FEATURE

Two Swanson school faculty members are trying to engineer the perfect craft beer. See page 4.

UNIVERSITY TIMES

THE FACULTY & STAFF NEWSPAPER SINCE 1968

IN THIS ISSUE

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No PA budget = no Pitt budget

Pennsylvania's fiscal year 2016 has begun without a new budget, and consequently, so has the University's.

As expected, Democratic Gov. Tom Wolf vetoed a Republican budget when it landed on his desk June 30. Budget talks have begun, but the budget impasse will delay the University's appropriation, which is voted on after a general fund budget is approved in Harrisburg.

The University budget isn't set until its state funding has been finalized.

In its budget request last fall, Pitt asked for a $156.29 million for general support and rural education outreach, a 14.7 percent increase to its base appropriation. *(See Oct. 9, 2014, University Times.)*

This spring, Wolf proposed a smaller increase for Pitt. His $29.9 billion general fund budget included $148.91 million in general support and $2.3 million in rural education outreach for Pitt.

The proposed $151.21 million would represent an increase of nearly 11 percent over Pitt's $136.29 million FY15 general appropriation. *(See March 5 University Times.)*

—Kimberly K. Barlow

Jill Argall/
Animal Rescue League
Wildlife Center

The CL peregrine chick is being cared for at the wildlife center.

CL chick is moved to wildlife center

The peregrine falcon chick that hatched this spring from the Cathedral of Learning nest is displaying neurological deficits and receiving "supportive care" at the Animal Rescue League Wildlife Center & Shelter, where it will remain indefinitely.

Center director Jill M. Argall said the bird is being given "every possible chance" to be released to the wild, but no decisions have been made. "We're considering it a long-term rehab patient until it proves otherwise," she said.

A game commission officer brought the peregrine fledgling to the wildlife rehab center on June 25 after it was found outside Hillman Library. "When it arrived it was emaciated and dehydrated," Argall said. It was missing some secondary and covert feathers, which affected its ability to fly.

Those feathers have since begun to grow in, she said. Of greater concern, however, is its lack of beak-eye coordination. A veterinary exam revealed no apparent visual impairment, but the bird "misses" when it reaches for food, she said. "If it were in the wild now, it would not survive."

An exam when the bird was banded in May found some weakness in one of the bird's feet *(see June 11 University Times)*. Argall said that although the bird is perching, the foot remains weak, which could interfere with its ability to live in the wild. Because peregrines hunt by catching small birds in flight, "they need both sets of talons," Argall said.

The chick's neurological deficits are suspected to have a developmental cause, but the center is awaiting the results of blood tests for toxins such as lead. A chemical cause isn't suspected, "but we're covering all bases," she said.

For now, the bird is being hand-fed and living in a large indoor enclosure. Argall said the approach to its care is "wait and see, day by day." As the bird progresses, it will be offered larger chunks of food or given the opportunity to feed itself, she said. "We're letting the bird show us what it can do."

Argall said the center has received requests from people wanting to visit the bird, but the facility isn't open to visitors. Those interested in the bird's progress can find updates on the peregrine by "liking" the Animal Rescue League Center & Shelter Facebook page.

—Kimberly K. Barlow

Pitt takes most expensive public school honors again

Pitt and Penn State again had the highest in-state tuition among the nation's public four-year-or-above institutions.

A U.S. Department of Education ranking for 2013-14, released July 1, placed the University's Pittsburgh campus well above the national average of $7,617 for the sector.

Pitt ranked No. 1, with tuition and required fees totaling $17,100. Penn State's main campus was close behind, ranking No. 2 with tuition and fees totaling $16,992.

Rounding out the top five were the University of New Hampshire main campus, $16,496; Colorado School of Mines, $16,485, and the University of Vermont, $15,718.

Half of the 34 public four-year-or-above campuses with tuition costs in the top 5 percent were Pennsylvania state-related campuses. In addition to Pitt and Penn State, Temple ranked No. 17 at $13,596. Thirteen Penn State branch campuses and the Penn State-affiliated Pennsylvania College of Technology also made the list.

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On Pitt's four-year regional campuses, in-state tuition was $13,078 at Pitt-Bradford; $13,128 at Pitt-Greensburg, and $13,130 at Pitt-Johnstown.

