



# the PIPER

CMU'S NEWS SOURCE FOR FACULTY & STAFF 1/15 ISSUE

## Carnegie Mellon University

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## Shiver in the River



PHOTOS BY KEN ANDREYO

THE CMU POLICE DEPARTMENT TEAM TOOK ITS ANNUAL PLUNGE IN THE ALLEGHENY RIVER LAST MONTH AND RAISED MORE THAN \$12,900 TO SUPPORT SPECIAL OLYMPICS IN PENNSYLVANIA. TEAM MEMBERS INCLUDE (LEFT TO RIGHT): SECURITY GUARD JIM MORAN, DETECTIVE JOE BERNARDING, POLICE OFFICER LEAH BOEHLER, STUDENT ANDREW SCHWARTZ, STUDENT LIFE HOUSEFELLOW LUCAS CHRISTAIN, SGT. RANDY BAUER, STUDENT LIFE HOUSEFELLOW BRYAN KOVAL AND LT. JOSEPH MEYERS. (INSET PHOTO) SGT. NELLO BRUNO (LEFT) AND DETECTIVE BERNARDING.

## Michael Keaton Joins ETC

■ Kelly Saavedra



Award-winning actor Michael Keaton won't be changing careers any time soon, but he will be going back to school on occasion.

As the Entertainment Technology Center's new visiting scholar, Keaton will be stopping by the ETC to talk to students about their projects and offer his insights on storytelling and the best ways to engage an audience.

Keaton, who won a Golden Globe Award for Best Actor in a Motion Picture, Musical or Comedy for his performance in "Birdman," first came to talk with students and faculty in the ETC  
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## At the Helm

### Gerry Balbier Named Executive Director of BrainHub<sup>SM</sup>

■ Michael Yeomans

Gerry Balbier is new to Carnegie Mellon, but CMU is hardly new to him.

Balbier, tapped recently to be the executive director of the university's BrainHub<sup>SM</sup> initiative, first became familiar with the university when he joined the Heinz Endowments.

Balbier had been a legislative assistant to Sen. John Heinz until his death in 1991. It was soon thereafter that he was invited to Pittsburgh to help manage the foundation's education programming. In this role he became fascinated with the cross-disciplinary research at CMU in cognitive psychology, machine learning,  
CONTINUED ON PAGE EIGHT

## Jefferson Award Winner

### Army Vet's Mom Saluted for Support of Troops

■ Kelly Saavedra

As the mother of a U.S. Army veteran, Darlene Scalese has a lot of experience preparing thoughtful care packages for a soldier overseas.

During long deployments to the deserts of Iraq and Afghanistan, items on her son's "wish list" ranged from thirst-quenching Kool-Aid pouches to milk chocolate candies.

"My son loves Sarris chocolate-covered pretzels," said Scalese, assistant to the head of Carnegie Mellon's School of Design. "Obviously, I did not ship them during the summer months, but I did send them to him at Christmas and Easter."

Driven by a deep gratitude for the sacrifices soldiers are making for her freedom, Scalese began volunteering at

Operation Troop Appreciation (OTA) in West Mifflin in 2012, kicking her care package prep skills into high gear for hundreds of far away troops, who, like her son, also longed for a few comforts from home.

"I pack for them as if each one is

my own son or daughter," Scalese said. "I will never meet these soldiers. They will never know who I am. But for these couple of moments, they belong to me."

One project had Scalese involved in organizing "Welcome Home" packages  
CONTINUED ON PAGE SIX

# Davos 2015

## CMU Leading Integrated Intelligence

■ Greg Faist

Ever since Carnegie Mellon's Nobel Laureate Herbert Simon and Turing Award winner Allen Newell pioneered the concepts of artificial intelligence and machine learning in the 1950s, CMU has been at the forefront bridging the gulf between technology and humanity.

Today, that fact is more relevant than ever. People, technology and machines are becoming increasingly interconnected. Smart devices detect structural deficiencies on bridges before they cause injury and unaffordable repairs. Humans learn through apps and software that were unimaginable a few years ago. Robots not only perform dangerous jobs that keep us safe, they are also now capable of interacting autonomously, both with people, and with each other.

This new reality — a state of integrated intelligence — is unfolding at a blinding pace, bringing vast, new opportunities for governments, business, health care and education to significantly improve human life. But it also introduces implications and questions about the shared future of humans, robots and technology that must be explored today.

A group of CMU faculty, led by President Subra Suresh, has been invited by the World Economic Forum to lead discussions on integrated intelligence at the forum's annual meeting in Davos, Switzerland, Jan. 21-24. The forum is the world's foremost international organization committed to improving



CMU'S JUSTINE CASSELL WILL DISCUSS ROBOTS AS FRIENDS AND COMPANIONS AT THIS YEAR'S WORLD ECONOMIC FORUM IN DAVOS, SWITZERLAND.

the state of the world by engaging business, political and academic leaders, and other leaders of society, to shape global, regional and industrial agendas.

CMU's leadership and expertise around integrated intelligence will continue to be highlighted beyond Davos through a number of opportunities in 2015, including a gathering of alumni, donors and corporate partners in San Francisco in February.

### CMU at Davos

President Suresh will represent CMU during the annual meeting of the forum's Global University Leaders Forum — a select group from 25 global institutions (11 from the U.S.) — and also introduce the university's IdeasLab presentation featuring:

- Justine Cassell, associate vice-provost for Technology Strategy and Impact and co-coordinator of The Simon Initiative, discussing robots as friends and companions;
- Illah Nourbakhsh, professor in the Robotics Institute and director of the CREATE Lab speaking about human empowerment and how robotic technologies can enhance and challenge society;
- Tony Stentz, research professor at the Robotics Institute and director of the National Robotics Engineering Center, exploring robots in the work place; and
- William (Red) Whittaker, the Fredkin University Research Professor, direc-

tor of CMU's Field Robotics Center and chairman and chief science officer at Astrobotic, discussing robotics in rescue environments.

“As we integrate technology into more aspects of society, we must ensure that we attend to the cultural, social, legal and economic implications — as well as the technical implications of those technologies,” Cassell said. “In my own work, I pay attention to those aspects of being human that are most important to us: relationships with other people, interaction and a feel of rapport. I build technologies that highlight and preserve



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those aspects.”

Faculty also are presenting during sessions on extreme robotics (Whittaker) and the implications of greater human-machine interaction (Nourbakhsh).

“By combining our strengths in sociology, design, machine learning, robotics and human-computer interaction, Carnegie Mellon is demonstrating how culture, big data and massive Internet connectivity can be forged into new tools that serve humanity,” said Nourbakhsh.

To further engage with industry and government leaders attending Davos, the university is also hosting a networking reception.

## the PIPER

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## Collective Intelligence

### Online vs. Face-to-Face Teams

■ Mark Burd

Human interactions and office teamwork are increasingly taking place through online communication channels. And just as with face-to-face teams, organizations can greatly benefit from the ability to predict online group performance.

Building on her groundbreaking research on “collective intelligence,” a term she helped coin to describe a measure of the general effectiveness of a group on a wide range of tasks, Anita Woolley, assistant professor of organizational behavior and theory at the Tepper School of Business, has conducted a new study that demonstrates the same key factors that influence the collective intelligence in face-to-face teams also apply to online groups. The study was published by

PLOS ONE.

“Our previous research was able to identify factors that correlate with collective intelligence,” Woolley said. “For instance, we found that having a lot of smart people in a group does not necessarily make the group smarter. However, we also found a significant correlation between the individuals’ ability to reason about the mental states of others — an ability called Theory of Mind — and the collective intelligence of the group.”

