collaborative study groups supported 12 courses (1,760 students) and have grown by 1,600 percent since 2008.

During the 2013-14 academic year, the Peer Tutoring program, which is largely centered around STEM courses, had 5,383 student contacts for the walk-in program and 3,447 student contact hours for the weekly standing appointments.

Academic Development earned the 2014 Tutoring Excellence Award from the National Tutoring Association. Also last year, Charles Swanson, a recent computer science graduate, received one of two Outstanding Supplemental Instruction Leader awards from the International Center for Supplemental Instruction.

CMARC advances the university's commitment to diversity by providing a variety of student success opportunities for under-represented minority students.

"Our services enrich students' overall academic experience by providing academic coaching, community building and leadership opportunities," said CMARC Director Ty Walton. "Our ultimate goal is for students to feel engaged and connected to the fabric of the university as engagement is a critical part of the persistence equation."

Hrabowski closed his talk with admiration and a challenge.

"You are one of the most prestigious places in the world. You produce some of the best leaders in the world.

"You have an enormous opportunity to take your brand, and your goodwill, and your brain power and your wonderful emphasis on science and learning, and use it to figure out ... this challenge of race and poverty and excellence. You can become a leader in the world of producing students from under-represented groups who will then transform the world.

"Carnegie Mellon you are so special, and you can be even better," he said.



STUDENT BODY PRESIDENT IAN GLASNER (E'15) TALKS WITH HRABOWSKI AFTER HIS KEYNOTE ADDRESS IN MCCONOMY AUDITORIUM.

Big Changes on the Menu for Dining Services

■ Mandi Semple

Concepts for a new ground floor café in the Cohon University Center (CUC) and renovations to Skibo Café and The Underground are part of Dining Services' five-year strategic plan that was rolled out to the university community at a town hall meeting in late January.

The plan, a work in progress created by Dining Services, Campus Design and Facilities Development and a design and consulting firm, comes after several campus studies and focus groups.

"Our planning was always guided by a few important principles: a student-first approach as it relates to convenience, accessibility, dining needs and preferences; the celebration of Carnegie Mellon and its unique culture and sense of community; and a commitment to health and wellness, sustainable practices, and to act responsibly with our resources today to ensure the best possible future of our program," Director of Dining Services Pascal Petter said.

Prior to last month's town hall meeting, Petter presented the concepts and designs to student groups, including Student Senate, the Graduate Student Assembly, the Student Dormitory Council and the Dining Services Advisory Council.

At the town hall, Petter shared highlights of the plan and renderings for the major renovations to be conducted over the next several years.

"We want to create distinctive dining destinations on our great campus," Petter said. "The ultimate goal for dining at Carnegie Mellon is not just to go from good to great; it's to become a best-in-class dining program in the country."

Here's a glance at what's possibly in store.

Ground Floor Café in the CUC

The ground floor of the CUC under Skibo Café will be converted into a full-service coffee bar and lounge with outdoor seating and a walk-up serving window.

The ground floor café will serve coffee and specialty drinks, as well as bakery and grab-and-go items.

Skibo Café in the CUC

Renovations to Skibo Café will create an improved traffic flow for ordering, paying and meal pick-up.

The new dining concept will focus on health and wellness, serving homemade soups, and fresh salads and sandwiches, complementing the CUC's fitness and exercise facilities.

The creation of the new ground



THE ABOVE RENDERINGS SHOW THE PROPOSED DESIGNS FOR THE UNDERGROUND (TOP) AND THE GROUND FLOOR CAFÉ AT THE CUC.

floor café and renovation to Skibo Café will add more than 300 dining seats to the CUC, including those outdoors.

TIMELINE

The above construction is scheduled to begin this October. Completion is anticipated to coincide with the opening of the new CUC addition in March 2016.

The Underground in Morewood Gardens

Original plans included two cuisine concepts — Asian and American — but student feedback and the recent

addition of the Tartan Express food truck may modify these plans.

The new design could celebrate Carnegie Mellon's annual Carnival weekend, incorporating booth seating and other fun aspects of the treasured 100-year old tradition.

One of the proposed concepts includes excavation near the entranceway of Morewood Gardens, allowing for an outdoor ramp from ground level to The Underground and an outdoor seating area.

Roll-up, garage-style doors would open to the outdoor seating area and provide natural light to the restaurant.

The outdoor area would be heated for easy snow removal.

TIMELINE

Construction is scheduled to begin in summer 2016, with completion set for fall 2016.

Pascal also touched on plans for the new Scott Hall Café, slated to open in January 2016. The café will be located in an area labeled "cross-roads," because it will connect two major wings of the new building and provide access to Porter, Roberts, Wean and Hamerschlag halls.

(See Scott Hall story on page eight.)



Internet of Things

FTC Commissioner Looks to CMU for Privacy Solutions

■ Kelly Saavedra

From Swarovski pendants that double as health monitors to outdoor grills that text you when it's time to turn the meat, the number of 'things' connected to the Internet has long surpassed the number of people.