Pitt-Titusville, where in-state tuition and fees totaled $11,324 in 2013-14, had the highest tuition among public two-year schools. The national average was $3,141.

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Ken Service, vice chancellor for communications, told the University Times: "Pitt being at the top of this list, along with Penn State, reflects the fact that Pennsylvania provides substantially less support for public higher education than other states, which results in more of the cost being passed on to students and their families.

"But the cost of tuition does not tell the whole story. For the past 10 years, Kiplinger's Personal Finance has ranked Pitt as the top value among all public colleges and universities in Pennsylvania. Pitt also was the only Pennsylvania public college or university included in The Princeton Review-USA TODAY national 'Best Value Colleges for 2014' list, based on academic quality, cost and financial aid," he said.

"One indication that this value is recognized can be found in the fact that applications for fall 2015 admissions remain strong, with more than 30,600 students competing for approximately 4,000 spaces on the Pittsburgh campus," Service said.

Highest net prices

Among public four-year-or-above institutions with the highest net prices in 2012-13, the University's Pittsburgh campus ranked No. 4 with $22,341. Net price represents the total cost of attendance for in-state students (tuition, fees, books and supplies, room and board and other expenses) minus the average amount of grant and scholarship aid.

At the top in terms of net price was Miami University-Oxford, $24,247. No. 2 was Colorado School of Mines, $23,759; Penn State was No. 3, $23,161.

At No. 5 was New Hampshire with a net price of $21,545.

The national average net price for public four-year-or-above institutions was $11,877.

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The 2012-13 average net price at Pitt-Bradford was $15,613; at Pitt-Greensburg, $15,654, and at Pitt-Johnstown, $17,217.

Among public two-year schools, Pitt-Titusville ranked No. 12 with a net price of $15,660. The national average was $7,316.

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Under the Higher Education Opportunity Act of 2008, the U.S. Department of Education posts updated information on tuition and net price by July 1 on its College Affordability and Transparency Center site at http://collegecost.ed.gov/catc/.

Based on Integrated Postsecondary Education Data System (IPEDS) data, the most recent annual report lists institutions, by sector, in the highest and lowest 5 percent in tuition and required fees for 2013-14, and the highest and lowest in net price for 2012-13, as well as the institutions with the highest increases in those categories.

—Kimberly K. Barlow

Local projects bring road, ramp detours

The outbound ramp from Bigelow Boulevard to the Bloomfield Bridge will be closed until mid-August as part of a $12.34 million Route 380 road improvement project on Bigelow Boulevard, Baum Boulevard, North Craig Street and the Bloomfield Bridge.

Bridge traffic is being detoured by way of North Craig Street to Baum Boulevard to Liberty Avenue.

Beginning at 8 p.m. July 11, traffic on Bigelow Boulevard is scheduled to shift into the eastbound lanes through late August between North Craig Street and approximately Herron Avenue, then move to the newly constructed westbound lanes, with one lane of traffic maintained in each direction.

The project is scheduled to conclude in August 2016.

Other 2015 work includes:

• Roadway reconstruction of North Craig Street between Bigelow Boulevard and the Baum Boulevard Bridge. A 91-day closure will be required.