One way Theory of Mind is measured is by a Reading of the Eyes test, in which participants read the mental states of others by looking at photos of their eyes. Woolley and her colleagues divided study participants into 68 distinct groups, some restricted to communicating only online and others



ANITA WOOLLEY COINED THE TERM “COLLECTIVE INTELLIGENCE” TO DESCRIBE THE GENERAL EFFECTIVENESS OF A GROUP ON A WIDE RANGE OF TASKS.

allowed to communicate face-to-face. Individual participants were given a Theory of Mind test, and then the groups performed a series of tasks

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## Giving Props

# Jon Ward Masters CMU's Theatrical Magic

■ Kelly Saavedra

A glass slipper landed Cinderella her Prince Charming. A mask hid the true identity of *The Phantom of the Opera*. An oil can put the Tin Man in motion again.

In some of drama's most memorable moments, props play roles as integral to the story as the actors using them. Others have significance in their ability to lend authenticity to a scene.

And while there's no Tony Award for Best Prop, one can make or break a live performance. Just ask Jon Ward, who, as props master in the School of Drama, has the job of pulling off whatever vision the director has in mind.

"In our production of 'Seven Guitars,' we had to kill a rooster on stage every night," Ward said. "The director, Cameron Knight, sat me down over the summer and said, 'I don't care what we do, I want this rooster to look real.'"

Ward handed the challenge to two drama students, who worked for weeks designing a rooster body complete with circuit board, motorized wings and plastic parts they produced using the prop shop's computer controlled cutting machine.

Then, he had to be the bearer of bad news.

"This thing was *amazing*," Ward said. "And as so often happens in theater ... it got cut! It was too big."

Rooster design, take two. Ward's assistant, Kristin Ward (no relation) went to work plucking plumage from feather boas. One student molded a body cavity from paper mache, while another cast the creature's wrinkled, rubbery feet.

Ward, himself, took on the task of making the rooster's "blood bladder," cleverly connecting an intravenous therapy bag to a hot water bottle that would drain out on stage in the actor's hand when held in the right position.

"I have always found that my challenges are quite different from most jobs," Ward said, grinning.

Most of his time is spent on a grand scavenger hunt. It's his job to make sure each prop — whether he purchases, borrows or manufactures it right in his office — arms the audience with the information necessary to help tell the story "as all good props should do."

"And that's where you run into challenges," Ward said. "Is it from the right time period? Will its color clash with the costumes? Would it be more affordable to build it ourselves? Thousands of questions and compromises must be made before items can be considered show-ready."

Consider CMU's upcoming production of "The Wiz," a Tony Award-



(TOP) JON WARD LEADS THE TEAM THAT CREATES, BUILDS, PROCURES AND DESIGNS PROPS FOR THE SCHOOL OF DRAMA'S ANNUAL 30+ PROJECTS AND SHOWS. (ABOVE LEFT) KRISTIN WARD AND STUDENTS CREATED THE "SEVEN GUITARS" ROOSTER BASED ON DIRECTOR CAMERON KNIGHT'S VISION. (ABOVE RIGHT) LINDSEY SLAUGH, DRAPER, PUTS FINISHING TOUCHES ON A COSTUME FOR "THE WIZ."

winning musical from 1975 that retells L. Frank Baum's story of "The Wonderful Wizard of Oz."

Ward reinvented Toto, Dorothy's famous pup, from a pile of common junk items that would be found on a farm. Lighted lampposts carried by characters along the Yellow Brick Road are partially made of plastic soap bottles that he stumbled on in a Target store.

"It was imperative that we use all nonbreakable items when creating the lampposts, and we had the hardest time finding a plastic light bulb in the scale that we needed," Ward said. "On a routine trip to Target, I realized Method soap bottles would work just fine, and — bonus! — they came in yellow!"

A snag in the process of getting fake flowers shipped internationally

led to Kristin and a team of students hand-making the more than 500 poppies needed for the field that Dorothy, Scarecrow, Tin Man and Cowardly Lion walk through on their way to Emerald City.

"The poppies that Kristin and the students created have far more character and story than the generic ones we could have bought," Ward said. "By making each poppy by hand, we have infused these props with the spirit of the student artist who made them. They each put their unique touch on their pieces, and they can look forward to seeing them on stage. And isn't that the real pay-off? Pride, a sense of accomplishment and a job well done."

Other day-to-day challenges include coordinating their efforts with the School of Drama's costume department

and balancing the total amount of projects the team has running concurrently versus the immense number of items that each production requires.

"It's an exquisite ballet of materials flowing in and out of the Purnell Center," Ward said. "With the possibility of four or five productions happening at the same time, it takes a keen sense of space management to keep our hallways from not filling up with junk. Fortunately, I have been blessed with a very skilled crew. Things can be tight at times, but we always seem to keep things moving forward while managing to offer the audience a few thrills along the way."

"The Wiz" is showing February 19-23 in Philip Chosky Theater. For tickets, call the box office at 412-268-2407.

PHOTOS BY KELLY SAAVEDRA

# Actor Michael Keaton Discusses His New Role at the ETC

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MICHAEL KEATON SAYS HIS CHARACTER, RIGGAN, IN "BIRDMAN" WAS "PROBABLY THE RICHEST AND MOST DEMANDING" ROLE HE'S EVER PLAYED.

about three years ago, at the urging of his childhood friend, Ralph Vituccio, an assistant teaching professor at the ETC.

"How fantastic is it that he has agreed to come back to the ETC whenever he can to work with the students and share his insight and wisdom with them," Vituccio said. "To have somebody as incredibly talented as Mike to meet with our students, play and critique their interactive games and provide feedback is an incredible opportunity for our students."

Keaton, who attended Montour High School with Vituccio in the Pittsburgh suburb of McKees Rocks, is perhaps best known for his roles in "Beetlejuice," "Batman" and "Batman Returns." Other notable films of his include "Night Shift," "Mr. Mom," "Clean and Sober," "Pacific Heights," "Jackie Brown" and the just-released "Birdman."

"Mike and I have been friends since junior high school. We lived in Squirrel Hill together for a few years before he split for L.A. Even with all his success and fame, Mike has always remained an honest and down-to-earth guy. That, to me, is one of his greatest strengths," Vituccio said.

The Piper caught up with Keaton to talk about his acting career, his role at the ETC and the role technology plays in the industry.

## **Q: What attracted you to the position of Visiting Scholar at the ETC, and what will your role be?**

A: I spoke to Ralph's Visual Story class, met with students and faculty and checked out some of the cool projects the students were working on. These kids are incredible ... amazingly smart! So, my role, as Ralph and I discussed, will be to come back to visit whenever my schedule allows. I'll meet with the students, check out their projects and interactive games and give them any kind of feedback or insight that I may have.

I hope that I can be helpful. I'm not that tech savvy, but these ETC students just blew me away. The irony to all this is I could've never, ever been admitted to CMU. No way would they have ever admitted me as a student. So, now I'm going to be a visiting scholar. Gotta love it!

## **Q: What do you hope to achieve in this role?**

A: I really enjoyed seeing how these students are using new technologies in creative ways to entertain and educate. This is the future. It's where it's all happening. These students are working on video games to improve learning in the classroom and using interactive technologies that will change the way

the entertainment industry tells stories and delivers them to an audience.

I hope my involvement with the ETC will help bring whatever insight I have into how you tell stories, or how you engage an audience in an experience, or how you capture one's attention and what ways you can keep them there, in the moment.

## **Q: Technology has undoubtedly changed the entertainment landscape in gaming, television and movies, but has it changed acting? If so, how?**

A: Well, in some ways it has changed acting tremendously, but, really, in other ways, it's just you up there, and you're just hoping you remembered to put your pants on. I don't think any amount of technological effects or computer-generated imagery can cover up a bad performance. Granted, it can hide a heck of a lot. It can pull the 'sleight-of-hand' tricks so you're paying way more attention to spectacle rather than content. But, you know, bottom line, it has to be honest, whatever you're doing. If it's not, I don't think technology alone can make it better. I mean, technology will always drive the movie industry, but great storytelling will always be the more powerful part.