And while connected devices make our lives easier and more entertaining, they also provide companies with tremendous — often, deeply personal — insights through the data they collect, said Julie Brill, commissioner of the Federal Trade Commission (FTC), in a recent talk on CMU's Pittsburgh campus.

Brill, who has been called one of Washington's most important voices on Internet privacy and data security, visited CMU on Privacy Day last month to

discuss privacy and security challenges related to data collection and why addressing these challenges is an urgent priority.

In her keynote address, she recognized the many potential benefits that our information systems bring us. Data collected from sensors in our homes, in our cars and on our wrists, for example, could help us to use energy more efficiently, avoid traffic jams and stay healthier longer. Public health emergencies, like the flu, will be predicted and managed with the help of algorithms that crunch big data.

But unlocking the full potential of the so-called Internet of Things will hinge on having the public's trust, she said, and CMU could play a critical



THE PRIVACY DAY PANELISTS (TOP, L-R): FARNAM JAHANIAN, ALESSANDRO ACQUISTI, LORRIE CRANOR, NORMAN SADEH AND JULIE BRILL. BRILL (ABOVE, LEFT) AND CRANOR TOOK A TOUR OF STUDENTS' POSTERS ON DATA PRIVACY.

role in securing that trust as the number of interconnected devices continues to grow.

"You have the skills to find out when systems are unreasonably vulnerable to security breaches. You have the

ability to think about whether algorithms might be treating some consumers in an unfair or exclusionary manner. And, you have the ability to design privacy, security and fairness into the Internet of Things from the very beginning."

Beating Them at Their Own Game

These Hackers Wear White Hats

■ Krista Burns

For many, it was an "interview" better left unseen, but it did once again bring cybersecurity to the forefront.

The controversial action-comedy film about the assassination attempt on North Korean dictator Kim Jong-un was thrust into the spotlight late last year after a group of hackers conducted what could be the largest cyber attack in history, crippling Sony Pictures Entertainment and issuing warnings to any theater that showed the movie.

In response, Sony canceled the New York City premiere and movie theater chains either delayed or canceled screenings to the chagrin of James Franco and Seth Rogen fans, leaving many asking, "How can we prevent future cyber attacks?"

David Brumley says the answer is simple: beat hackers at their own game.

Brumley, an associate professor of electrical and computer engineering and technical director of CyLab, is training the next generation of "white hat" hackers — ethical hackers trained to spot vulnerabilities in systems.



WATCH BRUMLEY'S INTERVIEW ON ABC'S NIGHTLINE AT [HTTP://ABCN.WS/1X6DEQJ](http://abcn.ws/1x6DEQJ)

"My research team's goal is to check software for exploitable bugs," Brumley explained. "We want computers to find bugs that attackers may use first, so that those bugs get fixed. We're currently working on tools and techniques that simulate what an attacker can

do, so we can find security problems before they find them."

In a recent interview on ABC's Nightline, Brumley explained how students are learning to protect our systems and networks.

"We're teaching students how to identify vulnerabilities and how to

show that they are really exploitable," Brumley said. "We need to teach students to identify vulnerabilities before the bad guys."

In order to stay one step ahead of would-be criminals, it's crucial that high schools and universities offer courses in computer security.

"Growing the computer security field is essential. The field has huge opportunities. It pays well, and it's in high demand," Brumley said.

While there are many computer security courses available at Carnegie Mellon, there are minimal opportunities for high school students to become exposed to this growing area.

"At the high school level, most guidance counselors don't even know it's a field. That is what motivates my work in educational outreach," Brumley said.

Brumley, along with Peter Chapman and Jonathan Burket, created picoCTF, a computer security game targeted at middle and high school students. The game consists of a series of challenges centered around a unique storyline in which participants



Brill said to the faculty, researchers and students in the audience.

Following her talk, Brill took part in a panel discussion that included CMU Vice President of Research Farnam Jahanian and privacy experts Alessandro Acquisti, associate professor in the Heinz College; Lorrie Cranor, professor of computer science and engineering and public policy; and Norman Sadeh, professor in the School of Computer Science and director of the Mobile Commerce Laboratory.

Sadeh is working to develop personalized privacy assistants that will inform, teach and motivate consumers to keep privacy top of mind. A “nudge” from a command center, for example, might motivate a user to revisit her privacy settings when it informs her that her location has been shared by an app 5,398 times over the last two weeks.

“We often blame artificial intelligence data mining for putting our privacy at risk,” Sadeh said. “What we are trying to do in our group is see to what extent those very same technologies can be put to good use and help us overcome, or mitigate at least, many of these privacy risks.”

Cranor discussed her search for a better way to deliver website privacy information to consumers. “We all know that nobody really likes to read privacy policies, and very few people actually do it,” she said.

She and her students are working on a solution along the lines of how standardized nutrition labels deliver



JULIE BRILL

information on food products.

Acquisti, who studies the costs and benefits of revealing personal information online as well as how people make decisions in that regard, encouraged the audience to reframe how they think about privacy.

“The argument is that Facebook, Twitter and Google Plus are successful, therefore people don’t care about privacy, but that is not the case,” Acquisti said.