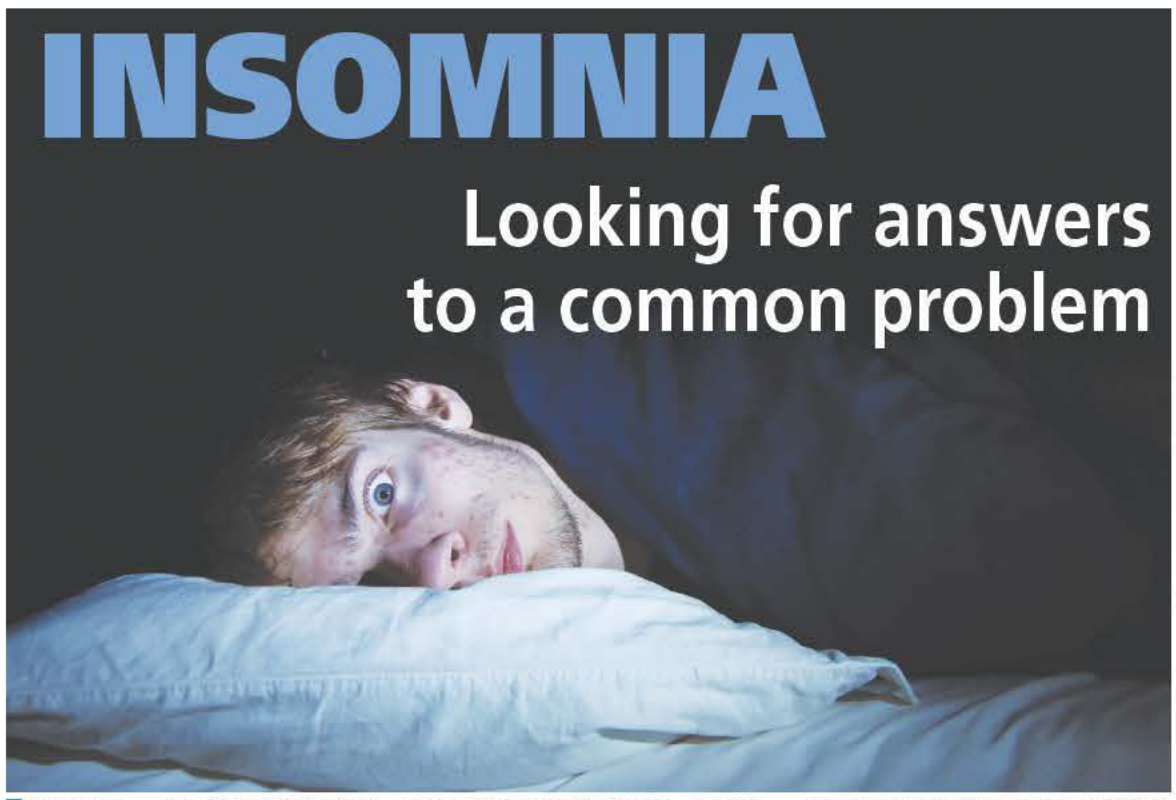
• Multiple weekend closures of Blessing Street for roadway reconstruction.

• Reconstruction work on the Bloomfield Bridge ramps at Bigelow Boulevard. Two separate long-term ramp closures will occur.

Work to be done in 2016 includes deck replacement on the Baum Boulevard Bridge and milling/resurfacing of Baum Boulevard between the bridge and Morewood Avenue.

The project also includes new ADA curb-cut ramps, traffic signal upgrades and pavement reconstruction at the Bloomfield Bridge.

A project area map is posted at www.otma-pgh.org. To receive Route 380 traffic advisories and construction updates, send email addresses to stcowan@pa.gov using the subject line "Subscribe – Route 380 Bigelow-Baum."



INSOMNIA

Looking for answers to a common problem

Insomnia — the inability to fall asleep or stay asleep, despite having adequate opportunity for sleep — is the most common of all sleep disorders, affecting about 12 million people in the United States.

The condition takes a financial toll in lost productivity as well as in the cost of medication and doctor visits. It's also a risk factor for other important health conditions including hypertension, cardiovascular disease and even mortality, said sleep medicine expert Daniel Buysse, who delivered an inaugural lecture and received a medallion in recognition of his appointment as the UPMC Endowed Chair in Sleep Medicine.

Patients with insomnia describe feeling out of control and frustrated by the inability to do something that should come naturally, said Buysse in his July 2 talk, "Where in the Brain Is Insomnia? How in the World Should We Treat It?"

"What our patients are experiencing is a distressing condition about how their brain works when they're trying to fall asleep. When they talk about treatment, they talk about things like acupuncture or over-the-counter remedies, but they're not talking about behavioral treatments that we know are efficacious," said Buysse, professor of psychiatry and clinical and translational science and director of the Neuroscience Clinical and Translational Research Center in the School of Medicine.

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Sleep research is showing that insomnia isn't merely a disorder of not getting enough sleep, he said.

A traditional view of sleep as an either-or condition may see insomnia as a problem of the sleep switch being too often in the "wake" position, but another hypothesis suggests that rather than having one overall sleep-wake switch, "we may have a lot of sleep-wake switches throughout the brain and the experience of sleep may depend on which of those switches are in which position at a particular point in time," he said.

This local sleep hypothesis has led researchers to propose a new view of insomnia as a disorder of sleep-wake regulation characterized by increased activation in specific neuronal structures that during sleep are in more of a wake-like position, he said.