We humans don't relate to technology in emotional ways ... or, at least, I hope we don't. What we do connect with is the human 'story.' That's what touches and moves us. And that's what it really is all about, right? Technology is a tool. What it really comes down to, what really matters, is honesty, truth. Meaningful exchanges will always be what makes great entertainment and great performances, no matter what kind of new cool technologies are used.

## **Q: What has been your biggest challenge as an actor?**

A: The character, Riggan, I play in "Birdman" was a huge challenge. I related less to him than almost every other character I've played, in terms of the desperation. There were times in my life when I felt desperate, but it was never about this. It's a fear-based industry, and if you buy into it, you're pretty screwed. It's probably the richest and most demanding role I've ever played. You would have to go from funny to disturbing to deeply sad back to darkly funny. And because of the nature of how it was shot, you didn't have the luxury of edits, where you can do 15 takes of that one line from that angle. You had to get it all in one, and be word-perfect, and in the right place physically to accommodate the camera.

**Q: Can you talk about a few of the most influential roles you played in regard to your growth as an actor? Has technology played a role, and if so, how?**

A: Again, I'd have to say "Birdman." For me, it was an intense emotional and psychological roller coaster ride this character travels within any given scene. I mean, at the end of the day when I went home, I felt I had really been working ... hard. I don't think I felt that way in many other films.

The other part was the technical demands in the way the director, Alejandro Iñárritu, shot the scenes. There were continuous, 10-minute long tracking shots. There was no room for errors. I mean, if you didn't hit your lines or your marks exactly, you had to do it all over again.

But, boy, was it worth it. I mean, Alejandro and Emmanuel Lubezki, the director of photography, these guys are so incredibly smart and talented. They pulled off some of the most beautiful and complex shots I've ever seen. Just technically speaking, I think this is a film that will be talked about for years to come.

**Q: What was the most surprising or unexpected thing you found when you started working in Hollywood?**

A: I spent a lot of time pounding the Hollywood pavement doing standup comedy. The going was tough initially but then I started landing small parts in TV on shows like "Maude" and "The Mary Tyler Moore Show." Then "Night Shift" and "Mr. Mom" hit, and I was doing pretty well.

In Hollywood, what you want does not always lead you to make the most

intelligent choices. I was lucky to understand this at the beginning of my career. I realized that after success, the lean days would come.

It's important not to be a victim of the system, not to be enchanted by all the glitter. We are human beings. There will always be difficult, uncertain times. You have to accept that, especially we actors for whom this feeling of helplessness is magnified a thousand times.

The important thing for me, and it's what I've tried to teach my son, is when you lose your way you have to get back to base, find your camp, your tent and ask yourself, "What do I want

trite, but it's true. It's just that, having a career. I think work is important for everyone. No matter what you do. Work keeps you on track; it keeps you aligned with reality.

Look, when you come from very little money and all of a sudden you can make a good living with what you love to do, you feel like a king. I am very grateful and very blessed. But I also turned down jobs that would have made me a lot of cash, too.

It's great to make your own choices, but there's a price to pay. I could've made more money or been more famous. I could be the current groovy guy.

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**I HOPE MY INVOLVEMENT WITH THE ETC WILL HELP BRING WHATEVER INSIGHT I HAVE INTO HOW YOU TELL STORIES, OR HOW YOU ENGAGE AN AUDIENCE IN AN EXPERIENCE, OR HOW YOU CAPTURE ONE'S ATTENTION AND WHAT WAYS YOU CAN KEEP THEM THERE, IN THE MOMENT.**

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from life?" It's a philosophy in itself that would be important for the whole of humanity, but it's an even more pressing question for anyone in show business, because unlike other professions, this one is basically founded on the fragility of a moment, on the fear of not making it, of not being up to it, of failure.

So, the question I've always asked myself is: You can focus on having a really big career and, you know, a life. Or, you can have a really good life ... and a career.

I always wanted to have a life.

**Q: What has been the most satisfying aspect of your career?**

A: I really don't think about being famous much. I know that may sound

You don't want to lose your status, but I was never willing to preserve it by doing things I didn't want to do.

**Q: Who have been your role models, and why?**

A: I don't think I had one specific role model. I just always took notice of people who really just knocked me out, and that's been a whole lot of people. Some people who come to mind are Robert Duvall, Nicole Kidman, Glenn Close ... really unbelievable, incredibly talented people. What I would glean from them is really extraordinary because their discipline, their focus, their work ethic and attention to detail was just really inspiring.

Jack Nicholson was someone I always admired, but to work with him was fantastic. His professionalism was incredible. He's so committed, and when we did "Batman" he just went right at it. Here's a guy who's played all the great roles, and he's going to play the Joker. He never made a comment about it, never was too cute about it. He totally committed to the idea.

There are so many great and talented people I've worked with, and I can honestly say I've learned and taken away something from all of them.

**Q: Why do you think your career success has spanned decades while others' stars have burned out? What's your recipe for success?**

A: I don't know about any recipe for success. I don't know if some of my choices were always the wisest thing to do, but if a project interests me then

I'll go for it. So much of it depends on where I am right now in life in terms of my choices. Sometimes I look at if the story resonates and seems popular right now. Sometimes it's just a simple business decision, and other times does this make me go, "Whoa! Can I pull this one off?" That usually wakes me up. I love a challenge.

If I had to do the same kind of character or story over and over again ... I'd probably go out of my mind. That's one of the reasons I wasn't interested in doing "Batman 3," that, and the script really sucked. And to be honest, I don't really want to do work that doesn't interest me. I've done stuff where I wasn't that good, and I just got tired of doing stuff I wasn't interested in. I just decided that I won't do a lot of things.

Financially, there were probably parts where I could have done quite well, and I thought that's not what I am. It's bull. I'm lying. I won't do it. And you pay a price financially. And I go, that's okay, this one's on me.

**Q: You're a Pittsburgh native now living in Montana. How does Big Sky Country compare to the Steel City for you?**

A: I have a house in L.A., but I spend as much time as possible on my ranch in Montana. I like to be surrounded by nature. I love horses. I used to compete, riding cutting horses. I like to fish. I love fly fishing. I have a beautiful wild stream running through my ranch. Whenever I get the chance, I'm out and about. It levels me and gives me quiet and peace.

Pittsburgh is my alter ego. I'm a Pittsburgh boy, and I really identify with the 'Burgh. This is where my roots are. My family is still all here. Some good friends are still here, and I love coming back.

What is kind of interesting is that there are similarities between Montana and Pittsburgh. I think you can make a lot of comparisons between Montana and Pittsburgh, particularly in the people. The people [in Montana] are not that much different from Pittsburgh ... a really strong, blue-collar work ethic, very pragmatic, a no-bull kind of people. You just get things done, and you don't complain about it. There's an honesty and a down-to-earth quality in both places that I really cherish.

But there are a few HUGE things Montana doesn't have ... the Pirates, the Penguins and the Steelers!



MICHAEL KEATON AND ETC ASSISTANT TEACHING PROFESSOR RALPH VITUCCIO WERE FRIENDS GROWING UP TOGETHER AND BOTH ATTENDED MONTOUR HIGH SCHOOL IN THE PITTSBURGH SUBURB OF MCKEES ROCKS.

# Army Vet's Mom Saluted for Support of Troops

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filled with essential household items for a group of single soldiers returning to their base in Italy after a lengthy stay in Afghanistan. Afterward, she was asked if she'd like to organize similar Welcome Home packages for a new veterans support program in the Pittsburgh area.

She accepted.

"It was kind of a natural transition for me," Scalse said. "The new program fills a gap by helping to defray the costs associated with establishing a new home, and our veterans deserve that kind of support."