“Privacy is a universal need of humans across cultures. In certain situations, individuals will care for privacy quite a lot and act to protect it, but advances in technology and the acceleration of data collection challenge our ability to make self-interested decisions in the face of increasingly complex tradeoffs.”

must reverse engineer, break, hack and/or decrypt code to solve challenges.

The challenges are set up with the intent of being hacked, making it an excellent — and legal — way for them to get hands-on experience. Students form teams to compete for cash prizes.

“Last year, we gave away about \$50,000 in prizes, and reached about 10,000 high school students to promote the field,” Brumley said.

Many computer-savvy students also choose to participate in hack-a-thons to test their knowledge in real-life hacking situations.

“The way we measure the best is to compete in international [hack-a-thon] competitions, and we often win,” Brumley noted.

Last summer, Carnegie Mellon stu-

dents demonstrated their cyber prowess at one of the world’s largest annual computer security conferences, DEFCON 22, by winning the “Capture the Flag” and “Crack Me If You Can” contests.

“Our team competed against universities and large defense contractors. This win is a huge accomplishment for our team,” said Brumley, the team’s adviser.

Many are quick to blame hackers for cyber attacks, but Brumley sees it a bit differently.

“I don’t view it as being at war with hackers. Our war is with insecure computers and programs. It’s far too easy to break into a system. We need to program computers so that they can check themselves for bugs and vulnerabilities. This doesn’t happen yet, but it’s something we aim to fix,” he said.

Privacy in Pictures

■ Daniel Tkacik, Byron Spice

What is privacy? People sometimes have a hard time putting it in words. So Lorrie Cranor, a leading authority on Internet privacy at Carnegie Mellon, has explored the meaning of privacy by asking people to draw pictures.

The project, Privacy Illustrated, has amassed hundreds of drawings thus far, from participants ranging in age from 5 to 91. And Cranor invites anyone to contribute to the project by making a drawing of what privacy means to them and uploading it to the project website.

“It’s a fascinating view into what people think about privacy,” said Cranor, a professor of computer science and engineering and public policy, as well as director of the CyLab Usable Privacy and Security Lab.

“With the little kids, you can see doors, bedrooms and pulling the blankets over their heads,” as concerns about their bodies and personal spaces predominate, she said. She noted that adults and teens express some of the same concerns but, in this post-Snowden era, also reveal worries about government surveillance or about overexposure on social networks.

“Though some talk about privacy as being an old-fashioned idea, these pictures show that people of all ages do care about privacy,” Cranor said.

Cranor’s project began at Carnegie Mellon’s Studio for Creative Inquiry, where she and a group of artists, Ph.D. students and postdocs collaborated on a project called Deep Lab, which examined themes including not only privacy, but security, anonymity and large-scale data aggregation. The project produced a 240-page book, available in print or as a free download, and Privacy Illustrated was one of the chapters.

Cranor and her colleagues visited the Carnegie Mellon Children’s School and Pittsburgh Public School classrooms to collect drawings from students in kindergarten, 3rd grade, 6th grade and high school. For adults, Cranor’s group initially crowdsourced the drawings by hiring online workers through Amazon Mechanical Turk to produce more than 100 pictures.

She continues to collect drawings at conferences and from volunteers who upload their own drawings. People can draw a picture and then photograph it or scan it so it can be uploaded, or they can use a tablet or other digital device to draw the picture and then upload it.

Visitors to the Privacy Illustrated website, <http://cups.cs.cmu.edu/privacyillustrated/>, can explore the drawings in random order or via keywords.



WHAT DOES PRIVACY MEAN TO YOU? THE PROJECT, PRIVACY ILLUSTRATED, HAS AMASSED HUNDREDS OF DRAWINGS FROM CHILDREN AND ADULTS.

Engineering Crossroads

Scott Hall Construction “On a Roll”

■ Bruce Gerson

Overlooking the hollow between Hamerschlag Hall and the Carnegie, it appears to be standing proudly... chest out ... on all 13 of its steel legs.

It’s currently wrapped in plastic providing shelter for workers who are busy working inside, but a year from now the glass enclosed architectural marvel will be bursting with energy.

It’s t-minus 12 months for Scott Hall, the new 108,000 square foot, six-story building that will be home to the Wilton E. Scott Institute for Energy Innovation, the Biomedical Engineering Department, the Institute for Complex Engineered Systems, a nanofabrication lab, or cleanroom, and last but not least, a café.

“We came up with the concept about six years ago,” recalled Gary Fedder, the associate dean for research in the College of Engineering and the driving force and faculty liaison for the project. “We saw the need for infrastructure that would pull together science and engineering.”

Scheduled for completion by January 2016, Scott Hall also will pull together the west campus.

“It will create physical connections that we haven’t had before. So we can have a day like today and not have to go outside to meet colleagues,” Fedder said during a recent construction update on a cold and snowy Monday in late January.

Connections indeed.

Through a series of exterior and interior ramps, pedestrian bridges, stairways and hallways, Scott Hall



SCOTT HALL IS SCHEDULED FOR COMPLETION BY JANUARY 2016.

will connect to the three surrounding structures, Hamerschlag, Roberts and Wean halls, on multiple levels.

