



the PIPER

CMU'S NEWS SOURCE FOR FACULTY & STAFF

1/14 ISSUE

Carnegie Mellon University

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RoboRescue



IMAGE COURTESY OF DARPA

THE TARTAN RESCUE TEAM'S FOUR-LIMBED CHIMP ROBOT EARNED THE THIRD HIGHEST SCORE AMONG 16 TEAMS COMPETING IN THE DEFENSE ADVANCED RESEARCH PROJECTS AGENCY (DARPA) ROBOTICS CHALLENGE TRIALS, DEC. 20-21, IN HOMESTEAD, FLA. IN THIS IMAGE, CHIMP WORKS TO CONNECT A FIRE HOSE DURING ONE OF THE DARPA TRIAL TASKS. READ THE FULL STORY ON PAGE EIGHT.

Writing Awards

Students Invoke MLK's Spirit Through Personal Reflections

■ Stephanie Williams

Martin Luther King Jr. fought for equality with his eloquent poetry and prose, and young high school and college students are paying it forward through Carnegie Mellon's Martin Luther King Jr. Writing Awards, now in its 15th year.

Dietrich College English Professor Jim Daniels established the Martin Luther King, Jr. Writing Awards in 1999 to encourage students to uncover personal experiences with race and discrimination. With a true passion for expressing oneself through poetry, Daniels wanted to share his experience with students.

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Pittsburgh Composers



THE PITTSBURGH SYMPHONY ORCHESTRA IS SHOWCASING THE WORK OF FIVE WORLD-RENOWNED COMPOSERS WITH CARNEGIE MELLON TIES. READ THE FULL STORY ON PAGE SEVEN.

Health Care Hero

Martin's Passion is Building a Healthier "U"

■ Bruce Gerson

Paula Martin is taking the "build it and they will come" adage to a whole new level.

The director of Health Promotions Programs at Carnegie Mellon doesn't have a new facility, event, specific program or curriculum in mind; she's reaching higher to create a healthier lifestyle for the Carnegie Mellon community.

Her myriad efforts are being recognized at the university and in Pittsburgh. She was named a finalist for the Pittsburgh Business Times' Health Care Heroes Award, which honors individuals, companies and organizations in western Pennsylvania for their contributions to improving health care in the region.

A registered dietitian nutritionist who earned her master's degree

in wellness and human performance at the University of Pittsburgh, Martin has expanded her role at CMU during the past eight years. She began as a dietitian who counseled students on nutrition. Today, she continues to maintain a full counseling schedule, but also has created and further developed many outreach activities, and collaborates with university partners to promote health and wellness.

"Paula has had a significant impact on the nutritional health of the campus community at the individual and community level through her work with Dining Services, Human Resources and our clinical staff at University Health Services," said Anita Barkin, director of University Health Services. "She has a passion for health and wellness and

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Students Invoke MLK Jr.'s Spirit

CONTINUED FROM PAGE ONE

"We want the students to be honest," Daniels said. "To invoke the spirit of Dr. King, without just quoting him. We want them to think about his ideas ... we want their poems and essays to be inspired by his spirit, openness, honesty and compassion."

The Writing Awards program, which has received more than 200 submissions this year, includes Pittsburgh-area high school and college students. Pittsburgh's Creative and Performing Arts (CAPA) and Winchester Thurston high schools have been the "anchors" since the beginning. CAPA was the first school to participate and Winchester Thurston joined in 2002.

"You can't hide in a poem. There's a kind of openness and honesty in the best poems," Daniels said. "We want the students to tell their own personal stories of dealing with race and difference. We want them to make it more complicated. Not simplify it."

A nominee for the 2014 Martin Luther King Jr. Distinguished Leadership Award, Daniels has committed himself to helping students express themselves in "safe environments," where they can speak freely and express their own hardships and dreams.

"If we can be a center where there's acceptance and understanding, I'm all for that," Daniels said.

"Some of the most moving things for me have been during the receptions we have afterward where I meet the kids' families," Daniels said. "A lot of these kids have to be brave to write



PHOTO COURTESY OF JAMAR THRASHER

JAMAR THRASHER (HNZ'14), WHO WON THE 2003 WRITING AWARDS, HAS A DEEP CONNECTION TO HIS FIRST-PLACE POEM "AN UNFORGETTABLE JOURNEY," WHICH WAS WRITTEN AFTER HE VISITED GHANA IN THE SUMMER OF 2002.

some of the things they write. I really admire them."

Jamar Thrasher (HNZ'14), winner of the 2003 Writing Awards, has a deep connection to his first-place poem "An Unforgettable Journey," which was written after he visited Ghana in the summer of 2002.

"It was my first time being in Africa, and as a black man it was a powerful experience," Thrasher said. "The piece was my coming-of-age story about my experiences as a black teen growing up in a black Pittsburgh neighborhood and traveling to Africa."

SCHEDULE OF EVENTS

Selected poems will be published, and students will read their work during the Martin Luther King Jr. Day celebration at 12:30 p.m. in Rangos Ballroom in the University Center.

Carnegie Mellon celebrates MLK Jr. Day with "A Day On, Not a Day Off" through community and civic engagement to honor Dr. King's legacy of tolerance, peace and equality. View the full schedule of events at www.studentaffairs.cmu.edu/first-year/mlk/index.html

11:30 – 12:15 p.m.
Listening Tour on Diversity
President Subra Suresh
Rangos Ballroom, University Center (UC)

2 – 3 p.m.
Story Circles: Race & Community
Danforth Lounge, UC

12:30 p.m.
15th Annual MLK Jr. Writing Awards
Celebration Featuring a Tribute from the
School of Drama
Rangos Ballroom, UC

2:30 – 3:15 p.m.
Arts Greenhouse Collaborative
& Writing Workshop
Kirr Commons, UC

12:30 – 3 p.m.
Happy Birthday Martin Luther King, Jr!
The Children's Programming
& MLK Tribute
Sing-A-Longs with Book Readings
& Arts Activities
Connan Room & Wean Commons, UC

4:30 p.m.
Keynote Address & Reception
Featuring Jendayi E. Frazer,
Distinguished Public Service Professor
of the Heinz College, Director of the Center
for International Policy and Innovation

Student Speakers:
Vijay Jayaram, Electrical & Computer
Engineering, Junior
Millard McElwee, Civil & Environmental
Engineering, Junior
Rangos Ballroom, UC

Thrasher and five previous MLK Writing Awards' winners traveled to the Chautauqua Institution in New York state last year to read their work as part of the institution's lecture series "Emancipation: Where Do We Go From Here?"

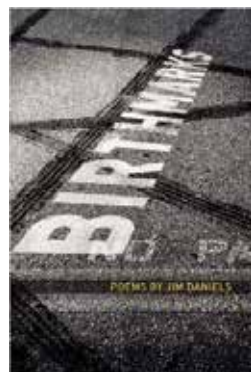
"The audience's reception at the Chautauqua Institute showed me that the piece, even after all of these years, still has power," Thrasher said.

Winners will travel to the Chautauqua Institution again this June.

Daniels' "Birth Marks" Named Notable Book

■ Shilo Rea

The Library of Michigan has announced that "Birth Marks," a collection of poetry by Carnegie Mellon English Professor Jim Daniels, has been named to the 2014 Michigan



Notable Books list. The annual list features 20 books published in the previous calendar year that are about Michigan

or the Great Lakes region, or are written by a Michigan author. Daniels was born and raised in Detroit.

"The Michigan Notable Books Program helps to show what is 'great' about the Great Lakes State," said State Librarian Nancy Robertson. "It helps to tell Michigan's complete story through the voices of talented historians, creative writers, illustrators, essayists and poets. These creative voices are all around us in our communities. We just need to take a little time to find them and to

recognize their value. Reading is more important than ever. This list helps to steer people to the 'good stuff.'"

Growing up as the son and grandson of autoworkers in Detroit left an imprint on Daniels. In "Birth Marks" he captures the gritty culture of working-class urban life. He uses the 39 poems to take readers on a tour of post-industrial Detroit and Pittsburgh to tell the tales of cities and their residents who came out swinging when the economy collapsed around them.

"I have always been interested in ordinary people in ordinary circumstances and the small moments in their lives that create a subtle shift in perspective," said Daniels, the Thomas Stockham Baker Professor of English in CMU's Dietrich College of Humanities and Social Sciences. "Place has consistently been a big part of my work, and it is again. I hope the title 'Birth Marks' reflects this — we are marked by the places we come from. I try to bring these cities and people to life in a way that may make readers see beneath our cultural stereotypes."