With compassion, friendliness and "crazy" organizational skills, Scalse now manages the Welcome Home program, donating 30 hours per week to veterans facing extreme poverty or financial hardships.

Her active devotion to the military community has earned her a 2014-2015 Western Pennsylvania Jefferson Award. The Jefferson Awards program was founded in 1972 by Jacqueline Kennedy Onassis, U.S. Senator Robert Taft Jr. and Sam Beard to honor unsung heroes and is widely regarded as the Nobel Prize for volunteerism.

In 1976, former Pittsburgh Post-Gazette editor John Craig established a local Jefferson Awards program to honor volunteers in Western Pennsylvania. Fifty winners are chosen each year from among those nominated, and one of those 50 will be selected to represent Western Pennsylvania at the national Jefferson Awards ceremonies in Washington, D.C., in June.

Scalse continues to work closely with caseworkers through the VA Health-care for Homeless Veterans program to identify veterans' needs and then coordinate the purchase of new mattresses, bedding, cookware, dishes, glasses, cleaning supplies and other useful items. She also arranges taxi service to transport veterans



PHOTO BY KELLY SAAVEDRA



PHOTO COURTESY OF OPERATION TROOP APPRECIATION

LEFT: DARLENE SCALESE'S ACTIVE DEVOTION TO THE MILITARY COMMUNITY HAS EARNED HER A 2014-2015 JEFFERSON AWARD, WHICH HONORS UNSUNG HEROES AND IS WIDELY REGARDED AS THE NOBEL PRIZE FOR VOLUNTEERISM. RIGHT: SCALESE PACKS HOUSEHOLD ITEMS FOR THE WELCOME HOME PROGRAM FOR VETERANS, WHICH SUPPORTED 144 FAMILIES AND 680 INDIVIDUALS IN THE PITTSBURGH AREA BETWEEN JANUARY AND SEPTEMBER 2014.

dealing with physical challenges or post-traumatic stress disorder to their doctor and therapy appointments.

Between January and September last year, OTA's local Welcome Home program supported 144 families and 680 individuals.

"It's such a great feeling to be able

the soldiers, sailors, airmen and marines serving overseas. Working from wish lists received by the organization, Scalse rounds up favorite cereals, soups and snacks for some. Hygiene items such as soaps, shampoos and hand sanitizers also are well received, as are books, DVDs and board games, which troops

making noticeably fewer trips to the hair dresser to cover the gray," Scalse said with a hint of relief. "But I'm not done giving back to the soldiers who have given up so much for our freedom."

The connection she and the organization make with soldiers — and the impact it has on their morale — is evident in the flood of heartfelt thank you notes OTA receives from troops all over the world.

"The apple sauce, socks and cookies went like hot cakes," wrote one Army specialist.

"Everyone is going nuts over all this stuff! Thank you so much for your support!" wrote a senior airman.

One Army corporal stationed in Kuwait said, "It was like opening presents on Christmas day, and it is a feeling I haven't felt since I was a young man."

OTA has supported over 140,000 deployed troops since 2004.

**OPERATION TROOP APPRECIATION HAS HELPED MORE THAN 140,000 MILITARY MEMBERS SINCE 2004. TO LEARN MORE, VISIT [WWW.OPERATIONTROOPAPPRECIATION.ORG](http://WWW.OPERATIONTROOPAPPRECIATION.ORG).**

to thank the veterans in person," Scalse said. "And when you get a hand-drawn thank you card from a 4-year-old in appreciation for helping her family, well, I just have so much pride in OTA, I could go on and on."

Scalse still sets aside one Saturday per month to make care packages for

use to decompress after missions.

For those in more remote locations, Scalse fulfills requests for protein bars and powders, cans of tuna and baby wipes, which help soldiers without nearby shower facilities to refresh from the sand and sweat.

"Now that my son is retired, I am

## CMU & Tony Awards Open Nominations for Theatre Educators

■ Pam Wigley

The Tony Awards honor the best in Broadway theatre. This year, the spotlight also will shine on the teachers behind the scenes.

Now through March 31, nominations are being accepted online for K-12 theatre educators to receive the inaugural Excellence in Theatre Education Award presented by Carnegie Mellon and the Tony Awards.

"At Carnegie Mellon, I have the privilege of seeing education transform the lives of talented young people every day, and then I watch as those students transform the world," said Dan Martin, dean of the College of Fine Arts at CMU, the first, exclusive higher education partner of the Tony Awards.

Anyone — from students and school administrators, to friends, neighbors and family — can nominate a teacher for consideration.

Nominees must be current teachers at an accredited K-12 institution or recognized community theatre organization in the U.S. He or she must be a teacher whose position is dedicated to and/or includes aspects of theatre education. For detailed criteria or to nominate a teacher, visit [cmu.edu/tony-awards](http://cmu.edu/tony-awards) or [tonyawards.com](http://tonyawards.com).

This annual award will recognize a K-12 theatre educator in the U.S. who has demonstrated monumental impact on the lives of students and who embodies the highest standards of the profes-

sion. A panel of judges comprised of the American Theatre Wing, The Broadway League, CMU and other leaders from the theatre industry will select the finalists and winner.

CMU's School of Drama is the oldest drama degree-granting program in the U.S. and celebrated its centennial in 2014. In the past century, CMU has produced hundreds of Tony nominees and its alumni have won 39 awards to date. During last year's live Tony Awards telecast, CMU alumni Zachary Quinto and Matt Bomer announced the upcoming educator award initiative.

The award finalists will be announced in the spring and each will receive an honorarium. A single winner

will be selected to receive the Excellence in Theatre Education Award on stage at Radio City Music Hall during the 69th Annual Tony Awards telecast at 8 p.m. ET on Sunday, June 7 on CBS.

"This new award underscores our longstanding commitment to theatre education," said Heather Hitchens, executive director of the American Theatre Wing, and Charlotte St. Martin, executive director of The Broadway League. "Innumerable Tony Award winners have thanked their teachers during acceptance speeches. Starting this year, we're putting educators and their essential roles at center stage."

# Exploring the Cosmic Dawn

■ Jocelyn Duffy

When most people pack their bags for a trip to an island, they pack swimsuits and sunscreen. Tabitha Voytek, a doctoral student in physics, packs ... a telescope.

At full size, the telescope is only a couple of meters wide and looks like a large four-petaled flower. Its petals fold up so that it fits into a container no bigger than standard-sized luggage, allowing Voytek to take it to some of the most remote locations in the world.

Called Sonda Cosmologica de las Islas para la deteccion de Hidrogeno neutro, or SCI-HI for short, the telescope is a low-frequency radio telescope. SCI-HI collects information about the universe during the “Cosmic Dawn,” a period of time approximately 10 billion years ago — around 1 billion years after the Big Bang — when the first stars formed. The radio telescope finds this information in the 21-centimeter line of neutral hydrogen atoms that exist in the gas around stars and galaxies.

“We’re trying to understand the history of how the first stars heated up the gas around them, which will give us a picture of an historical era about which we currently have no data,” Voytek said.

Voytek built the telescope in a lab at CMU through a joint collaboration between her adviser, Physics Professor Jeffrey Peterson, and a research group from Mexico’s National Institute of Astrophysics, Optics and Electronics.

The telescope observes electromagnetic radiation at around 40-130 MHz, which makes it impossible to get readings from the 21-cm line in populated areas due to interference from man-made radio signals. FM radio, for



PHOTO COURTESY OF MCS

PHYSICS PH.D. STUDENT TABITHA VOYTEK WORKS WITH SCI-HI, HER LOW-FREQUENCY RADIO TELESCOPE THAT COLLECTS INFORMATION ABOUT THE UNIVERSE WHEN THE FIRST STARS FORMED APPROXIMATELY 10 BILLION YEARS AGO.

example, operates right in the middle of that band, at around 88 to 108 MHz. To get unimpeded data, Voytek and other 21-cm cosmologists must go to unpopulated areas that are free of television, radio and even cellphones, like Isla Guadalupe, an uninhabited island off the coast of Mexico’s Baja California peninsula.