An exterior walkway passing in between Wean and Hamerschlag halls will bring pedestrians to the fourth floor of Scott Hall, home to its 10,000 square foot cleanroom, café and biomedical engineering offices.

Biomedical engineering labs will occupy the third floor, the Scott Institute will be on five and ICES will reside on the top floor. Mechanical rooms will be housed on levels one and two.

Construction began in 2012 with the relocation of utility lines, foundation work, building footers and retaining walls.

WHAT’S INSIDE?

What does it take to build Scott Hall? Here’s a glance at what’s inside.

| | |
|---------|-----------------------------------|
| 200,000 | feet of electrical conduit |
| 175,000 | pounds of metal stud framing |
| 151,000 | pounds of galvanized ductwork |
| 60,000 | square feet of acoustical ceiling |
| 14,500 | sheets of drywall |
| 11,000 | pounds of drywall screws |
| 5,969 | cubic yards of concrete |
| 3,800 | plugs and switches |
| 1,237 | tons of structural steel |
| 1,200 | light fixtures |
| 539 | tons of rebar |
| 182 | miles of copper wire |

“It’s a very tough site for construction and it took us a while to get out of the ground,” said Ralph Horgan, associate vice president for Campus Design and Facility Development (CDFD).

“It was complicated, but now we’re on a roll. It will be a major physical and discipline connector for the College of Engineering,” Horgan said.

CDFD Project Manager Max Dorosa and Brian Miller, project manager for Jendoco Construction, outlined the tasks to be done in the next several months.

Work will include the installation of the exterior glass panels, interior framing, mechanical work, two stairways, the roof and the bridge connecting to Roberts Hall.

Dorosa said a comprehensive four-month project to repair and waterproof the leaky Wean Hall Plaza will begin after commencement and interior-finishing work will be the focus in the fall.

Conrad Zapanta, associate head of the Biomedical Engineering Department, was excited to finally be talking about the building’s completion. He asked Dorosa when he could expect to move into his new office next year.

“It would be nice to be able to move in before classes started [in January],” Zapanta said.

“Everything will be scheduled,” Dorosa said smiling, offering no guarantees.

Hispanic Studies Professor Optimistic About Renewed Relations

CONTINUED FROM PAGE ONE

“America is not going to come in like a knight on a white horse. Cuba has had a lot of foreign tourists, and they still make miserable wages and live in dire circumstances,” she said.

Cuba’s workforce is highly educated — education is free in Cuba — but good jobs pay little. She said many doctors and engineers in Cuba are driving taxis because they can make more money that way.

It’s in business where Dworkin sees the biggest benefit for both countries. She believes Cubans and Americans could become great partners in agriculture.

“Cuba has to import its rice from China, but they could be importing it from Louisiana, which would get [the rice] there overnight and result in far lower shipping costs,” she said.

So far, talks between the two nations have not gone smoothly — they’ve already had a falling out over immigration policy — but they are talking, something

they refused to do before.

She recalled Cuba’s expertise in hurricane relief and its offer to help America in the aftermath of Hurricane Katrina. “Given how unable we were to deal with Katrina, Cuba offered to send up 50 hurricane relief experts,” she said. “And we didn’t even bother to say, ‘No, thank you.’ We said nothing. And people died.”

Dworkin noted that Cuba’s advances in biomedicine also could benefit Americans. For example, she said a medication used in Cuba to treat brain tumors has far fewer side effects than the U.S. version of the medication.

“There’s a lot to be gained here, just as Cuba has things to gain from us,” she said.

While the two neighbors work at mending fences, Dworkin will continue to work at dismantling popular myths about Cuban culture, one of the most widespread being what it’s like to live in a socialist society.

“I think Americans misunderstand it.



CUBAN RAPPER AND HIP-HOP ARTIST DAVID D. OMNI, LOCAL RAPPER BZE OJEDA AND LOCAL ENTREPRENEUR NATE DJNATE DAPHATBARBERMITCHELL POSE FOR A PICTURE WITH HISPANIC STUDIES PROFESSOR KENYA DWORKIN DURING A RECENT EVENT SHE CO-ORGANIZED FOR CUBAN CIVIL RIGHTS ACTIVISTS.

There is this vision of Big Brother watching you in Cuba,” Dworkin said. “If you are politically active or openly against the government in Cuba, then yes, the government will watch you every day, and even punish you. But if you are a law-abiding citizen who goes about his or her business every day in Cuba, you are not disturbed by the government.”

Through her insightful teaching of the country’s vibrant culture and unique history, she hopes students will see past Cuba’s rum and Salsa music and discover a country historically known for its brilliant writers and painters, an extraordinary national ballet school, sports and diversity.

“We talk about diversity here,” she said, “but we don’t live it the same way people live it there.”

Freewheeling

Build18 Is an Engineer's Playground

■ Krista Burns

You learn best by doing, or in this case tinkering.

An intellectual playground for the brightest and most creative of CMU's engineers, Build18 — the 18 being a shout-out to the electrical and computer engineering (ECE) course prefix — draws over 200 tinkerers annually. For five straight days leading up to the event, engineering students work around the clock in teams to build intricate projects that range from desktop water fountains to puppets controlled by hand gestures.