Published by BOA Editions, Ltd., "Birth Marks" focuses on how the urban

landscape affects its residents as they struggle to establish a community on streets that can easily be tainted by distrust and the threat of random violence. Topics range from parenting and addiction to baseball and music, and Daniels uses longer poems with more juxtaposition to tell sharp stories about difficult situations.

"Birth Marks" is Daniels' 14th collection of poetry and his work frequently crosses different genres. He has published four books of short stories and has written three films, including 2010's "Mr. Pleasant," which appeared in more than a dozen film festivals across the country.

His previous poetry collection, "Having a Little Talk with Capital P Poetry," won the Independent Publisher Book Awards 2012 Gold Medal for Poetry and the 2012 Paterson Award for Literacy Excellence from the Paterson Poetry Center. "Trigger Man: More Tales of the Motor City," his most recent book of short stories, was the 2012 winner of the Midwest Book Awards in the Short Story category.

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1/14 Issue

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Produced for Media Relations by The Communications Design and Photography Group, January 2014, 14-300.

Rhodes Scholar

Alumna Says BXA Program Was Instrumental

■ Piper Staff

Carnegie Mellon alumna Courtney T. Wittekind (A'13) was awarded a Rhodes Scholarship, one of the oldest and most prestigious international study awards.

The Rhodes Trust noted Wittekind's work in art, activism and anthropology on behalf of displaced persons and refugees as the main reason for her selection.

"Courtney represents the best of all that we offer at Carnegie Mellon," said Stephanie Wallach, assistant vice provost of undergraduate education and director of the Fellowships and Scholarships (FSO) and Undergraduate Research offices. "She holds the promise of a leader who can help reshape how we consider cross-cultural communication and policymaking."

Wittekind earned a Bachelor of Humanities and Arts degree as part of the BXA Intercollege Degree programs.

"Carnegie Mellon has been, and continues to be, not just a launching point in regard to my future career, but also a valuable system of support in terms of helping me prepare to pursue my ambitions," Wittekind said, noting that faculty members and administrators worked with her to pursue her goals. "The flexibility and advising offered by the BXA Interdisciplinary Program was key. Being a part of an interdisciplinary

community that was constantly pushing the boundaries of various fields and of the wider limits of academia transformed the way I thought about my own research and its potential impact."

While at Carnegie Mellon, Wittekind served as a news editor for *The Tartan* and served on its editorial board. She created arts initiatives in impoverished neighborhoods in Pittsburgh and Nicaragua with the student organization *Juntos CMU*. She also studied in Thailand, on a Boren Scholarship, which provide up to \$20,000 to U.S. undergraduate students to study abroad in areas of the world critical to U.S. interests and underrepresented in study abroad experiences. They are funded by the National Security Education Program.

Wittekind said working with the FSO on the Boren Scholarship led to her applying for the Rhodes.

"I met with Jen Keating-Miller and Stephanie Wallach close to the end of my junior year to discuss all the various fellowship and scholarship applications I might consider applying for," she said. "Rhodes really stood out to me for its goal of funding scholars who will fight 'the world's fight.' That was a concept that really struck a chord with me and continues to parallel my own vision for the work I hope to do in the future.

"As a student, I found that Carnegie



COURTNEY WITTEKIND (A'13) INTERACTS WITH CHILDREN DURING A THAI WATER FESTIVAL. SHE STUDIED THERE WHILE ATTENDING CMU.

IMAGE COURTESY OF COURTNEY WITTEKIND

Mellon provided an encouraging, yet rigorous, space for me to not only think through different ideas, theories, and potential work, but also to take risks. Whether in regard to proposing a non-traditional study abroad program, seeking advising for my senior year research, or, most recently, applying for these scholarships, I consistently found a network

of faculty and administrators who were eager to work with me and to support me in pursuing my goals."

The Rhodes program covers the full cost for recipients to study at the University of Oxford in the United Kingdom, covering two to four years of tuition. Wittekind will study at Oxford beginning

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Invention on Demand

Engineers Learn To Think Fast With Steel City Improv

■ Kelly Solman

Biomedical engineering students got a taste of improvisational acting from the quick-witted Steel City Improv group.

The workshop was aimed at building teamwork and leadership skills as well as helping them think more creatively.

"Engineers are taught to seek the 'right answer' but inventors need to search beyond what is currently known, or exists today," said James Antaki, a professor of biomedical engineering at CMU. "They need to overcome psychological inertia and gain confidence in their intuition."

Enter the Steel City Improv group.

"In an improv setting, your actions are dictated by those around you and require you to be completely in tune with your surrounding as you build off prior information," said Brett Bergman (E'14), who participated in the exercise.

"I found myself sincerely observing and listening to everything that was happening around me, and in our world of mobile devices and information overload that's not what you typically find people doing," he said.

Another aspect of the exercise that Bergman found enlightening involved decision-making.

"As an engineering graduate student, in-depth analysis is crucial to my research, but too often I find myself and those around me stymied by 'analysis paralysis' or the fear of making a wrong decision," he explained.

"During the workshop I truly felt a sense of relief, knowing that I can make any decision at the drop of a hat, and my surroundings will adapt. Having the

ability to make split-second decisions based on the information at hand is vital to becoming a visionary and leader in any industry," Bergman said.

Antaki said he is proud of his students for venturing out of their comfort zone, and pointed out the similarities between improv and brainstorming.

"In both, you have to act quickly. You can't overthink the problem, and you have to accept seemingly crazy ideas and run with them," Antaki said. "And you have to pay attention in improv. You

have to do 'something.' You can't just sit there. And you have to support your 'teammates,' make your partner look good. That ingrains a habit of effective teamwork."

It's the first time Antaki tried this kind of workshop for students, and based on all of the positive student response in a post-workshop survey, he would like to do it again.

The exercise was part of his new class, Biomedical Inventive Problem Solving, designed to encourage students to find innovative ways to address some of the most challenging and longstanding issues in medicine such as affordable health care for developing countries.

Antaki's students are currently working on a variety of challenges for The Children's Institute, Brother's Brother Foundation and NASA.

"We strive to teach our students how to invent on demand," Antaki said. "Improvisation is not just about being funny. The principles of improvisation — like 'trust your instincts,' 'break the rules' and 'always move forward' — inspire them to be more creative and think on their feet."



Special Delivery

Construction Wraps Up on CMU Particle Detector Project

■ Jocelyn Duffy

It was almost like sending a child off to college — after 17 years of work, the last four in Wean Hall, Curtis Meyer watched as the particle detector that he and his colleagues had constructed was packed up, loaded into a moving van and sent off to the Jefferson Lab National Accelerator Facility in Newport News, Va.

The detector will be installed as part of the Department of Energy-funded GlueX experiment. GlueX aims to find a new type of subatomic particle called a hybrid meson, which researchers believe will allow for a better understanding of gluons, elementary particles that hold everyday matter together.

“We started thinking about this project in 1997. Finally moving all the pieces to the accelerator facility means it’s all coming together,” Meyer said. “But we still need to wait a few more years until we can actually do physics.”

Meyer isn’t the only one who has been working on the project at Carnegie Mellon. Over the years four doctoral students have worked on projects related to the GlueX experiment, and Meyer estimates another 40 to 50 undergraduate students have contributed to the project.

Moving the approximately 400 pound detector chamber last fall was no easy feat. The detector couldn’t withstand any big shocks, and needed to be



TECHNICIAN GARY WILKIN GUIDES THE PARTICLE DETECTOR ONTO A TRUCK. THE DETECTOR WAS TAKEN TO JEFFERSON LAB LAST FALL.

kept at a fairly constant temperature. The research group secured a truck that was open in the back, allowing them to easily control the temperature. The detector itself was placed on a specialized cart equipped with shock absorbers — students had earlier tested a prototype cart, wheeling it around the uneven sidewalks of campus.

Orchestrating the move was technician Gary Wilkin. Years ago, Wilkin had helped move another detector to Jefferson Lab (JLab), making him the resident expert on transporting large-scale physics equipment. When it was time for the detector to go, the group removed

some of its electronics and wrapped the detector in bubble wrap. The cart was then wheeled to the Wean Hall loading dock, loaded onto the waiting truck and secured to the corners of the bed.