To get there, Voytek’s research team “hitchhikes” on a Mexican naval ship, which is standard practice for researchers and other visitors headed to the island. The group is forced to camp on the ship’s deck for two nights with their fellow transients until they reach their destination.

When they arrive, they bunk with local lobster and abalone fishermen who are stationed on the island. They have unreliable access to electricity and no running water. But it’s all worth it for the “clear” skies.

Voytek and her collaborators are planning their next trips that will take them, and the telescope, to Mexico’s Isla Socorro and Isla Clarion, and South Africa’s Marion Island, which is close to Antarctica.

When she’s not bringing data back from a deserted island, Voytek is bringing radio astronomy to the public, conducting public lectures on the topic and working with the

Entertainment Technology Center and Pittsburgh’s Carnegie Science Center to create a planetarium show called the “The Hydrogen Sky.”

She is also an active member of the Society of Women Engineers (SWE). As part of the group, Voytek has participated in a number of K-12 outreach programs, served as the society’s graduate member coordinator and volunteered as a collegiate leadership coach, training SWE student sections on leadership skills, among other activities. For her work, Voytek won the 2014 SWE’s outstanding collegiate member award.

She was one of 10 women to receive the award this year.

Voytek first joined SWE as an undergraduate engineering student at the University of the Pacific in California; she continued her involvement after coming to CMU for her graduate work in physics.

“A lot of the challenges I face as a female grad student in physics aren’t all that different from the challenges of the female engineering Ph.D.s,” Voytek said. “SWE has emerged as the preeminent organization advocating for women in STEM.”

## Online vs. Face-to-Face Teams

CONTINUED FROM PAGE TWO

together to measure their collective intelligence.

“Our findings reveal that the same key factors predict collective intelligence in both face-to-face and online teams,” Woolley said. “Theory of Mind abilities are just as important to group effectiveness in online environments as they are in office environments. We hope that this insight will give organizational managers a new tool in predicting the success of online teams.”

The study also mirrored findings from previous research that demonstrated collective intelligence was significantly correlated to the number of women in the group; a higher number of women raised the group’s collective intelligence. There also is a negative correlation associated with the number of speaking turns by group members. Groups in which conversation was dominated by a few individuals scored lower in terms of collective intelligence, as opposed to groups with more vibrant discussions — whether these discussions took place in a room or online.

The study, titled “Reading the mind in the eyes or reading between the lines? Theory of Mind predicts collective intelligence equally well online and face-to-face,” is co-authored by Woolley and David Engel, postdoctoral associate at MIT; Lisa X. Jing, research assistant at MIT; Christopher F. Chabris, associate professor of psychology and co-director of the Neuroscience Program, Union College; and Thomas W. Malone, director of the MIT Center for Collective Intelligence.



TABITHA VOYTEK (LEFT) WAS ONE OF 10 WOMEN TO RECEIVE THE SOCIETY OF WOMEN ENGINEERS’ OUTSTANDING COLLEGIATE MEMBER AWARD.

# Gerry Balbier Named Executive Director of BrainHub<sup>SM</sup>

CONTINUED FROM PAGE ONE

robotics and human-computer interaction that serves as the underpinnings of CMU's Simon Initiative focused on the science of learning.

"[Heinz Endowments] was the first foundation to invest in the technology transfer of the work of John Anderson," he said, referring to the pioneering CMU professor who developed some of the earliest computer models of human learning, building on the work of Herbert Simon.

Balbier said that what instantly caught his eye about CMU was the ease with which faculty from different departments and disciplines coalesced around problems, each bringing their own strengths and perspectives to discover new approaches and solutions.

"Many institutions aspire to this kind of multidisciplinary approach. CMU has achieved it," he said.

Balbier, who had earned a master's degree in public management at the Heinz College, transitioned to the private sector for several years with Pittsburgh-based Apangea Learning, now Think Through Learning, a fast-growing provider of "blended" math curricula that combines intelligent tutors and one-to-one interaction with human teachers to millions of students across the country.

He then took a role at the Jewish Healthcare Foundation to launch a learning platform for health care professionals.

When he was approached about



GERRY BALBIER SAYS HE WAS INSTANTLY IMPRESSED WITH CMU'S INTERDISCIPLINARY APPROACH TO SOLVING PROBLEMS.

the role at Carnegie Mellon to shepherd BrainHub, the university's initiative to accelerate research for developing new tools, methods and theories for understanding brain function and behavior, he was instantly intrigued.

Now that he is in the role, he is encouraged by the commitment the university is putting behind the initiative by advertising for seven new tenure-track faculty positions spanning the disciplines within the BrainHub domain.

"This recruitment effort builds on existing faculty strength and shows our commitment to moving our research in this domain to a new level," he said.

Much has been written about humans understanding more about the

infinite universe than about the inner-workings of their own minds. Balbier said he is excited about the brain-related research at CMU and the potential for greater collaboration between faculty across the colleges, including many individuals who were not involved in brain research in the past.

In addition to his duties in working with faculty to attract increased research funding and visibility for CMU brain research, Balbier says he views one of his primary roles as creating opportunities for faculty interaction that can lead to new collaborations.

Balbier, who grew up inside a record store owned by his father that served as a social hub for audiophiles

and musicians, compared these kinds of interactions to members of a band "riffing" on melody and collaboratively developing it into a complete song.

In his first several weeks in his new role, he has already convened the first of what he hopes to be regular "BrainHub Exchange" gatherings of BrainHub-related faculty from across the colleges and departments included in the initiative.

The initial session in which faculty shared their research interests in an informal atmosphere has already yielded three potential joint research proposals, Balbier said.

"We have the talent and we have great ideas," he said. "We need to catalyze new connections on campus and with partners like Pitt, as we have successfully done with the Center for the Neural Basis of Cognition, to accelerate our progress," he said.

Coming from the Heinz Endowments, Balbier has a natural appreciation for the significant role that local foundations play in seeding exciting new research opportunities. He is quick to point out the vital role played by the Hillman Foundation in providing support to launch BrainHub earlier this year.

"Our foundations are of tremendous importance in supporting novel research that upon further development can leverage broader support from national funding sources, like the NSF or NIH," he said. "I can't overstate the value our local foundations bring to our research enterprise."

## Touching Discovery

■ Jocelyn Duffy

Our sense of touch is one we often take for granted, until our leg falls asleep and we aren't able to stand, or when we experience acute pain. The sense of touch also has been taken for granted in neuroscience, where it's the sense scientists know the least about.

An international group of researchers, including Carnegie Mellon's Alison Barth, is changing that. For the first time researchers have linked a group of neurons to a specific type of somatosensation, a finding that can open the door for a heightened understanding about our sense of touch. The research was published in the Dec. 3 issue of *Neuron*.

"Somatosensation is critical. You can somewhat overcome losing your sense of smell, sight, taste or hearing. But if you lose your sense of touch, you wouldn't be able to sit up or walk. You wouldn't be able to feel pain," said Barth, a professor of biological sciences and a member of Carnegie Mellon's BrainHub<sup>SM</sup> research initiative. "We know less about the features that make up our rich tactile experience than we do about any other sense, yet it's such a critical sense."

Somatosensation, which is another word for our sense of touch, occurs in a number of forms, like feeling texture, temperature, pressure, pain or vibration. It's responsible for proprioception, which helps us know where we are within our environment. It tells us if our feet are firmly planted on the floor, or if we're holding a paper cup tightly enough that it won't slip out of our hand, but loosely enough that we don't crush the cup. Scientists know a good deal about the molecular receptors that mediate the different types of somatosensation, but they know little about how touch is represented in the brain.