When the big day finally arrives, they demo those projects for faculty, sponsors, staff, alumni and other students. The big winner this year was a product that would allow students to work on their lab projects without physically being in the lab.

"Build18 was created with the sole purpose of giving engineers an opportunity to exercise their creativity in engineering," said Build18 Chair Aaron Reyes, a senior majoring in electrical and computer engineering. "We welcome big ideas and trying new things, whether they work out or not, because they are an excellent way to learn something new. Build18 is even recommended by faculty."

While the main event kicks into gear at the beginning of "Build Week," the process leading up to it begins months earlier during the fall semester, with the Build18 Kickoff Event and Tutorial Series.

At the Kickoff Event, organizers distribute information about Build18, explain the project application process and get students thinking about potential project ideas. The Tutorial Series is a sequence of three sessions that are designed to introduce students to various aspects of electronics and project design through hands-on guided learning.

At the end of the fall semester, participants organize into teams and submit project applications. Build18 officers review the submitted applications and confirm that they meet criteria for safety, feasibility and engineering merit.

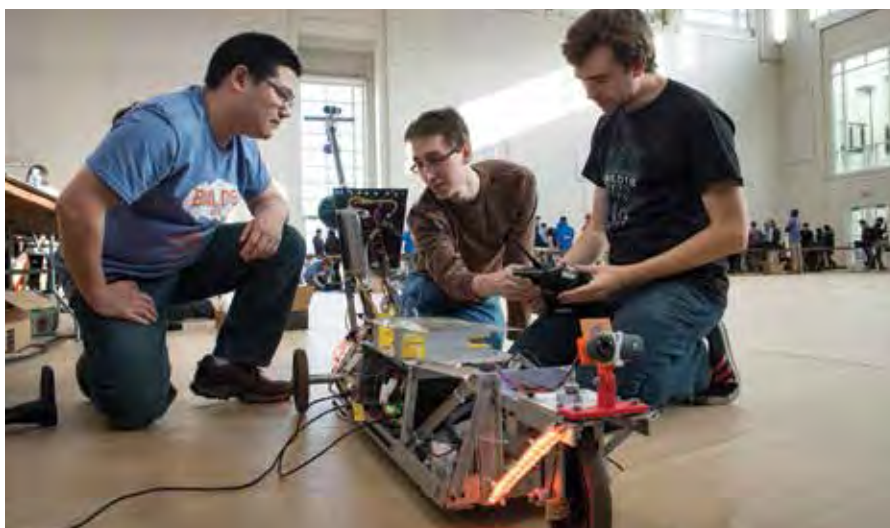
Once a total parts list is aggregated, orders are placed and the wait for Build Week begins.

Freestyle tinkering activities and events are funded each year by alumni and corporate sponsors. This year, the festival had 23 technology company sponsors, many of whom attended the Build Week activities.

In addition to supporting the festival, some sponsoring companies hosted evening Innovation Tech Talks exclusively for CMU students, including Stern, Kessler, Goldstein & Fox; AlphaLabs; and Amazon. These seminars allowed builders the opportunity to learn how their projects may be adapted into the real world.



PHOTOS BY TIM KAULEN



THE CREATIVE ENGINEERING PROJECTS FEATURED AT THE BUILD18 TINKERING FESTIVAL INCLUDED (CLOCKWISE FROM BOTTOM):

- A MAPPING STICK
- A DESKTOP WATER FOUNTAIN
- A WALKING DOG, AND
- A GAMEBOY SUIT

For some students, Build18 is the highlight of the spring semester.

"I participate in Build18 because it's a great chance to take the things I've learned from my ECE classes and apply them to a project of my choosing," said ECE sophomore Robert Maratos. "It's also a lot of fun to see what other people are working on and go to tech talks about emerging technologies."

Maratos' team, called "FPGA on the Web!" won the faculty award for their project, which enabled ECE students to

access the field-programmable gate array (FPGA) boards used for ECE digital logic classes online.

"This would allow students to work on their labs remotely, without going all the way to Hamerschlag Hall," Maratos explained. "This project wouldn't have been possible without the rest of my team: Jake Weiss, Edward Shin and Chia Dai. I'd also like to thank professors Bill Nace and Don Thomas for their contributions to the project, both through supplies and their teaching."

The intense week of building and tinkering concluded with the Build18 Banquet at Phipps Conservatory, where keynote speaker Mike Calcagno, Microsoft director of Engineering for Bing Experiences, inspired students by giving an energizing talk.

"Simply put, Build18 serves as an engineer's playground for students who love the art of engineering," says Reyes. "With \$250 to spend on any idea you want to create, it's hard to find a reason not to participate."

Uber, CMU Driving New Technology for Transportation



Carnegie Mellon University

■ Byron Spice

Uber and Carnegie Mellon are joining forces to create the Uber Advanced Technologies Center in Pittsburgh, near the CMU campus.