Since the JLab facility where the detector was headed wouldn’t be open at night, the truck and detector spent an evening outside of Wilkin’s house. The next morning Wilkin and former technician Amy Woodhall set off for Virginia. They followed a carefully mapped out eight-hour route to Newport News, specifically avoiding the notoriously busy highways around Washington, D.C. Post-doctoral researcher Naomi Jarvis

and graduate student Will Levine had made a test drive of the route in the weeks before the move to troubleshoot any possible road closures or obstacles that might be in the way.

The drive went smoothly, and the detector was unloaded into the accelerator facility the following morning. The detector will be installed early this year, and the accelerator will send its first beam of photons by the end of 2014, engineering runs should be completed by 2015, and researchers will start conducting experiments with the accelerator in 2016. It’s then that Meyer and his collaborators hope to create hybrid mesons.

The work is important because it gets to the essence of everything, Meyer said.

“The matter that makes up everything we see around is primarily made of quarks tightly locked up inside nuclear matter by the gluons that mediate the extremely strong forces between the quarks,” he said. The force is so strong that quarks can never be removed and studied in isolation.

“With the GlueX experiment at Jefferson Lab, we have the opportunity to do the next best thing,” Meyer said. The GlueX experiment will excite the gluons between the quarks so researchers can study what this does to subatomic particles that can be observed.

“This will open a new window on the strongest force in nature,” he said.

Dickson Prize

Neuroscientist To Discuss “Illuminating the Brain”

■ Jocelyn Duffy

The brain is considered to be the most mysterious organ in the body.

For years neuroscientists have searched for improved methods for looking inside the brain and to control the activity of brain cells. Such methods are critical to understanding both normal brain function and brain function following disease or injury.

Karl Deisseroth, the recipient of the 2013 Dickson Prize in Science, has been a key discoverer and developer of such methods, which are now being applied across all areas of brain science.

The D.H. Chen Professor of Bioengineering and Psychiatry at Stanford University, Deisseroth will give this year’s Dickson Prize Lecture, titled “Illuminating the Brain,” at noon, Monday, Feb. 3 in McComomy Auditorium. The lecture is free and open to the public.

In particular, Deisseroth’s lab has made key breakthroughs in the area of optogenetics, which allows neuronal activity to be controlled with unprecedented precision and recently has invented a technique called CLARITY, which

allows brain structures to be viewed in ways never before possible. These techniques have dramatically accelerated discoveries in brain science.

“Dr. Deisseroth’s approaches have initiated a revolution in the field of neuroscience,” said Nathan Urban, the Dr. Frederick A. Schwertz Distinguished Professor of Life Sciences and head of the Department of Biological Sciences.

Named a “Breakthrough of the Decade” by Science magazine in 2010, optogenetics uses light sensitive proteins to control the activity of individual neurons or specific populations of neurons. Using this approach, researchers can selectively activate or inactivate these genetically modified neurons using light, allowing unprecedented control of neuronal activity. Optogenetics is now being used widely to study the mechanisms of normal brain functions, like memory and sensory perception, as well as abnormal conditions like Parkinson’s Disease, addiction, depression and autism.

Deisseroth’s latest work focuses on CLARITY, a chemical technique that turns unlabeled brain tissue transparent, allowing researchers to visualize and



KARL DEISSEROTH

study the brain’s 3-D structure and circuitry using standard molecular probes.

His work has been widely recognized by the scientific community. He was awarded the National Institutes of Health Director’s Pioneer Award, a Presidential Early Career Award in Science and Engineering, a McKnight Foundation Scholar Award, the Lawrence C. Katz Prize in Neurobiology, the Naka-

sone Award of the Human Frontiers Science Program and The Brain Prize from the Grete Lundbeck European Brain Research Prize Foundation. He has been elected to the Institute of Medicine.

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.

CMU Receives \$10 Million Gift From Heinz Endowments For Heinz College Building Renovation

■ Ken Walters

Carnegie Mellon has received a \$10 million gift from The Heinz Endowments for the renovation and expansion of Hamburg Hall, home of the Heinz College. The gift will provide funds for new facilities, including collaborative student project spaces and an auditorium.

“We are deeply grateful to the Endowments and the Heinz family for providing this transformational gift, one that will help us strengthen the Heinz College in its vitally important work at the intersection of information technology, public policy and management,” said CMU President Subra Suresh.

The university supported the initial phase of renovations for Hamburg Hall. The new funds will enable CMU to expedite the final architectural designs of Phase II of the project, finalize construction planning and begin additional renovations and expansion.

“This latest gift by The Heinz Endowments is vital to our ability to accommodate the increasing number of talented students who want to attend the Heinz College,” said Ramayya Krishnan, dean of the Heinz College and the William W. and Ruth F. Cooper Professor of Management Science and

Information Systems. “This wonderful gift will allow the college to facilitate collaborative research and learning in our areas of focus, and pursue new opportunities that technology and global collaborations are making possible.”

“It is a privilege for the Endowments to support this nonpareil institution, whose students and faculty, as a regular part of their demanding academic regimen, collaborate in finding creative solutions to the most difficult social and economic challenges facing our region,” said Robert Vagt, president of The Heinz Endowments.

The Endowments has been instrumental in helping the Heinz College build many of its important programs and in hiring talented faculty to advance research and education. A recent research initiative is CMU’s Traffic21, which uses technology to develop and deploy efficient, cost-effective transportation solutions, such as “smart” traffic signals that improve travel time and reduce vehicle emissions. Another initiative receiving support is PROGRESS, a program to help women and girls develop better negotiating skills for success in life.

Originally launched in 1968 as the School of Urban and Public Affairs, the



HAMBURG HALL

Heinz College was renamed the H. John Heinz III School of Public Policy and Management in 1992 in recognition of the late Sen. Heinz’s legacy of working across political divides to promote greater good for society. In 2008, the school received \$13 million from The Heinz Endowments to establish the Heinz College, which launched a new School of Information Systems and

Management in addition to a School of Public Policy and Management.

The gift will allow the university to continue its momentum in transforming the Forbes Avenue corridor. Hamburg Hall sits across the street from where the new Tepper Quadrangle, established by a gift from David Tepper’s charitable foundation, will be located along Forbes Avenue.

Report Shows Pittsburghers Are Civic-Minded

■ Shilo Rea

Pittsburgh residents are significantly more civically healthy than other Pennsylvanians and average Americans, according to a new report conducted by Carnegie Mellon and the University of Pittsburgh and produced by the National Conference on Citizenship (NCoC).

Civic health, a measurement of community participation in activities such as voting, interacting with and trusting neighbors, and other actions to further public interest, has been shown to be a major factor in a community’s ability to be resilient during economic downturns.

Pittsburgh Mayor Bill Peduto, a longtime supporter of civic-minded approaches to community building and government, endorsed the findings and recommendations of the “Pittsburgh Civic Health Index” in December.

“The results highlighted in the ‘Pittsburgh Civic Health Index’ reinforce what I have long believed — Pittsburghers care deeply about their neighborhoods and our city as a whole, and they’re willing to work with each other and our neighboring communities to make it better,” Peduto said. “Active

citizen participation and engagement are an essential part of a healthy democracy. I will work to make sure that we create more opportunity for public deliberation

in levels of political involvement, with Pittsburgh residents more likely to attend public meetings and voice concerns. Pittsburghers are drastically more likely

with background information on a topic and trained moderators to guide the discussion, we can improve the quality of citizen engagement and the manner in which communities interface with governments. Many Pittsburghers have already been involved in these kinds of deliberative events, but now we have the opportunity to institutionalize and integrate these practices at the level of local government.”

The “Pittsburgh Civic Health Index” was funded by the Pittsburgh Foundation. The recommendations in the report are supported by Pittsburgh-area groups and organizations with experience in the practices and principles of deliberative democracy, including 10,000 Friends; Coro Center for Civic Leadership; Design Center; Dialogue and Resolution Center; Fourth Economy; Jackson/Clark Partners; Mediation Council of Western Pennsylvania; and Pitt’s Survey Research Program and Center for Social and Urban Research.

at the city level as well as to engage the city more meaningfully with our neighbors.”

Ilijer Zherka, executive director of NCoC said, “This report reveals Pittsburgh’s strong civic health. Compared to many other metropolitan areas, Pittsburgh residents have very high levels of political participation and community engagement. We are proud of our partners at Carnegie Mellon University and the University of Pittsburgh who help ensure Pittsburgh continues this tradition of producing highly engaged neighbors and neighborhoods.”

The “Pittsburgh Civic Health Index” shows that the Pittsburgh region exceeds both Pennsylvania and the U.S.

to have contacted a public official — 36.8 percent more likely than average Americans and 37.4 percent more likely than the rest of Pennsylvania. Pittsburgh residents also interact with their neighbors more and are 37.3 percent more likely to trust our neighbors than other Americans.