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Sleep studies show few physiologic differences between people with insomnia and people who are sleeping well, he said.

"Insomniacs don't seem to have a broken sleep homeostat," he said. Like good sleepers, insomniacs feel sleepier the longer they've been awake, and they tend to get deeper sleep after a period of sleep deprivation. Their circadian "clock" systems also appear similar, with insomniacs and good sleepers alike showing greater degrees of sleepiness in the middle of the night.

However, researchers have found that people with insomnia differ from control subjects in how their brain deactivates during sleep, Buysse said. "Those differences relate to regions of the default mode network (DMN) as well as areas that are part of the executive control and salience network."

The DMN is a resting-state network in the brain that is active between tasks. "It is the area of the brain that's activated when you're not doing something more specific," he said, adding that it is associated with subjective descriptions of mind-wandering, autobiographical thoughts and rumination — the kinds of uncontrollable thoughts that keep insomniacs lying awake at night.

The executive control network is associated with cognitively demanding tasks. Other studies have found that people with insomnia have deficits in performing cognitively challenging tasks, suggesting they may have some dysfunction of this network, he said.

The salience network is another set of brain regions that "perk up" in response to a physical or emotional stimulus that may be important. Insomnia patients often describe noticing noises or other distractions that disrupt their rest, he said.

"From these studies in general, what we conclude is that insomnia, rather than being a sleep-wake disorder, per se, it may really be perceived as a disorder of network dysregulation across sleep and wake states," he said.

"What we're left with is a view of insomnia not just as a disorder of not getting enough sleep, but something a bit different," said Buysse.

"What we now suggest is that genetic and other predispositions operating through some precipitating factors can lead to network dysregulation and sleep disruption, which seem to reinforce each other: That is, the more sleep disruption you get, the more dysregulated those networks become.

"And the more dysregulated the networks, the more sleep deprivation. Ultimately that results in the clinical condition that we call insomnia," he said.

This also has implications for treatment. "You usually think of insomnia treatments as focusing on sleep disruption, but this new view suggests that actually treatments may be targeted as well to network dysregulation or a combination of sleep problems and network dysregulation. And that together those things may result in improving insomnia symptoms."

Meditation and mindfulness techniques have been shown to affect the DMN. And while transcranial magnetic stimulation hasn't been used in insomnia studies, TMS has been found to help suppress self-referential thoughts, which are common in insomnia patients.

❑

If we leave those more speculative treatments aside and focus on what we actually have today, in many ways we already know how to treat insomnia, Buysse said.

Cognitive-behavioral therapy for insomnia, or CBT-I, has been found effective. This treatment, which doesn't involve medications, stresses good sleep routines centered on four basic principles:

- Reduce your time in bed.
- Get up at the same time every day of the week, no matter how much you slept the night before.
- Don't go to bed unless you're sleepy.
- Don't stay in bed unless you're asleep.

The problem in delivering CBT-I is one of supply and demand, because the number of patients far exceeds the number of trained providers, Buysse said.

At present, there are 213 certified behavioral sleep medicine providers, he said. That would leave each one with 57,000 patients to treat, using a conservative estimate that 5 percent of the adults in the United States have insomnia.

"There is a mismatch between what we know is effective and what we can really deliver to patients," he said.

Shortening CBT-I treatment to a focused four-session "brief behavioral treatment of insomnia" was found effective in older adults — between half and two-thirds were either cured or improved.

Still, that treatment was delivered one-on-one. "With 12 million patients out there, we're not going to reach them all," he said.

A new trial funded through the National Heart, Lung and Blood Institute is studying ways to more broadly deliver behavioral insomnia treatments: a self-contained online CBT-I; a videoconference version, or an educational video.

Promoting sleep health

The relationship between good sleep and good health extends beyond Buysse's focus on insomnia research. Other sleep disorders are associated with adverse health outcomes. "We know that sleep apnea increases the risk of stroke, and we have lots of other examples like that," he said.

"Sleep health clearly fits into national agendas that are aimed at promoting overall health," he said.

Similar to the familiar notion of what constitutes cardiovascular health, better awareness of the characteristics of "sleep health" is needed.

Using the acronym "RU-SATED," Buysse offered a definition of sleep health that focuses on sleep that is appropriate in terms of Regularity - Satisfaction - Alertness - Timing - Efficiency - Duration.