"When someone gets pricked by a pin, we know how information about that sensation travels from the skin to the spinal cord. But what happens in the brain has been much less clear — it seems like all different sorts of touch information get jumbled together," said Barth, who also is a member of the joint Carnegie Mellon/University of Pittsburgh Center for the Neural Basis of Cognition (CNBC).

It was a jumble — until now.

In previous studies, Barth had discovered that certain groups of neurons in the brain's neocortex were reliably more

active than others. Using the fos-GFP mouse, a transgenic mouse model Barth created to study activity in live neurons, she and her colleagues set out to see if these neurons were generally more excitable, or if they responded specifically to one tactile stimulus. They found that these neurons reacted much more quickly and strongly when a puff of air was directed at the mouse's whiskers, while other neurons had little or no response.

"This is the first time we've been able to visualize neurons in the somatosensory cortex that 'like' a specific tactile stimulus," Barth said. "It shows that neurons are individuals. They have different jobs to do in the cortex. In this case these neurons had a special feature: they responded when all of the mouse's whiskers moved at once."

They also found that the neurons in question received direct synaptic input from the posteromedial nucleus of the brain's thalamus. This shows that the neurons that react to the puff-of-air stimulus have a dedicated, unique sub-network of connections that enable them to communicate with one another and amplify the information they are receiving from the stimulus.



FOR THE FIRST TIME, RESEARCHERS, INCLUDING CARNEGIE MELLON'S ALISON BARTH, HAVE MADE A DISCOVERY THAT COULD LEAD TO A BETTER UNDERSTANDING OF HOW TOUCH IS REPRESENTED IN THE BRAIN.

"Now that we have isolated the neural underpinnings of a certain feature, we can try to manipulate and change the interactions between cells. Can we train the mouse and strengthen the connections between neurons? What happens to perception if we remove the connections? It's really the frontier of truly understanding somatosensory function," Barth said.

# To the Moon, Andy!

## CMU Rover Ahead of Pack, Takes \$500K Milestone Prize

■ Byron Spice

Tough little guy, that Andy.

The four-wheeled robot is designed to scramble up steep slopes and survive temperature swings and high radiation when it explores caves, pits and polar ice on the moon.

In the \$20 million Google Lunar XPRIZE competition, Andy was the first and only rover to meet development benchmarks for flight readiness, which led judges to give the CMU team the contest's Mobility Milestone Prize. The prize includes a \$500,000 cash award that the team will use to further Andy's development.

"This is the culmination of lots of work by lots of people and is the next step toward Carnegie Mellon becoming a spacefaring university," said William "Red" Whittaker, professor of robotics and director of the Field Robotics Center.

Deriving its moniker from university namesakes Andrew Carnegie and Andrew Mellon, Andy was developed by a largely student workforce, drawing on expertise and resources from across the university including the School of Computer Science, the College of Engineering, the College of Fine Arts and the Mellon College of Science.

The robot is Carnegie Mellon's contribution to an effort led by CMU spinoff Astrobotic Technology to land a robot on the moon and win the Google Lunar XPRIZE.

But, it also represents a larger ambition.

"We don't do anything just to win a prize," Whittaker said. "If we're on the moon anyway, we're going to do something while we're up there."

And exploring lunar pits is at the top of their list. These are giant, newly



WILLIAM "RED" WHITTAKER, PROFESSOR OF ROBOTICS AND DIRECTOR OF THE FIELD ROBOTICS CENTER, POSES WITH CMU'S LUNAR ROVER, ANDY.

discovered, steep-sided holes created by the collapse of underground voids.

"These pits are astounding and unexplored; it will be like coming upon the Grand Canyon," Whittaker said. "Some pits might be entrances to caves. You can't explore caves from a satellite; you've got to be there, on the ground, so robots are the next big step."

Andy's wide stance, low center-of-gravity and high belly clearance combine for unprecedented stability, slope-climbing and straddling of rocks. Whittaker noted that Andy achieves its superb mobility with very wide wheels and light weight. Andy's wheels are a foot in diameter, which is exceptional for a three-foot rover. Its weight on the moon will be less than 10 pounds.

Jon Anderson, a master's degree student in robotics, led the mobility team. The team's innovations gave Andy the

softest footprint and greatest strength-to-weight ratio of any space rover to date. The rover has strong pulling power and a novel suspension for transferring that power to the ground.

Extraterrestrial robots encounter radiation levels that can burn ordinary electronics. Before flight, some

faults and switching between components as necessary.

Joe Bartels, a Ph.D. student in robotics, explained that a spare component can take over operations permanently if its twin is fatally damaged, or temporarily if its twin can be recovered by rebooting after a failure.



**MORE INFORMATION ABOUT ANDY AND CARNEGIE MELLON'S LUNAR EXPLORATION INITIATIVE IS AVAILABLE ONLINE AT [WWW.CMU.EDU/GOOGLE-LUNAR-X/](http://WWW.CMU.EDU/GOOGLE-LUNAR-X/).**

of Andy's electronics will be further upgraded with space-certified parts, but Andy's team has already achieved notable reliability and space tolerance using high-reliability terrestrial parts, multiples of some critical components, and innovative software for detecting

Curtis Boirum, a master's degree student in robotics, said Andy also incorporates a new method for combining landing imagery with 3-D path reconstruction data to plan and document its exploration route.

About 50 students, faculty and staff members contributed long hours to Andy's development, with key team members including Nate Otten and Heather Jones, both Ph.D. students in robotics; Luke Metro, a sophomore electrical and computer engineering major; John Mann, a junior computer science major; and Jay Jasper, a master's degree student in mechanical engineering.

In addition to scientific exploration, Andy will accommodate a number of artistic payloads coordinated by Lowry Burgess, professor of art, and Mark Baskinger, associate professor of design.

Carnegie Mellon's Robotics Institute has led the development of a number of planetary robotic technologies for NASA, including walking robots for exploring active volcanoes, robots designed for extraterrestrial drilling and advanced wheel development.

Autonomous driving software originated at Carnegie Mellon is the basis of navigation and safeguarding for NASA's Mars' rovers.



JUNIOR COMPUTER SCIENCE MAJOR JOHN MANN (PICTURED ABOVE) DEVELOPED SOFTWARE FOR ANDY, A FOUR-WHEELED ROBOT DESIGNED TO SCRAMBLE UP STEEP SLOPES AND SURVIVE THE TEMPERATURE SWINGS AND HIGH RADIATION ENCOUNTERED WHILE EXPLORING THE MOON'S PITS, CAVES AND POLAR ICE.

# Barkin Leaves Powerful, Healthy Legacy Behind

■ Bruce Gerson

You could call Anita Barkin the Florence Nightingale of Carnegie Mellon. But then you might be selling her short.

After all, she once diagnosed Vice President for Campus Affairs Michael Murphy with a collapsed lung from across the table during a meeting in Warner Hall — without an exam and so much as a stethoscope.

“Every clinician knows the most critical way you diagnose illness is to be listening carefully to the patient, what they’re feeling, what they’re experiencing. And then you plug in the demographics. From that point on, I was golden,” Barkin said laughing.

But, she was really golden from day one.

Taking the helm with just two nurses, a secretary and a physician for a few hours in the afternoons, Barkin developed the university’s health care operation into a fully accredited model for colleges and universities around the world.

Once providing the bare minimum of primary care service, today the 24 staff members of University Health Services offer immunizations, health care screenings, treatment of illness and injury, contraceptive services, wellness exams, nutrition counseling, smoking cessation programs, allergy injections, massage therapy and more.