“A city’s civic health is structurally connected to a city’s overall health, and it is imperative that we embrace this opportunity to cultivate a spirit among citizens to become more involved,” said Robert Cavalier, director of CMU’s Program for Deliberative Democracy in the Dietrich College of Humanities and Social Sciences. “By designing opportunities for community members to engage in well-structured conversations,



ONLINE:

READ THE FULL “PITTSBURGH CIVIC HEALTH INDEX”

REPORT AT [HTTP://NCOC.NET/PITTSBURGHCHI](http://ncoc.net/pittsburghchi).

Initiative Offers 8 New Interdisciplinary Concentrations

■ Kelly Solman

One of the fastest growing areas of the economy is the creative industries sector that blends technology and arts and includes social media, games, the maker movement and responsive environments.

To meet growing demands of employers and interest of prospective students in this area, Carnegie Mellon is launching eight interdisciplinary undergraduate concentrations as part of a new

integrative design program that builds on decades of CMU's success in the arts and technology.

In August 2014, concentrations and minors will be available in Animation and Special Effects, Entrepreneurship for Creative Industries, Game Design, Intelligent Environments, Learning Media, Media Design, Physical Computing and Sound Design.

Student who choose Game Design,

for example, will learn theory and skill from faculty experts across the university in key areas such as dramatic narrative and character development; visual and sound synthesis; special effects and performance capture; programming and engine development; interface and interaction architecture development; game assessment and redesign.

Students who choose the Entrepreneurship for Creative Industries concentration will develop the knowledge and skills to navigate new markets, identify the diverse experts who will be able to skillfully collaborate with each other, and lead those teams from concept to product.

The concentrations will be available to all students and will be embedded in relevant degrees across the 25 units across the university. The minors will be completed alongside a primary major.

"The model is such that one-tenth of your undergraduate education is a technology-arts interdisciplinary experience. It helps develop T shaped knowledge where students get in-depth knowledge in a discipline combined with cross-training that allows them to collaborate in diverse technology-arts teams. And then if the student gets interested in the interdisciplinary experience, they can stay an extra year and get more of that interdisciplinary training through

a set of related professional master's degrees" said Thanassis Rikakis, CMU's vice provost for Design, Arts and Technology.

Building on the connections already thriving between the world-class technology and arts units at CMU, Rikakis recently formed the IDEATe (Integrative Design, Arts and Technology) Network and the related Integrative Media Program (CMU-IMP). The IMP program is in collaboration with Steiner Studios and the New York City applied sciences program. It will have a hub at Steiner studios at the Brooklyn Navy Yard.

Using the network and its resources, students and faculty from all disciplines will collaborate through courses and research and in facilities designed to encourage interdisciplinary exploration and teamwork. Seven cross-cutting research themes have already been identified for the program, taking advantage of existing and planned "living" laboratories on campus.

"Integrative design is about bringing together diverse teams to solve complex problems, and no university is better positioned than Carnegie Mellon to address the demand for professionals in this area," Rikakis said. "We're taking the principles of integrative design and making them a driving principle of the curriculum, which is a significant innovation."

Build Your Dreams: TechShop Offers Discounts to CMU Community

Do you have a project in mind that you want to create? Do you need equipment, software or simply a physical space where you can work on it?

TechShop is offering membership packages exclusively to the Carnegie Mellon community through a new partnership.

Billed as a prototyping studio, a hacker space and a learning center, TechShop can provide laser cutters, plastics and electronics labs, a machine shop, a wood shop, welding stations and more. Classes are available to learn how to use the equipment.

The partnership is one of many being forged through Carnegie Mellon's new Integrative Design, Arts and Technology Network (IDEATe), which is building on the connections already thriving between the world-class technology and arts units at the university.

TechShop has several locations including one in Pittsburgh at 192 Bakery Square on the ground floor, immediately below Urban Active, and three near Carnegie Mellon's campus in Silicon Valley, in San Carlos, San Francisco and San Jose.

For more information on the IDEATe Network and discounts, visit www.cmu.edu/ideate/people-and-partners/community-partners.html.

CMU, Steiner Studios & NYC Partner For New Program

■ Ken Walters

Carnegie Mellon is partnering with New York City and Steiner Studios to create CMU's Integrative Media Program (CMU-IMP), which will be housed at Steiner Studios at the Brooklyn Navy Yard.

The Integrative Media Program will be the first Applied Sciences program to provide training in creative industries that integrate technology and the arts, focusing on research and education across technology, arts and design, sciences and humanities as well as applications in film, gaming, social media, interactive computing, performance arts, visual arts, design and architecture.

It also is the first Applied Sciences project to integrate rigorous academics seamlessly into a specialized commercial working environment, offering students the opportunity to work alongside professionals in the field.

The announcement is the latest milestone in the groundbreaking Applied Sciences NYC initiative, and the fourth project to be announced as part of the citywide strategy to increase its capacity for applied sciences and engineering

to strengthen and transform the city's economy.

"We believe New York City will be the perfect setting for CMU to provide education in these technology-based modes of expression and production — social media, games, special effects, responsive environments, product design and manufacturing, just to name a few of the areas where we will be working together," said CMU Provost and Executive Vice President Mark Kamlet. "Along with Carnegie Mellon's new Simon Initiative in effective technology-enhanced learning, there will be unprecedented opportunities to crystallize new thinking by faculty and students in this area, and design technology to support human creativity, improved learning and more diverse social interactions on a global scale."

CMU will hold classes at the studio's 25 Washington Avenue facility, which also houses soundstages, photo studios, post production and support spaces. The program will be under the direction of Thanassis Rikakis, vice provost for Design, Arts and Technology, and will begin accepting students in



August 2015. CMU and Steiner Studios also are developing a plan to offer performance capture and post-production coursework.

The initial master's degrees will offer options for one year, one semester and part-time study in NYC. Courses of studies will include new degrees in emerging media and game design, and expanded versions of existing degrees in integrated innovation in products and services, urban design, computational data science and production technology and management.

These programs are offered collaboratively across CMU's College of Fine Arts, School of Computer Science, the College of Engineering and the Tepper

School of Business.

Steiner Studios was created in 2004 as New York's first Hollywood-style film and television production facility. Founded by David Steiner (E'51) and his son, Douglas, the studio lot has grown to more than 26 acres and is home to HBO's "Boardwalk Empire," Fox's "The Following," and Warner Bros.' "The Carrie Diaries." Feature films filmed there include: "Sex & the City," "Inside Man," "Burn After Reading," "Enchanted," "American Gangster" and "The Adjustment Bureau."

The New York City metropolitan area is home to more than 8,700 CMU alumni, and is the largest alumni population outside of Pittsburgh.

A CMU Quintet

PSO Shines Spotlight on Pittsburgh Composers



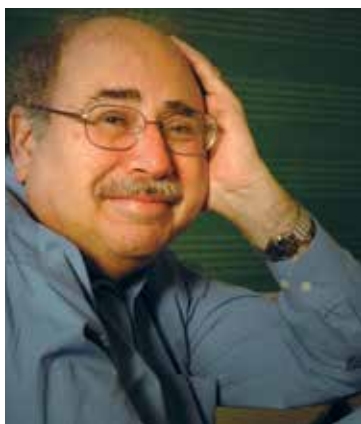
LEONARDO BALADA



NANCY GALBRAITH



BOMI JANG



DAVID STOCK



REZA VALI

IMAGES COURTESY OF THE PITTSBURGH SYMPHONY ORCHESTRA

■ Kelly Solman

The Pittsburgh Symphony Orchestra (PSO) is honoring world-renowned composers right in their own backyard with performances of their works during its 2013-2014 season.

Three professors and two alumni from Carnegie Mellon are among the eight Pittsburghers sharing the high distinction of PSO's "Composer of the Year."

The CMU faculty members are Leonardo Balada, University Professor of Composition; and Nancy Galbraith and Reza Vali, School of Music professors. David Stock, an emeritus professor at Duquesne University, and Bomi Jang, a doctoral student at the University of Pittsburgh, are the CMU alumni being honored.

The "Year of Pittsburgh Composers" kicked off in October with a world premiere of Stock's "Sixth Symphony."

"How extraordinary that the PSO has done this," Stock said. "There is not another orchestra in the country that has focused on its own city's creative forces in one season. It's really astonishing, and I hope other cities will emulate Pittsburgh in this way."