"We're trying to help people build something positive to improve their health," he said.

"Sleep medicine focuses on disorders, but what people really want is good sleep: That's where we need to move."

—Kimberly K. Barlow

Tom Altany/CIDDE

Daniel Buysse received a medallion in recognition of his appointment as the UPMC Endowed Chair in Sleep Medicine.

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LETTERS

A pedestrian near-miss in Oakland

(Editor's note: This letter to Police Chief James K. Loftus is printed here at the request of the author.)

Dear Chief Loftus,

I want to inform you of an incident that occurred last Friday (June 19) around 11:30 a.m.

I was crossing Meyran at Fifth. I had the white "cross" signal and started across the street. I was paying attention to traffic, fortunately, because a car making the left turn from Fifth almost hit me. I had to scramble; the driver didn't seem to notice me at all. I can't tell you what kind of car it was, or who was driving. I was only looking at the fender that missed me by inches. I looked up, and a University police officer in his car was right there. He yelled out his window to me, "Don't worry sir, I've got him," as he turned and pulled the car over.

This incident highlights two things:

1. We have to always be aware when walking, even with our fine crosswalk system. I am concerned about students who are looking at their phones and not paying attention to traffic. If I had not been paying attention, and had not had quick reflexes, the car would have hit me.

2. We have an excellent police force at Pitt. We take this for granted. We shouldn't. We have a safe campus because of their hard work.

Thanks to you and to the officer. Thanks to all of our officers who make our campus safe.

Charles J. Vukotich Jr.
Senior Project Manager
Project Manager/
Co-Investigator
SMART2 Project Director
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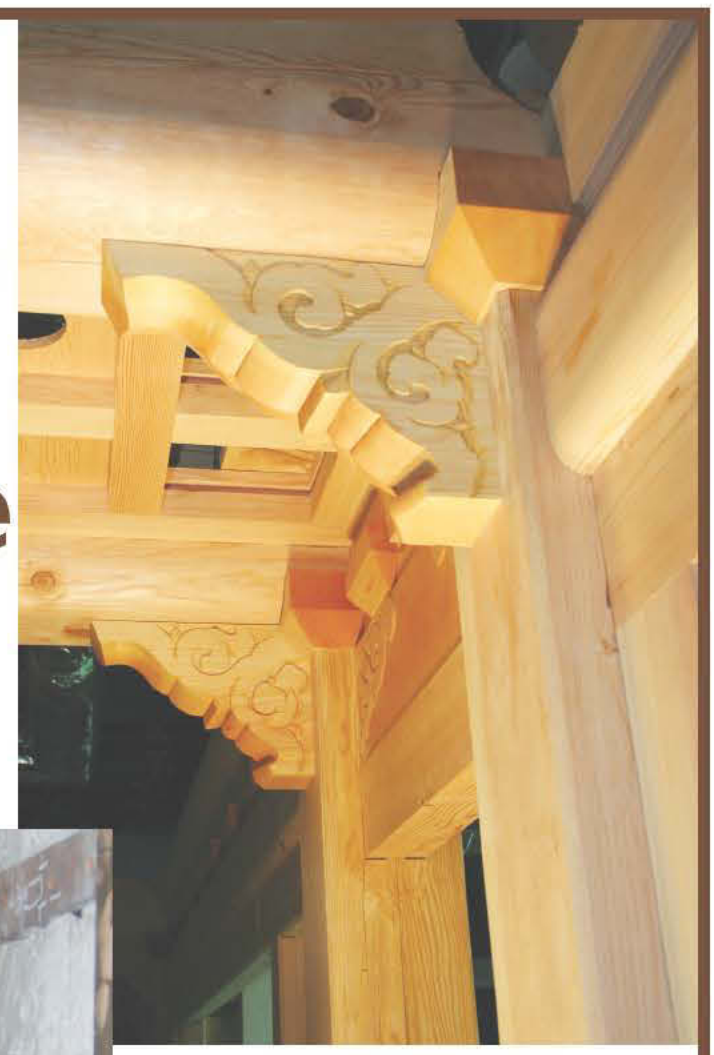
University Times letters policy

Letters should be submitted at least one week prior to publication. Persons criticized in a letter will receive a copy of the letter so that they may prepare a response. If no response is received, the letter will be published alone.