The center will focus on the development of key long-term technologies that advance Uber's mission of bringing safe, reliable transportation to everyone, everywhere.

The partnership will provide a forum for Uber technology leaders to work closely with CMU faculty, staff and students — both on campus and at the National Robotics Engineering Center (NREC) — to do research and development, primarily in the areas of mapping, vehicle safety and autonomy technology.

“We are excited to join the community of Pittsburgh and partner with the experts at CMU, whose breadth and depth of technical expertise, particularly in robotics, are unmatched,” said Jeff Holden, chief product officer of Uber. “As a global leader in urban transportation, we have the unique opportunity to invest in leading-edge technologies to enable the safe and efficient movement of people and things at giant scale. This collaboration and the creation of the Uber Advanced Technologies Center represent an important investment in building for the long term of Uber.”

The agreement also will include funding from Uber for faculty chairs and

graduate fellowships, recognizing and supporting Carnegie Mellon's world-renowned faculty and its efforts to attract the best and brightest graduate students.

“Uber is a rapidly growing company known for its innovative technology that is radically improving access to transportation for millions of global citizens,” said Andrew Moore, dean of CMU's School of Computer Science.

“CMU is renowned for innovations that transform lives. We look forward to partnering with Uber as they build out the Advanced Technologies Center and to working together on real-world applications, which offer very interesting new challenges at the intersections of technology, mobility and human interactions.”

The center will aid in local job creation and further the well-deserved reputation of Pittsburgh for its growing innovation sector. Uber and CMU will hold an event in Pittsburgh to formally kick off the partnership in the coming weeks.

“I am pleased to welcome Uber to the growing list of leading technology companies that are coming to Pittsburgh to help invent the future,” said Pittsburgh Mayor William Peduto. “This is yet another case where collaboration between the city and its universities is creating opportunities for job growth and community development.”

Survey Says

What Would You Do in a Self-Driving Car?

Stuck in traffic, again.

Your mind wanders thinking of the many things that you could be doing if you weren't behind the wheel.

A similar thought has been on the minds of College of Engineering researchers who are working to create and bring self-driving vehicles to a new car showroom near you.

So, they asked 1,000 people, “What would you do if you weren't tied to the steering wheel?”

Their top 10 responses were:

- 1 Use mobile devices
- 2 Eat lunch
- 3 Read a book
- 4 Watch movies
- 5 Do work
- 6 Pay bills
- 7 Play video games
- 8 Put on makeup
- 9 Plan a trip
- 10 Take and post photos or selfies

The top two responses were very similar among males and females with 59 percent and 59.2 percent, respectively, preferring to use mobile devices.

Eating lunch also was a favorite pick among the sexes with 53.3 percent of males and 51.3 percent of females choosing to get a bite on the road.

The survey also asked respondents, “What new design possibilities would you ideally like self-driving cars to provide?”

The top answer (71.8 percent) was being able to digitally connect to their home. The second most popular

answer was having design features making your self-driving vehicle a mobile office (32.1 percent).

Designers take note. A mobile home office in which you can work, use your mobile device, eat, read and watch movies while on the road is what consumers want most from their self-driving vehicle.

But, in the meantime, keep your eyes on the road and your hands on the wheel.

Safety First

CMU researchers also polled 1,000 people on the top safety features they'd like to see in a self-driving vehicle.

The top five scenarios in which respondents said they'd like the vehicle to help them were:

- 1 Night driving
- 2 Unfamiliar areas and roads
- 3 Congested roads
- 4 Bad snowstorms
- 5 Merging traffic situations

Would you pay more for a self-driving vehicle?

Seventy percent said they would not if it cost 30 percent more than a comparable car without self-driving technologies, and 30 percent said they would.

Millennials were the most willing to pay a premium price. Twenty-nine percent of men and 28 percent of women born between the 1980s and 2000s were willing to spend more for an autonomous car.

“Maker Movement” Pioneer Wins Dickson Prize in Science

■ Jocelyn Duffy

Carnegie Mellon has awarded its 2014 Dickson Prize in Science to Joseph M. DeSimone, a chemist and chemical engineer on the faculties of the University of North Carolina at Chapel Hill and North Carolina State University.

DeSimone is best known for his contributions to the “Maker Movement,” having developed two techniques for the rapid prototyping of vehicles for drug delivery.

CMU's Dickson Prize in Science was established in 1969 by the late Pittsburgh physician Joseph Z. Dickson, and his wife Agnes Fisher Dickson. It is awarded annually to individuals in the United States who make outstanding contributions to science.

The Maker Movement is defined by a do-it-yourself culture that seeks to create new things. In science, the move-

ment has been propelled by the development of low-cost and high-throughput manufacturing tools.

DeSimone has invented two such tools for the creation of new technologies for drug delivery: Particle Replication in Non-wetting Templates (PRINT), an off-shoot of imprint lithography that can be used to mold individual drug particles and drug delivery vehicles, and Continuous Liquid Interface Printing (CLIP), a pioneering advance in 3-D additive manufacturing.