Commissioned by the PSO to be part of his 75th birthday celebration, the "Sixth Symphony" was influenced by Stock's Jewish heritage, with the third movement incorporating recognizable synagogue service hymns.

Stock's compositions have been performed throughout the United States and in Europe, Turkey, Mexico, Brazil, Australia, China, Uzbekistan and Korea.

He said he is honored to be sharing the spotlight this season with one of his former students, Vali, whose most recent CD was selected as one of the top 10 favorite classical albums by NPR.

"Reza is a fantastic composer. His music is liked by people everywhere," Stock said.

Vali was born in Iran, and his compositions are largely influenced by the country's ancient Persian folk music. He recently co-founded the Center for Iranian Music at CMU, and his music has been performed in Europe,

China, Chile, Mexico, Hong Kong and Australia.

Vali said there is no real formula for what makes a great composer. From his experience, it is usually hardwired in a person.

"As an educator, I look for students who are extremely talented and have that creative energy. Then I try to give them the best classical training possible," Vali said. "Classical training is very important for a composer, regardless of the kind of music you write."

Vali contributed a movement to the world premiere of "The Elements," a five-part PSO commissioned work inspired by earth, water, air, fire and metal. "The Elements" will be performed by the PSO Feb. 7-9.

Jang, whose compositions are influenced by her Korean heritage, also contributed to "The Elements" along with the three Pittsburgh composers not affiliated with CMU: Patrick Burke, an assistant professor at Duquesne University; Mathew Rosenblum, chair of Pitt's Department of Music; and Amy Williams, who teaches at Pitt.

Jang, now a doctoral student at Pitt, recently had her "Three Little Pieces for Piano" performed as part of a solo recital in Spain by Pablo Amorós. The concert included music by Balada.

A native of Barcelona, Balada's works have been performed by a long list of the world's leading orchestras. His "Symphony No. 6 (Symphony of Sorrows)" was performed by the PSO in November. Inspired by the Spanish Civil War, the piece brings desperate tensions and desolated intimate moments to the listener as it examines the toll of war on a divided country and its subsequent individual human tragedies.

"Obviously, I think a lot about what we call good music. Good music — serious music — is very important to the development of human beings," Balada said. "A good piece moves you really to the very height of heights. It has beauty and inspiration. You can see an emotional aspect and an intellectual aspect in a classical piece that enhances

"THERE IS SOMETHING ABOUT MUSIC IN THAT ANYONE WHO HAS AN OPEN MIND AND AN OPEN HEART CAN APPRECIATE IT, IF IT'S GOOD, FROM ANY CULTURE. IT'S AS SIMPLE OR AS COMPLICATED AS THAT. YOU HAVE TO COME TO IT WITH AN OPEN MIND." —DAVID STOCK

the mind of the listener."

Balada said a great composer is one whose music has personality, like art.

"There is some kind of uniqueness about it. Like a Picasso painting. You see a Picasso and immediately you know it is a Picasso. There is something about it that is identifiable," he said.

The series wraps up March 21 and 23 with Galbraith's "Euphonic Blues."

"Euphonic Blues" premiered last year at CMU's School of Music Centennial Celebration.

Galbraith has composed for a wide variety of ensembles including symphonies, concert bands, choirs, string quartets, ballet and piano, many of

which have been performed and recorded around the world.

"It's always interesting and exciting to hear varying interpretations of my works as they are performed by different conductors and ensembles," Galbraith said.

Stock said the season's performances offer great stylistic diversity.

"There is something about music in that anyone who has an open mind and an open heart can appreciate it, if it's good, from any culture," Stock said. "It's as simple or as complicated as that. You have to come to it with an open mind."

Rhodes Scholar Says BXA Program Was Instrumental

CONTINUED FROM PAGE THREE

next fall and plans to pursue a doctorate in anthropology.

The award puts her in the right place at the right time.

"Oxford has developed additional programs focused on Burma and relevant to my planned course of study," she said.

Wittekind said she already has a number of contacts at Oxford whose support has been important in developing a research proposal and a vision for the work she plans to do at the post-graduate level.

"Courtney is a stellar alumna from our Bachelor of Humanities and Arts Program. She found a perfect, seamless balance between a compelling artistic practice and rigorous academic research, blending art and anthropology with a minor in professional writing," said Susanne Slavick, the Andrew W. Mellon Professor of Art. "Her intelligence, creativity, tenacity, diplomacy, altruism and leadership will have us all saying, 'I remember her when.' We are so very proud of her."

Wittekind currently works at The Brookings Institution, a private nonprofit organization devoted to independent research and innovative policy solutions. Prior to that, she worked with the United Nations High Commissioner for Refugees field office in Myanmar (Burma).

She is Carnegie Mellon's fourth Rhodes Scholar. Prior Rhodes Scholarships were given to Mindy Hebert DeRouen (S'02), the late Ronald Boyer (S'53) and Cindi Dennis (S'00, CS'00).

DARPA Robotics Challenge

Tartan Rescue Team Advances To Finals

■ Byron Spice

The Tartan Rescue Team's four-limbed CHIMP robot earned the third highest score among 16 teams competing in the Defense Advanced Research Projects Agency (DARPA) Robotics Challenge Trials, Dec. 20-21, in Homestead, Fla. The team was selected as one of eight eligible for DARPA funding to prepare for next December's finals.

CHIMP — the CMU Highly Intelligent Mobile Platform — scored 18 out of a possible 32 points during the two-day trials. CHIMP had a perfect score in three tasks — cutting a hole in a wall, removing wood debris and closing a series of valves. It scored points in all of the tasks it attempted, but excelled at manipulation tasks.



IMAGES COURTESY OF DARPA

ABOVE: ERIC MEYHOFER, (LEFT) A SENIOR COMMERCIALIZATION SPECIALIST AT NREC, AND SEAN HYDE, AN ELECTRICAL ENGINEER FOR THE ROBOTICS INSTITUTE, WORK ON CHIMP.

LEFT: TARTAN RESCUE HAD 50 MEMBERS, INCLUDING DAVID RICE (E'06), A COMMERCIALIZATION SPECIALIST FOR NREC, WHO WORKED TO GET CHIMP READY FOR THE TRIALS. THE DARPA ROBOTICS CHALLENGE FINALS WILL TAKE PLACE IN DECEMBER OF THIS YEAR.



DARPA is sponsoring the Robotics Challenge (DRC) to spur development of robotic technologies that could be used to respond to natural or man-made disasters, such as the Fukushima nuclear power plant crisis of 2011.

"I'm extremely proud that our team designed and assembled a robot as capable as CHIMP in little more than a year," said Tony Stentz, director of the CMU Robotics Institute's National Robotics Engineering Center and leader of Tartan Rescue. "We wouldn't be here without the technical excellence, dedication and just plain stamina of our team members."

The Tartan Rescue Team is 50 members strong, drawing from the NREC technical staff as well as faculty, staff and students from CMU's Robotics Institute. A core group of about 10 people have worked full-time on the project.

"We've been on a fast track for the past year, doing detailed design and development of CHIMP at the same time as we were writing and testing its software on surrogate hardware," Stentz said before the trials. "That's an aggressive approach to producing a robot unlike any we have built and not without risk, but it appears to be paying off."

"The software allowed us to investigate a number of issues that influenced the design of the hardware and improved the robot."

Assembly of CHIMP was completed at the end of October, which limited the time for team members to practice with the robot and develop all of the software required for each task.

CHIMP has a standing height of 5 feet 2 inches and weighs about 400 pounds. It is not a dynamically balanced walking robot, but is a statically stable robot designed to move on tank-like treads affixed to each of its four limbs. When it needs to operate power tools, turn valves, or otherwise use its arms, CHIMP can stand and roll on its leg treads.

The robot's long front arms — its wingspan is almost 10 feet — give it an ape-like appearance.

Tartan Rescue received \$3 million from DARPA to help develop CHIMP. Also key to the robot's development are the team's sponsors: Kollmorgen, Faulhaber, Google, Honeywell, Pratt & Miller, Robotiq, JLG, Oshkosh, THK, Harmonic Drive, Elmo Motion Control, Eclipse Metal Fabrication, Sepac, AGM, Glenair and Bren-Tronics.



ONLINE: MORE INFORMATION ON CHIMP AND THE TEAM, INCLUDING IMAGES AND VIDEO, IS AVAILABLE AT WWW.REC.RI.CMU.EDU/PROJECTS/TARTANRESCUE/.