“I always tell people we’re like your family doctor and a little bit more,” Barkin said reflecting on her 28-year CMU tenure just days before leaving the university to be closer to family in Georgia. “We’re almost like an urgent care center. None of these things were here when I came.”

In addition to the tremendous growth on the clinical side, Barkin developed health education and outreach programs to promote healthy habits and well-being across campus. She was



PHOTOS BY TIM KAULEN

ANITA BARKIN HUGS ONE OF THE MANY FRIENDS AND COLLEAGUES WHO ATTENDED HER FAREWELL TRIBUTE IN MID-DECEMBER. AFTER 28 YEARS AS CMU’S DIRECTOR OF UNIVERSITY HEALTH SERVICES, BARKIN HAS MOVED TO GEORGIA TO BE CLOSER TO FAMILY.

instrumental in starting the Healthy Campus Task Force in 2005, initially a student-focused effort that has expanded to include faculty and staff, and in helping to host the “Exploring Health, Discovering Wellness” program in February 2014.

She also authored and managed CMU’s highly popular student insurance program, an Affordable Care Act-compliant, benefit-rich, cost-effective program in which more than 7,000 students are enrolled today.

Barkin has made her mark nationally as well as a pioneering pandemic planner for colleges and universities in the American College Health Association (ACHA). When cases of the Avian Flu, or bird flu, were reported on campus in 2006, Barkin and Environmental Health & Safety Director Madelyn Miller went to work creating an emergency response plan.

“Watching what was happening across the country in the ACHA, I saw

that colleagues were discussing this on the list-serve. I approached the ACHA president. I said we did some work at CMU and I’m happy to share what we know and what we’re learning. So I became head of the pandemic planning task force for the ACHA, which became the Emerging Public Health Threats and Emergency Response Coalition,” Barkin recalled.

Following the Avian Flu came outbreaks of SARS, the Swine Flu, various neuroviruses and most recently, Ebola.

“If you have a good emergency response plan for a pandemic, you can pretty much tweak it to apply to any infectious disease process,” said Barkin, who has held various high-level posi-

tions in the ACHA, including president from 2011 to 2012.

As ACHA chair of the Affordable Care Act Transitional Issues Task Force from 2012 to 2014, Barkin had the opportunity to co-author new regulations relating to student health insurance plans.

“Having an opportunity to interact with Health & Human Services and provide testimony to the Senate in D.C. and New York was really an interesting journey,” she said.

A year ago she was invited to attend and present at a Japanese University Health Association Conference to share some of her expertise and experi-

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DIANE DAWSON (LEFT) PRESENTED ANITA BARKIN (CENTER) WITH A FRAMED PHOTO COLLAGE AT HER FAREWELL PARTY. DAWSON WILL BE SERVING AS INTERIM DIRECTOR OF UNIVERSITY HEALTH SERVICES UNTIL BETH KOTARSKI (SEE SIDEBAR) JOINS THE STAFF IN MARCH. ALSO IN THE PHOTO ARE ENVIRONMENTAL HEALTH & SAFETY DIRECTOR MADELYN MILLER AND CMU POLICE LT. JOSEPH MEYERS.

## Kotarski Named Chief Health Officer



Beth Kotarski will succeed Anita Barkin as director of University Health Services, effective March 16. Kotarski comes to CMU from Swarthmore College, where since 2007 she served as director of Student Health and Wellness Services. Previously, she was associate director of Health Services and Women’s/Reproductive Health Coordinator at Haverford College.

“Beth was the unanimous choice of the students, faculty and staff who served on the search committee,” said Vice President for Campus Affairs Michael Murphy.

“Beyond her demonstrated leadership and clinical skills, Beth’s articulation of her vision for the health and welfare of all members of the campus community is quite compelling. Having served two of the nation’s finest liberal arts colleges, she has a clear understanding of and commitment to an intense and energizing university environment.”

Kotarski holds a bachelor’s degree in nursing from West Chester University, a master’s degree in nursing from the University of Pennsylvania and a post-master’s degree certificate as a family nurse practitioner from Widener University.

# Big Brother is Watching

## Students Take Concerns, Suggestions To City Council

CONTINUED FROM PAGE TEN

ences and her thoughts on the future of health care in higher education.

Undoubtedly, Barkin, who plans to continue to work in health care in Georgia, has served CMU and the ACHA well with her astute knowledge and expertise. However, it's her personal touch that has seemed to make the biggest impression among her colleagues, faculty, staff and students.

At a farewell gathering for Barkin, Deborah Mathis, women's health administrative chief at the University of Pennsylvania, called her a gifted leader and mentor. Marian Vanek, director of Student Health Services at Pitt, praised her for her great ability to create synergies, alliances and collaborations.

Dick Tucker, the Paul Mellon University Professor of Applied Linguistics, recalled Barkin's compassion in caring for a seriously ill Ph.D. student of his from 2001-2003. He said she was always there to assist as a surrogate mother in a 24/7 mode. Tucker named Barkin an honorary member of the Modern Languages Department.

Dean of Student Affairs Gina Casalegno called her a friend, mentor, confidant, incident commander, public health guru and personal health consultant. "She's an exemplar of the best of CMU; she's compassionate, a real-world problem solver, innovative and collaborative. She's a role model to me and so many others."

Diane Dawson, who is succeeding Barkin as interim director of University Health Services until newly hired Beth Kotarski comes on board in March, said her heart was broken. "You worked so hard to mold us as better human beings," she said. Dawson said Barkin challenged her staff to live the words of philosopher Cornel West: "Don't be successful, be great."

Michael Murphy praised Barkin for having a transformative impact on the health and welfare of the university community. "This is a very different place since when you arrived and you deserve a tremendous amount of credit for that."

Murphy said her impact has not just been in better immediate care for students, but in the focus on living a healthy lifestyle. "Anita has created a powerful legacy that will continue beyond her time here."

Barkin, whose daughters Jennifer (DC'97) and Rebecca (DC'01) traveled to Pittsburgh for the reception, said, "CMU will always be in the fabric of my being."

"I feel like I'm the luckiest person on the planet ... I have been blessed in this community. Even when we didn't always agree, I knew that there was a mutual respect and affection. You are all such wonderful people," she said.



PHOTO BY TIM KAULEN

STUDENTS SIT IN ON A PRIVATE BRIEFING WITH PITTSBURGH'S NEW POLICE CHIEF CAMERON MCLAY (STANDING) BEFORE ENTERING COUNCIL CHAMBERS TO GIVE THEIR RECOMMENDATIONS ON SURVEILLANCE POLICY.

### ■ Shilo Rea

Red light cameras are designed to enforce traffic laws, but what about the other footage they capture?

Using surveillance technologies raises serious legal and ethical questions, and cities across the U.S. are tasked with figuring out how to balance public safety with protecting privacy rights.

To help Pittsburgh officials understand the issues and develop effective policies, City Councilman Dan Gilman (DC'04) turned to Carnegie Mellon's Ethics, History and Public Policy (EHPP) seniors.

The 10 students spent the semester researching the history of surveillance technology, analyzing how similar cities have implemented different tools and policies and developing recommendations for Pittsburgh. They recently presented their findings to City Council, Debra Lam, director of the city's Department of Innovation and Performance, and Pittsburgh's new chief of police, Cameron McLay.

"It is always helpful to have a fresh set of eyes look at city policy. In this case, it is particularly helpful to have a younger perspective look at a timely issue of great national concern," said Gilman, an EHPP alumnus who credits the research skills he learned at Carnegie Mellon as a critical component of how he approaches his work in city government.

One key recommendation the students made centered on community engagement. Colin Shaffer explained how Cleveland, which uses a variety of surveillance technologies from CCTV to a Police Aviation Unit, attempted to collect and use public opinion, but fell short of capturing the complete picture

— perhaps contributing to the recent U.S. Department of Justice report that revealed a high-level of distrust among Cleveland residents for the police department.