“The ability to bridge disciplines to accelerate scientific progress is something that comes naturally to Joe



JOSEPH DESIMONE

DeSimone,” said Krzysztof Matyjaszewski, the J.C. Warner Professor of the Natural Sciences and University Professor. “Throughout his career his use of insights from different fields in his research has led to innovations including a bio-absorbable cardiac stent and an environmentally friendly way to manufacture Teflon.

“DeSimone is the first to harness

“THE ABILITY TO BRIDGE DISCIPLINES TO ACCELERATE SCIENTIFIC PROGRESS IS SOMETHING THAT COMES NATURALLY TO JOE DESIMONE.”

— KRZYSZTOF MATYJASZEWSKI

precision manufacturing techniques from the computer industry for applications as therapeutics and vaccines. He has pioneered this concept, and I anticipate that others will follow suit in the future,” Matyjaszewski said.

DeSimone is the Chancellor's Eminent Professor of Chemistry at the University of North Carolina at Chapel Hill, the William R. Kenan, Jr. Distinguished Professor of Chemical Engineering at North Carolina State University, and an adjunct faculty member at Memorial Sloan-Kettering Cancer Center. He is presently serving as the CEO of Carbon3D in Silicon Valley.

DeSimone, like CMU President Subra Suresh, is one of only a few individuals who have been elected to all three of the National Academies: the Institute of Medicine, the National Academy of Sciences and the National Academy of Engineering.

Citadel Teaching Commons

Lab, Study Space To Foster Teamwork

■ Byron Spice

Carnegie Mellon's School of Computer Science has dedicated the new Citadel Teaching Commons — a lab and study space featuring collaborative and high-performance clusters that will help educate and train the next generation of computer scientists.

Andrew Moore, dean of the School of Computer Science, and Joseph Squeri, Citadel's chief information officer, cut the ceremonial ribbon late last month.

The enhancements to the fifth floor of the Gates Center for Computer Science were made possible by a generous monetary and equipment donation by Citadel, a leading global financial institution with a diverse business platform built on a foundation of world-class leadership, talent and technology.

"Citadel offers engineers and scientists the greatest challenges in high-performance computing, machine learning, systems, software development and infrastructure," Squeri said. "From the moment you join Citadel, you are instantly an integral part of our team and are given the support and resources you will need to make an immediate impact. We are thrilled to partner with Carnegie Mellon because of its track record for innovation in these core areas, and we know that CMU students are exactly

the caliber of people we need."

The project includes two renovated computer labs featuring innovative desktops that can double as tabletop whiteboards. Desktops also have flat capacitive keyboards and inductive chargers. A cluster of 74 servers will support research and education in machine learning, distributed systems and parallel computing architecture.

The Citadel Teaching Commons has quickly become one of the most popular and highly used areas in the computer science building. The open area includes whiteboards and large, round tables that make it easier for students to meet in groups and with teaching advisers.

"Computer science is not a solitary endeavor," said Greg Kesden, an associate teaching professor and director of educational computing. "Regardless of whether they are at established companies such as Citadel, or at startup firms, computer scientists typically work in teams to tackle projects. These new spaces, and particularly the teaching commons, will help us prepare students for this work environment."

"Citadel's support for this project has been unwavering and gratifying," Moore said. "Citadel has hired a number of CMU graduates, particularly from computer science. The firm appreciates



SCS DEAN ANDREW MOORE (RIGHT) AND CITADEL CIO JOSEPH SQUERI CUT THE RIBBON TO OFFICIALLY OPEN THE NEW CITADEL TEACHING COMMONS.

PHOTO BY KEN ANDREYO

the vital coupling of computation with financial services and also the value of CMU alumni as leaders.

The School of Computer Science, which recently celebrated its 25th year as a school, has received the highest possible score in U.S. News & World Report's ranking of Ph.D. programs in computer science.

A pioneering program in computer

science since the mid-1950s, Carnegie Mellon has more than 1,800 undergraduate and graduate students and boasts 268 full- and part-time faculty members. SCS includes seven degree-granting departments: Computer Science, Robotics, Human-Computer Interaction, Machine Learning, Language Technologies, Software Research and Computational Biology.

Latham St. Commons

Making Space To Connect a Community



■ Kelly Saavedra

To some, the empty garages on Latham Street in the nearby Pittsburgh community of Friendship are an eyesore, a physical barrier between two neighborhoods already divided by race and social and economic factors.

But to CMU Design Professor Kristin Hughes, the empty structures are filled with possibilities.

Hughes envisions transforming the garages into a shared space where people could come together to grow food, take cooking lessons, even tinker with old electronics to learn new skills.

The space provides many opportunities for urban innovation, as Latham Street recently has become a magnet for like-minded thinkers interested in building and expanding the community.

Last fall, Hughes and her interdisciplinary team — comprised of CMU students and faculty members Mary-Lou Arscott of the School of Architecture and Tim Zak of the Heinz College — worked with the community to identify what residents wanted and needed most. This spring, they will get to work on bringing residents' top request to fruition: access to healthy food.

"We're going to test the idea of an integrated vertical and roof-top gardening system and see how much food we can grow and distribute," Hughes said.