After the trials, DARPA announced it would enter into funding negotiations with Tartan Rescue and seven other teams with the highest scores. Gill Pratt, DARPA's program manager for the DRC, said the agency has \$8 million budgeted for the teams and intends to spread the money evenly between them.

Pratt said based on the performance

of the robots at the trials, "I think we can make the finals a little more difficult than I had thought."

The winner of that contest will receive \$2 million. The DRC Finals, where robots will need to complete a number of tasks to respond to a disaster scenario, will take place at the end of 2014.

TEAM WRECS ADVANCES, TOO

CMU played an important role on Team WRECS, based at Worcester Polytechnic Institute (WPI), which also was among the eight teams selected for continued funding.

Chris Atkeson, professor of robotics, and 10 current or recent CMU graduate students and post-doctoral researchers, were part of WPI's Robotics Engineering C Squad (WRECS). The team, led by WPI alumnus Matt DeDonato, was one of seven teams that did not build robots, but used a 6-foot-2-inch, 330-pound Atlas humanoid provided by DARPA. The team dubbed the robot WPI's Atlas Robot for Nonconventional Emergency Response, or WARNER.

WARNER was the only Atlas robot to complete a vehicle driving task during the trials. The team amassed 11 points, tied for sixth place.

"In the short time that we have had WARNER, the team has taken a robot that could barely walk and transformed it into a machine that can drive a car, climb a ladder, use power tools and perform many human-like tasks," DeDonato said.

Martin's Passion is Building a Healthier "U" CONTINUED FROM PAGE ONE

a deep commitment to Carnegie Mellon that inspires, motivates and excites others who work with her or seek her counsel."

One of the outreach efforts Martin leads is the Peer Health Advocates (PHA) program, a group of 13 students who are trained by Martin and her colleagues to help spread important messages about health to their fellow students.

"They're our outreach arm, they're the face of the Health Center and their focus is on education," Martin said. "They focus on sexual health, alcohol and other drugs, stress and sleep, and also touch on nutrition and healthy eating topics."

The PHAs communicate to the student body by tabling at the Fence, chalking sidewalks and through a social media page. Some of the tabling events include Free Condom Fridays, which is the first Friday of each month, and Wellness Thursdays. Martin said the PHAs also host "edutainment" programs for students, such as Condom Bingo and Alcohol Jeopardy.

"Paula always looks for opportu-



PAULA MARTIN STOPS BY EL GALLO DE ORO IN THE UNIVERSITY CENTER TO SEE OWNER AND OPERATOR SHAH NEVISI AND THE FOOD BEING PREPARED.

PHOTO BY TIM KAULEN

HEALTH AND WELLNESS EVENT SET FOR FEB. 21

"Crossing Boundaries, Transforming Lives" is the theme of President and Mrs. Suresh's inaugural year at Carnegie Mellon, and First Lady Mary Suresh is working with Student Affairs and Health Services to lead a health and wellness component to the theme.

The program, which is still in the planning stages, will kick off on Friday, Feb. 21, when Mrs. Suresh will host a university-wide, interactive event for students, faculty, staff

and their families titled "Discovering Health: Exploring Wellness."

The event in the University Center, which is scheduled to run from 4:30 – 8 p.m., will promote physical, mental, spiritual and emotional wellness, and will feature some of the health-related research being conducted at the university.

"It will be a fun, energetic event for small children up to retirees, faculty, staff, students and spouses," said Paula Martin of University Health Services.

ities for the PHAs to reach out to the campus community and is always willing to work extra hours to help with the harder programs we present, such as nutrition, or attend other events," said PHA Janet Lorenz, a senior civil and environmental engineering and humanities and arts major.

"It's not just PHA that has made me so interested in health practices on campus, but Paula's ambition and love for her work that inspired me to help my fellow peers," she said.

In addition to the PHAs, Martin coordinates programming for house-fellows and resident assistants, whom she calls "extended advocates."

Martin has forged a partnership with Dining Services to provide healthier eating choices. She helped to develop a food icon system portraying healthful choice, heart smart, whole grain and vegetarian options. Some food vendors are displaying the icons on their menu boards, and the icons are prominently displayed on their online menus.

Martin is working with Dining Services on a website that will give consumers the nutritional value and the

nutrition facts panel of each food item prepared on campus.

"It's all about making it easier for the individual to make decisions that they know are better for their health," she said. "Students, faculty and staff have a higher level of overall knowledge about health in general. So, our dining vendors have to be well versed, too."

Kim Abel, former director of Hous-

"IT'S ALL ABOUT MAKING IT EASIER FOR THE INDIVIDUAL TO MAKE DECISIONS THAT THEY KNOW ARE BETTER FOR THEIR HEALTH."

— PAULA MARTIN

ing and Dining Services, says Martin has made CMU a healthier campus.

"Paula single-handedly improved nutrition education at CMU. With a multi-faceted approach, cool persistence and a solid commitment to improvement, Paula worked with the dining vendors to increase healthy menu options and modify recipes to achieve healthier food preparation," Abel said.

In addition to Dining Services, Martin has worked diligently to form working partnerships with the Depart-

ment of Athletics, Student Affairs, Counseling and Psychological Services (CAPS), Environmental Health and Safety, and the Steinbrenner Institute for Environmental Education and Research, which is sponsoring a Food and the Environment lecture series this year.

"We are very decentralized at CMU, so getting to know one person, making connections across departments makes a

big difference," Martin said.

Martin directs a counseling program for the intercollegiate sports teams covering topics such as nutrition and eating disorders, alcohol and tobacco use, and sexual health. She's a key player in the Pathways to Health program for faculty and staff, and is partnering with Student Affairs and CAPS on a new initiative titled Mental Health First Aid. The program, which may be offered to the entire university community, teaches individuals how to identify a peer cop-

ing with a mental health issue and what steps should be taken.

Alcohol.edu is another counseling tool that falls under Martin's purview. The online alcohol awareness module for first-year students is offered from when they arrive in late August through mid-October. Martin said it might soon be offered to first-years before they arrive on campus.

Martin, along with her team of health promotion specialists, takes her messages to the classroom as well, teaching several six-week, six-unit courses for students. The classes include "Managing Stress, Restoring Harmony," "Personal Nutrition" and "Relationships 101."

"Paula's goal has always been to improve mental and physical wellness, and she has found creative ways to reach students and faculty alike," said PHA Olumide Martins, a senior biological sciences major who lauded her work with EH&S to establish designated smoking areas on campus. "Her efforts have had a remarkable impact. To the campus community, Paula is a role model and hero."

Musical CAPTCHAs

Security Puzzles Provide Inspiration for Composer



■ Byron Spice

Since they were first developed at Carnegie Mellon, the distorted word puzzles called CAPTCHAs have been known to make people a little crazy, a little upset and prone to muttering words best left distorted.

Now these sometimes irritating puzzles, designed to protect websites from Internet bots, have inspired song.

New York-based composer Robert Paterson has used texts from CAPTCHAs as the lyrics of a classical song cycle for baritone and piano. Entitled CAPTCHA, the five-song cycle is featured on Paterson's newly released American Modern Recordings album, *Winter Songs*.

"I think people will probably get a kick out of it," said Paterson, who, like most people, has seemingly typed thousands of CAPTCHAs. "It relates to something that we've all experienced."

CAPTCHAs (Completely Automated Public Turing Test to Tell Computers and Humans Apart) were originally developed and the term coined in 2000 by a Carnegie Mellon team that included Manuel Blum, professor of computer science, and Luis von Ahn, now an associate professor of computer science. The idea was to protect websites from rogue programs by devis-

ing a test that could be administered and graded by a computer, but only passed by a human. The idea was quickly embraced and copied worldwide.

In 2007, von Ahn introduced reCAPTCHAs, a two-word version that harnessed the puzzles to digitize old books and periodicals. Google Inc.

acquired reCAPTCHA in 2009.

Paterson, on the other hand, was simply looking for a way to fulfill an assignment from the American Opera Project's Composers & the Voice program. He and other composers were supposed to write a variety of arias and songs that met certain challenges: using no more than four lines of text, using found text, etc.

"We were joking about ideas we could use for found text," Paterson recalled. "The weirdest thing I could think of was CAPTCHAs." He settled on reCAPTCHAs, which frequently include a real word and a fragment or misspelling of a word, and spent hours online searching for suitable reCAPTCHA texts.

When his own name came up several times in a couple of hours, "I thought, 'This is just awesome. I have to use this.'" When he came upon another text, "apparently cDumber," he instantly knew he should pair it with "Robert." He incorporated it into the piece entitled "Secretary Metadon."