"The public needs to understand how new surveillance technology will be used, and they need to be given the chance to give feedback on its current use," Shaffer said. "City officials must also pay particular attention to the needs and concerns of the most disenfranchised and vulnerable residents of the city."

Chief McLay called the suggestion

the course of a single semester and then offer meaningful policy suggestions to relevant stakeholders. This group took things to a new level though, and offered highly specific recommendations about wording changes in the city's Code of Ordinances that would better protect individual privacy and freedom of expression. They also suggested ways to ensure a productive and positive relationship between the police and the public as surveillance technologies become increasing integrated into

the fabric of the city."

Gilman, impressed with how much work

**TO READ THE FULL REPORT, VISIT [WWW.CMU.EDU/HSS/EHPP/DOCUMENTS/2014-CITY-SURVEILLANCE-POLICY.PDF](http://WWW.CMU.EDU/HSS/EHPP/DOCUMENTS/2014-CITY-SURVEILLANCE-POLICY.PDF)**



"music to my ears."

"When I walked in the door, I said that I wanted to do internal and external surveys because we, the police, need to know what the safety needs are, neighborhood to neighborhood," he said. "I'm a big believer in moving policing into the 21st century by leveraging technology and academic research."

The students examined some of the newest tools being used, such as mobile observation towers and drones, and pointed out the ethical, technical and privacy issues that each raises. They also offered ways Pittsburgh could implement their use within the city's current legal structure.

Jay D. Aronson, associate professor of history and the faculty director of EHPP, called the surveillance project the standard by which future senior capstone projects will be measured.

"These students did an extraordinary job of integrating historical and ethical concerns into their policy analysis, and they offered recommendations that were both forward-thinking and practical," Aronson said. "It's very challenging to learn about a complex policy issue over

was accomplished in only four months, promised their report would be put to good use.

"The City will not only review the recommendations and determine which can be implemented locally, but we will continue the dialogue and further engage the students in an ongoing policy conversation," he said.

Chief McLay also expressed interest in having the students continue their work by helping the police force with public engagement.

In addition to Shaffer, the student participants were Marie Avilez, Catherine Ciriello, Christophe Combemale, Latif Elam, Michelle Kung, Emily LaRosa, Cameron Low, Madison Nagle and Rachel Ratzlaff Shriver.

CMU's EHPP major prepares students for leadership positions in law, public policy, ethics and advocacy by providing them with a rigorous, interdisciplinary humanistic and social-scientific education. It is jointly administered by the departments of History and Philosophy in the Dietrich College of Humanities and Social Sciences.

# Students Share Personal Reflections in Prose and Poetry

■ Shilo Rea

From violence to discrimination, teenagers and young adults are not immune to the ugly side of humanity. For some, writing provides a creative outlet that can help them explore their feelings and put them on a path toward healing.

For the 16th year, Carnegie Mellon invited Pittsburgh-area high school and college students to submit poetry and prose pieces about their personal experiences with race, discrimination and other obstacles as part of the university's annual Martin Luther King, Jr. Writing Awards.

Here are three winning pieces.



First Place, High School Poetry

**Alexis Payne**

Pittsburgh CAPA

### Strange Fruit

You wonder what 'strange fruit' tastes like as you swing ashy legs from the hips of your father's reclining chair. when you ask his face contorts into a shadow, cheeks pressing air from the edges of his jawbones, eyes hollowing.

you are watching his hands curve into fists — red blisters, stitches, hard knuckles pressing into working skin... and in the place beneath your tongue, you are imagining the soft flesh of a mango pulp of an orange tart bursting body of a strawberry. when you ask him again, he is silent and pressing his fingers against the temples of his head, imagining asphyxiation suffocation...toes dangling and shadows in woods.

you are not his daughter here.  
here you are Emmet's sister,  
Evers' daughter, little brown  
church girl lifting her skirt  
to use the bathroom...  
the face of Jesus,  
a hollow, jagged shadow.

he is swallowing and searching  
for what strange fruit tastes  
like in the back of his throat,  
like maybe he can recall from his taste buds,  
pull it out from the silence  
between his lips,  
like strange fruit has been caught  
between his teeth  
or is hiding, resting on his gums.

wherever it is, you decide  
that he hasn't swallowed it yet  
and you imagine it sputtering onto the carpet  
in a burst of ebony vomit.

years later, when it dries and you've grown...  
you scrape it up with your nails and you watch  
as the black turns to  
red,  
then white,

then blue.

Third Place, College Poetry

**Joshua Brown**

Freshman in the Dietrich College

### When I was Born, I Came out Swinging

When I was born, I came out swinging.  
I spanked the nurse, and he tried wringing  
My little neck.  
I spanked the doctor, and she cried while bringing  
My bassinet.

When I was born, I came out singing.  
I tried harmonizing, desperately clinging  
To the hope that I would emerge to find  
A world willing to embrace the differing  
Pitch of my discordant heart strings.

When I was born, I came out swinging,  
Prepared to beat back the savage stinging  
Of this world's brutal preoccupation  
With my private passions.

When I was born, I came out singing  
The praises of doves, gracefully winging  
Across my future's love-torn horizon,  
Rebuking Cardinals for their bloody  
Prejudice.

My heart never stops tingling  
With love for lovely men and women,  
This part of me, ceaselessly ringing  
With rage for mankind's withheld  
Kindness.

When I was born, I came out.  
Wasn't once enough?

Third Place, College Prose

**Michelle Mathew**

Junior psychology and creative writing major

### Excerpt from "Fair and Lovely"

I'm eleven years old. My aunt is brushing my hair. She's going to brush it all the way back and tie it up in a ponytail. The brush pulls hard at my hair and I know it's probably going to hurt when she ties it up tight at the end. I don't like the way my forehead looks when she brushes the hair back. Now I can clearly see my eyebrows — bushy, like my mom's, who at least gets to pluck hers into nice, clean arches. I always hated having my hair tied up in a ponytail.

When my aunt finishes brushing my hair I want to run away — I've been standing here for half an hour. I want to go downstairs and play with my cousins before we have to go to church. I'll bet the ceremony will be like the one at my last uncle's wedding. They're always long, but I never know exactly how long because the priest speaks like he's shouting, into a microphone, in Malayalam, and I don't speak much Malayalam, so I can never tell what part of the ceremony we're at.

But I'm not allowed to leave yet. She takes out a plastic container of powder, the same kind she's been putting on her face. The powder is sort pinkish. I didn't know I had to wear it too.

"Close your eyes." She tells me. I close my eyes and pinch my mouth shut while she rubs the powder all over my face. She rubs it so hard that for a second I'm scared I can't breathe. When I open my eyes she turns me around to the mirror and smiles.

"There. Now your skin looks nice and fair."

Fair. She doesn't mean it the way teachers say it at school, when they talk about treating other people like you would want to be treated. When she says "fair," she means "not tanned."

Downstairs, the rest of my cousins are waiting to leave. Mithun, who is three years younger than me, takes one look at me and starts laughing like I'm the funniest thing he's seen all day.

"Meesha penna!" he yells. Mustache girl.

I run all the way back to my grandmother's room with my hand covering my mouth, crying. I beg my aunt to let me take the powder off. It's making the fine hair on my upper lip show through. I don't want to go to church looking like this.

"You look beautiful." She tells me.

"No I don't." I sob, "I have a mustache."

I can't remember if we argue over this in English or Malayalam. I would like to think it was in Malayalam, because her English is sort of choppy — not broken, but not fluent either. Maybe I spoke in English and she responded in Malayalam. That's the way a lot of dialogue between me and my relatives goes. I go to church with my face still pinkish. I look fair. My other aunts tell me I look lovely. They think I look better, in a country where so many people are naturally tanned and wishing they weren't. I'm eleven years old and I don't understand.