Their program includes plans to provide produce to the daycare facility across the street. Eventually, Hughes would like to see the inside of one of the garages used as 'maker' spaces for young adults, where they could take apart old things and invent new ones.

They've even considered turning one garage into a kind of "flex" space that could serve as a café by day, and then in the evening, a space where people could learn to cook and then share those meals with neighbors in the common space.

As the project moves forward, the team will continue to work at better understanding the needs of the community and the feasibility of adapting abandoned structures into learning laboratories that bring entrepreneurs, innovators, policymakers and members of the community together.

Hughes is no stranger to taking on complex problems in the community. She co-created the Fitwits program,

designed to get pre-adolescents and their parents talking about the health effects of obesity, nutrition and exercise.

Fitwits uses games, active engagement and the power of kids' imaginations to reduce childhood obesity. The games feature fun characters with names like Rita Rollup, Elvis Pretzley and Deep Dish Don, and are the product of a five-year collaboration between CMU's School of Design and UPMC's St. Margaret Family Health Center. Having successfully been tested with children in Allegheny County and in doctors' offices, Fitwits games are now being sold to caregivers, schools and pediatricians.

Hughes believes the secret to her success is in her approach, which involves directly engaging community members in each step of the design process.

"I'm really passionate about working with people," she said. "I think design affords us the kind of opportunity where we can bring people together in creative ways, endowing people of all ages with agency, with skills and experience to re-imagine their life's possibilities."

Super Staff

College of Engineering Pays Tribute to Exceptional Employees



CHAD DOUGHERTY



ANDREA ROONEY



TRECI BONIME



KELLY MCQUOID



BOBBI KOSTYAK



LARRY HAYHURST

■ Nichole Dwyer

The College of Engineering held its annual Staff Awards ceremony in January, honoring six individuals for job performance, continuing education, enthusiasm, inspiration, innovation and leadership.

This year's recipients were:

- Rookie Award: Chad Dougherty, principal research programmer, CyLab;
- Burritt Education Award: Andrea Rooney, director of Undergraduate Programs, Civil & Environmental Engineering;
- Spirit Award: Treci Bonime, director for Undergraduate Studies, Dean's Office;
- Innovation Award: Kelly McQuoid, senior director of strategic programs and special projects, Dean's Office;
- Continuous Excellence Award: Bobbi Kostyak, buyer, Mechanical Engineering; and
- Inspirational Leadership Award: Larry Hayhurst, foreman, Collaborative Machining Center, Chemical Engineering.

Thirty-one College of Engineering staff members received years of service certificates honoring their five to 30 years at CMU.

Honored for 30 years were Roxann Martin of Materials Science and Engineering and Maxine Leffard of Civil & Environmental Engineering.

Honored for 25 years were Jason Wolf of Materials Science and Engineering, Donna Marano of the Dean's Office, and Judith Ann Bandola and Stephen Hoffman of Electrical and Computer Engineering.

Receiving 20-year certificates were Mary Christine Zeise of the Silicon Valley Campus, Rhonda Moyer of the Institute for Complex Engineered Systems and Karen Kietzke of Engineering and Public Policy.



MAXINE LEFFARD (LEFT) AND ROXANN MARTIN WERE PRESENTED WITH CERTIFICATES HONORING THEIR 30 YEARS OF SERVICE AT CMU. PRESENTING THE AWARDS WAS COLLEGE OF ENGINEERING DEAN JAMES GARRETT JR.

PHOTOS BY KEN ANDREYO

“The Wiz” Takes Center Stage at CMU’s School of Drama Spring Showcase

■ Erin Keane Scott

Carnegie Mellon University’s School of Drama invites you to “ease on down the road” to the Philip Chosky Theater for the colorful, media-rich production of “The Wiz,” adapted from L. Frank Baum’s beloved classic, “The Wonderful Wizard of Oz.”

The Wiz opens at 8 p.m., Thursday, Feb. 19 and runs through Feb. 28. Performances will be directed and choreographed by Assistant Professor of Dance Tomé Cousin, with musical direction by Professor Thomas Douglas.

“The Wiz is a soaring and fantastical work full of infectious music, breathtaking dance and technical and design wizardry,” said Peter Cooke, head of the School of Drama. “We hope theater-goers will come and enjoy our diverse cast’s interpretations of these iconic characters in a joyous celebration of theatrical showmanship.”

The Wiz takes inspiration from rock n’ roll, R&B, gospel and soul music to help Dorothy make the journey to the Emerald City. In 1975, when The Wiz debuted on Broadway, the musical’s success was largely due to the parallels it was able to draw between Baum’s Kansas and the urban African-American experience. Today, messages in the musical transcend race and speak to ideas of inclusion and the celebration of individuality.

“To celebrate The Wiz’s 50th anniversary, we’ve created a dynamic, colorful production for the 21st century,” Cousin said.

To purchase tickets, call the box office at 412-268-2407 between noon and 5 p.m., Monday through Friday, or visit www.drama.cmu.edu/50/ box-office. Performances will take place in the Philip Chosky Theater at CMU’s Purnell Center for the Arts. For general information about the School of Drama, visit www.drama.cmu.edu.