Paterson and vocalist Jesse Blumberg developed pronunciations for the word fragments. Some, such as "splens," sonically suggested real words such as spleen, while others seemed to evoke a language from the future, he said.



Kovačević To Head ECE

The College of Engineering has named Jelena Kovačević to head its Department of Electrical and Computer Engineering (ECE), effective April 1. She will succeed Ed Schlesinger, who is now dean of the Whiting School of Engineering at Johns Hopkins University. ECE Professor Larry Pileggi is serving as interim department head until Kovačević assumes the post.

"I am extremely pleased that Jelena will join the college leadership as the new department head of ECE. Her exceptional scholarly reputation, demonstrated commitment to her colleagues and students, her boundless energy and enthusiasm and collegial nature make her an excellent choice for the position," said James H. Garrett, Jr., dean of the College of Engineering and the Thomas Lord Professor of Civil and Environmental Engineering.

Kovačević, a professor of biomedical engineering and electrical and computer engineering and director of the Center for Bioimage Informatics at CMU, is a passionate educator whose research involves bioimaging and multi-resolution techniques such as wavelets and frames.

NEWS BRIEFS

Cohon Named to Carnegie Corp. Board

President Emeritus Jared L. Cohon, University Professor of Civil and Environmental Engineering and Engineering and Public Policy, has been named to the Carnegie Corporation of New York Board of Trustees.

The Carnegie Corporation of New York was created by Andrew Carnegie in 1911 "to promote the advancement and diffusion of knowledge and understanding." The corporation's work focuses on the issues that Carnegie considered of paramount importance: international peace, the advancement of education and knowledge, and the strength of our democracy.

"It has been my privilege to know Jared Cohon while he was president of Carnegie Mellon, a sister institution," said Vartan Gregorian, president of the Carnegie Corporation of New York. "He has been the recipient of a Carnegie Corporation Academic Leadership Award and has also been a leader in the fields of science and technology. I consider it a distinct privilege for us to have him join our board," Gregorian said.

Also joining the Carnegie Corporation of New York Board of Trustees is journalist Judy Woodruff, co-anchor of the PBS NewsHour.

SMART ID Card Taps Begin

If you have not yet exchanged your Carnegie Mellon ID card for the new SMART card, visit The HUB to make the exchange to ensure that you are carrying the official CMU identification card. Please note the following important details regarding the SMART card transition:

- Port Authority Transit (PAT) riders are now required to tap their SMART card on the fare box reader.
- Through July 31, older style ID cards that are not expired will still be accepted on PAT vehicles.
- Beginning Aug. 1, you must use a valid, active SMART card to ride PAT vehicles.

For additional information regarding the SMART card transition and to view a list of frequently asked questions, visit The HUB website at www.cmu.edu/idplus/smart/index.html.

ACM Honors ICES Professor

Eswaran Subrahmanian has been named a Distinguished Member by the Association for Computing Machinery (ACM) for his cross-disciplinary study of design through the fields of computer science, social sciences, engineering design and systems design.

"My inspiration for this cross-disciplinary work has come from the vision of CMU's Herbert Simon and his book 'The Sciences of the Artificial' and several other design computing pioneers," said Subrahmanian, a research professor in CMU's Institute for Complex Engineered Systems (ICES). "Recently, I have been exploring the role of simulation, gaming and visualization to understand the role of participation in design of public infrastructures in India, and to deepen the information-based theory of designing."

Athlete Named to NCAA Advisory Committee

Matt Loebbaka, a junior on the men's basketball team, was chosen as a member of the Division III NCAA Student-Athlete Advisory Committee.

Loebbaka, a chemical engineering major, will be one of 24 national representatives to serve on the committee when his three-year term begins this month.

He will be representing all of the student-athletes from the University Athletic Association (UAA) and the City University of New York Athletic Conference (CUNYAC) during his term.

CMWA Donates Record Number of Hats, Scarves

The Carnegie Mellon Women's Association's Knit & Crochet Club annually donates hats and scarves to the Jewish Family & Children's Service of Pittsburgh for its Immigrant Services & Refugee Resettlement unit.

The CMWA nearly doubled its efforts from the previous year by donating 87 hats and 19 scarves.

Learn more about the CMWA at www.cmu.edu/cmwa/index.html.



CMUPD Takes the Polar Plunge for Special Olympics

Members of the Carnegie Mellon Police Department braved the frigid air and water temperatures last month to raise more than \$5,000 at the Polar Plunge, the annual event in which participants take a dive into the Allegheny River to support the Special Olympics.



LECTURE SERIES EXAMINES HUMAN IMPACT ON THE ENVIRONMENT

■ Shilo Rea

From topics such as diabetes, race and American health, pollution and politics to watershed management, Carnegie Mellon will continue to explore how humankind affects its environment with lectures from visiting experts.

“People often do not think about how the environment links to city environments, and we have been fortunate to have extremely talented faculty working in this dynamic area,” said Caroline Acker, head of the Department of History in the Dietrich College of Humanities and Social Sciences. “Because of recent flooding incidents and ongoing issues like climate change and global warming, the field is on the rise. More graduate students are coming to Carnegie Mellon to study environmental history, which is very encouraging because it is critical to look at the past to gain a better understanding of how we got to where we are.”

Throughout his career, Joel Tarr, the Richard S. Caliguiri University Professor of History and Policy, has explored the relationship between cities, the environment and technology, and the History Department has excelled for several decades in understanding how the human world impacts urban environments.

“A Disease of Civilization? Diabetes, Race and the Changing Nature of American Health”

Matthew Klinge, associate professor of history and environmental studies, Bowdoin College
Rescheduled for 4:30 p.m., Thursday, Feb. 13 (Location TBD.)

“Pollution and Politics Around Post WWII Atlanta: The Long Shadow of Underdevelopment”

Chris Sellers, associate professor of history, Stony Brook University
4:30 p.m., Friday, Feb. 28 (Location TBD.)

“Lending Nature a Helping Hand: New York City and the Rise of Watershed Management”

David Soll, assistant professor of history, University of Wisconsin-Eau Claire
4:30 p.m., Thursday, April 3 (Location TBD.)

“The Bet: Paul Ehrlich, Julian Simon and Our Gamble Over Earth’s Future”

Paul Sabin, associate professor of history and American Studies, Yale University
4:30 p.m., Monday, Nov. 18 in the University Center’s Peter/McKenna/Wright Rooms

Tarr, who has additional appointments in the Heinz College and Department of Engineering and Public Policy, studies the history of the urban environment and the development of urban technological systems. He has served on National Research Council committees dealing with issues of urban infrastructure, public transit, water pollution and the human dimensions of global change.

In 2008, Tarr was awarded the Society for the History of Technology’s Leonardo da Vinci Medal. The society’s

highest honor, the medal goes to an individual who has made an outstanding contribution to the history of technology through research, teaching, publication and other activities. His edited volume “Devastation and Renewal: An Environmental History of Pittsburgh and Its Region” was awarded a Certificate of Commendation by the American Association for State and Local History.

Additionally, Associate Professor of History John Soluri, an environmental historian, joined the CMU faculty in

1999. Soluri focuses on the relationship between social and environmental change in Latin America with a particular focus on the commodification of biological organisms. His book “Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States” (2005) won the George Perkins Marsh Award for best book from the American Society for Environmental History and traces the development of the banana from Latin American cultures to kitchens in the U.S.

CMUPD team members included: Leah Boehler, Craig Bauer, Randall Bauer, Melissa Delval, Stacey Griffin, Ryan Magill, Joseph Meyers, Heather O’Brien, Gary Scheimer and Natalie Sullivan.

CoBots Featured in NSF Video

Collaborative robots, or CoBots, developed by Manuela Veloso and her Carnegie Mellon research team, have been running errands for occupants of the Gates and Hillman centers for more than two years. Now, they are the subject of a “Science Nation” video and special report by the National Science Foundation at www.nsf.gov/news/special_reports/science_nation/collaborativerobots.jsp.

The robots operate autonomously, navigating their way through the buildings as they deliver mail and messages, or guide visitors. But they also employ what Veloso, professor of computer science, calls “symbiotic autonomy,” in that they recognize their own limitations. Without arms, they must ask people for help pressing elevator buttons, opening doors and placing items in its delivery basket. They also can search the Internet for information that they lack.

The CoBots move on an omnidirectional base, ask questions using a synthesized voice

and accept input from people through a touch-screen interface. Gates and Hillman center occupants can schedule tasks for CoBot through www.cobotrobots.com/cobot/accounts/login.

C-MITES Offers Programs for Gifted Students

C-MITES offers weekend and summer classes for gifted students in kindergarten through 10th grade. Eligible students in third through sixth grade may register to take the EXPLORE test and become a member.

C-MITES members receive first priority consideration and discounted tuition for CMU’s competitive Summer Program, as well as early access to program registrations. Testing is available at many sites throughout Pennsylvania. Financial aid is available for all C-MITES programs.

For more information, visit www.cmities.org or contact C-MITES at 412-268-1629 x1 or cmities@cmu.edu.

Nominations Now Open for Graduate Student Awards

Nominations for the Graduate Student Service and Teaching Awards are being accepted now through Friday, Feb. 7.

The committees would greatly appreciate your support in soliciting and submitting nominations of graduate students who have excelled in teaching or service so that their efforts can be recognized by the university community. Nomination information can be found at www.cmu.edu/celebration-of-education/graduate-student/index.html.

The awards will be presented on Thursday, April 3, at “Innovation with Impact: Graduate Student Celebration of Research, Teaching and Service” during Graduate Student Appreciation Week. Recipients also will be recognized at the Celebration of Education on Tuesday, April 22.

Garfield Joins CMU’s Alice Project

Children who love Garfield, the feline star of the world’s most widely syndicated comic strip, now can make their own computer animations of the lovable cat — and learn a bit about computer programming in the process — with the latest version of



Carnegie Mellon’s Alice educational software.

Wanda Dann, director of the Alice Project, said the new release of Alice features Garfield, Odie, Jon, Nermal and other characters from the popular comic strip. She said it is geared to appeal to middle and high school students as teachers are increasingly requesting educational materials for computer science appropriate for that age group.

Like all versions of Alice, the newest, Alice 2.4, will enable novices to create animations using a simple drag-and-drop interface to select character objects, props and scenes from a large gallery of 3D models.

Libraries Faculty Honored

Two faculty members in the University Libraries were honored at the 2013 Business Meeting & Awards Banquet of the Special Libraries Association/Pittsburgh Chapter.

Donna Beck received the Innovations in Technology Award for the iPad lending program that she piloted and helped implement in the University Libraries.

Lynn Berard was recognized for exemplary guidance of library school students and/or practicing library professionals. Berard shared the Mentoring Award with colleague Eve Wider of the University of Pittsburgh.

Suresh Honored by Chinese Academy of Sciences

■ Piper Staff

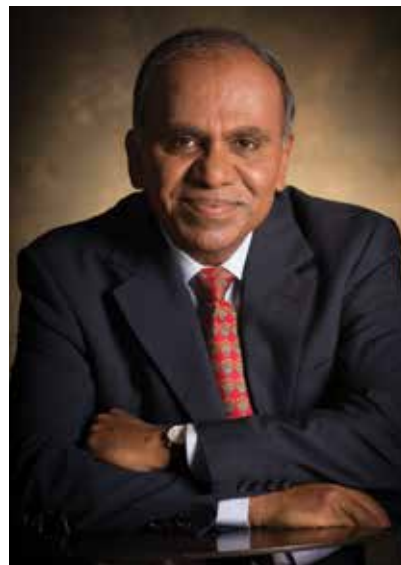
Carnegie Mellon President Subra Suresh recently was named a member of the Chinese Academy of Sciences.

Membership in the Chinese Academy is the highest academic honor offered for science and technology in China; only nine foreign members were inducted this year.

Founded in 1955, the Chinese Academy is a prestigious national scientific body in China. For more than 50 years, it has made significant contributions to the scientific progress and social economic development.

President Suresh was recognized for his scientific contributions in materials science and engineering, including his work connecting nanomechanical cell structure to disease states. He also was honored for his leadership in building the worldwide scientific and engineering research dialogue through the Global Research Council, which he helped to found while director of the U.S. National Science Foundation. The council will have its annual meeting in Beijing in April 2014.

President Suresh will be recognized during the Chinese Academy's General Assembly scheduled for June in Beijing. He is CMU's second faculty member recognized with that nation's highest title for science and technology. The late Herbert Simon was elected to it in 1994.



In addition, CMU's first Ph.D. graduate Mao Yisheng was elected to the Chinese Academy in its inaugural year. Mao, considered the founder of modern bridge building, was chief engineer for construction of the first Yangtze River Bridge in Wuhan and for the structural design of the Great Hall of the People in Beijing. He was instrumental as a founder and professor at engineering schools in China. A statue of the famed Chinese engineer, who graduated in 1919, was erected on the Pittsburgh campus in 2006.

More than 1,600 Chinese students attend CMU today, and the Chinese Students & Scholars Association is one of the largest student organizations on campus.



CMU Revamps D.C. Program

■ Shilo Rea

Six Carnegie Mellon undergraduates interested in international and public policy have arrived in Washington, D.C., to begin study in CMU's revamped Washington Semester Program (WSP).

The effort leverages the strength of faculty networks and their policy expertise in the nation's capital.

Under the new format, CMU solely operates all aspects of the program, from academics and internships to events and housing.

"This new Carnegie Mellon program allows us to shape the entire intellectual policy experience in Washington, D.C., for our students instead of having them attend capital-area universities for a semester," said WSP Director Kiron Skinner, associate professor of social and decision sciences and director of the university's Center for International Relations and Politics, which sponsors the program.

"Many top-tier research universities have a presence in Washington that includes an undergraduate education component. This will give CMU students direct insight into how the government works and interacts with NGOs and other organizations in D.C."

Skinner and Joseph E. Devine, associate dean of the Dietrich College of Humanities and Social Sciences, will each teach a course this spring at CMU's new Capitol Hill office.

Under the new program, CMU will help the students secure internships that match their interests and strengths.

Chloe Hawker (DC'15) is an international relations and politics major who will intern at the Near East Asia Center for Strategic Studies.

Hawker interned on Capitol Hill last summer as a Friedman Fellow and said programs like WSP are vital.

"Opportunities like this make me feel like I will be extremely competitive in either the professional or academic world, whichever I decide to go after leaving CMU," she said.

To complement CMU's offerings in D.C., the university is in the process of joining the University of California Washington Center (UCDC), which provides students and faculty from the UC campuses and guest universities with research and work opportunities.

"Eventually, we will offer a core course and a variety of electives taught by Carnegie Mellon faculty for both CMU and UCDC students in D.C.," Devine said.

Improving Education

Researchers Explore Challenge of Finding Optimal Teaching Techniques

■ Shilo Rea

Many debates have ensued over the best teaching strategies to use in the classroom, but it's not as simple as choosing one technique over another.

Carnegie Mellon and Temple University researchers scoured the educational research landscape and found that there are more than 205 trillion instructional options available.

In the Nov. 22 issue of "Science," the researchers break down how complicated improving education really is.

"Part of the instructional complexity challenge is that education is not 'one size fits all,' and optimal forms of instruction depend on details, such as how much a learner already knows and whether a fact, concept, or thinking skill is being targeted," said lead author Ken

Koedinger, professor of human-computer interaction at CMU, director of the Pittsburgh Science of Learning Center (PSLC) and co-coordinator of the Simon Initiative.

The findings were published shortly after CMU launched the Simon Initiative to accelerate the use of learning science and technology to improve student learning. Named to honor the work of the late Nobel Laureate and CMU Professor Herbert Simon, the initiative harnesses and aims to leverage CMU's decades of learning data and research to improve educational outcomes for students everywhere.

For the paper, Koedinger, Temple's Julie Booth (DC'05) and CMU's David Klahr investigated existing education research to show that the space is too vast,

with too many possibilities for simple studies to determine what techniques will work for which students at different learning points.

To tame instructional complexity and maximize the potential of improving the research behind it, the researchers suggest focusing on how different forms of instruction meet different functional needs.

For example, the optimal way to memorize facts may be a poor way to learn to induce general skills.

The researchers also suggest taking advantage of educational technology by conducting massive online studies; building a national data infrastructure that collects moment-by-moment data linking them to longer-term results, such as state exams and performances in a

next class; and more permanent school and research partnerships.

"These recommendations are just one of the many steps needed to nail down what's necessary to really improve education and to expand our knowledge of how students learn and how to best teach them," said Klahr, the Walter Van Dyke Bingham Professor of Psychology at CMU who directs PIER, the university-wide graduate training program in education research.

"They're also in line with how Carnegie Mellon — an educational research powerhouse — approaches education by studying the intersection of instruction, cognitive psychology, computer science, statistics, philosophy and policy," Klahr said.