Letters can be sent by email to njbrown@pitt.edu or by campus mail to 308 Bellefield Hall.

The University Times reserves the right to edit letters for clarity or length. Individuals are limited to two published letters per academic term. Unsigned letters will not be accepted for publication

Another Nationality Room takes shape



The Korean Heritage Room is taking shape in the Cathedral of Learning in anticipation of a planned Nov. 15 dedication.

Teams of artisans from Korea are at work in Room 304 to construct what will become the University's 30th Nationality Room.

The room is modeled after the Myung-ryoon-dang, or Hall of Enlightenment, in Seoul. The 17th-century structure was the main lecture hall of the Sung-kyun-kwan Royal Academy.

Photos by Kimberly K. Barlow

Above, left: Tae Kyu Jang and Chan Jong Oh, carpenters expert in traditional Korean architecture, trim beams for the Korean Heritage Room's intricately paneled ceiling.

Above: Supervisor Myoung Hee Song notes details on construction plan drawings in the Korean Heritage Room.

For more information on the Korean Heritage Room, visit http://koreanheritageroom.org/.

Science and craft beer brewing go hand in hand, with universities offering courses and even considering degrees in the art and craft of small-batch grain fermentation. "After all, alcohol is a solution," was the motto of a recent University of South Florida chemical engineering department event celebrating the connection.

Craft beer brewing is just as popular in the kitchens and garages of faculty members in Pitt's science departments and schools, including the homes of two Swanson School of Engineering faculty members. "Brewing has become very engineered," says Dan Cole, and yet it's still "part art form," says Robert Parker. That's why the pastime fits so well with their careers, they say.

Beer at its most basic is water, yeast, hops and malt. "It's a good gadget thing," using a lot of equipment, processes and measurements, says Cole, a faculty member in mechanical engineering and materials science. "It's got the cooking aspect that appeals to engineers." And, he adds, "If you keep everything clean, you've got to make a really big mistake to make a bad batch of beer."

Says Parker, a faculty member in chemical and petroleum engineering: "It's not some lab experiment that generates red-dyed water. It generates a completely usable product that may even be better than what you can buy."

Parker took up the practice in 2000, when he joined the Pitt faculty, after a neighbor — a Carnegie Mellon faculty member — shared a homebrew kit he received as a present. By 2006, beer-making had become a more serious pursuit for Parker.

That's also the year Cole joined the Swanson school and was introduced to the hobby by a friend. Now he and his wife brew a new beer for their anniversary parties. This November will be their 12th.

"We usually make a clone," he says, using a recipe of an established, commercial beer. "We do this panicking," realizing September is his busiest month, but that by fall he must brew for their anniversary.

Most beers are ales, which Cole favors. Ale is the beer yeast creates after basic fermentation. Lagers — generally lighter-colored beers — are created when beer spends time at a lower temperature, for which brewers need to buy a dedicated fridge. Neither man has ventured that far just yet.

Parker has tried producing lagers by placing brewed batches during the winter in the corner of his garage, which stays in the mid-40s, much like the German cellars where lagers originated. He also produces steam beers, which employ longer yeast fermentation at room temperature.

"To be honest, I am not a huge lager fan — except for my dog," Cole says. He pauses. "My dog's name is Lager."

Although Cole named the results of a keg after his other dog, Perry (McPerry Scottish Ale), most of his efforts are simply labeled as "Homebrew" with a number. Parker has gotten more creative. Last winter he made a milk stout, a dark beer with lactose, and called it "White-Out Stout." A dark Baltic porter earned the moniker "Zamboni Oil." His Belgian India Pale Ale, using Trappist yeast from Belgium, was called "Ackbar's IPA," after the most famous line, "It's a trap," from Col. Ackbar in the Star Wars saga's "Return of the Jedi."

Parker brews new beer for two other occasions: Halloween, for which he once made Goblin Stopper, and the Heritage Brew Tours, which he holds each season except winter in his backyard and the yards of a few other neighbors who brew. He also invites other local homebrewers, which includes lots of colleagues.

"Almost my entire lab brews beer," he says, as do his research collaborators from the medical school's Department of Critical Care Medicine and the Division of Pulmonary, Allergy and Critical Care Medicine.

❑

Brewing steps involve lots of specific engineering processes.

First, brewing is all about fluid dynamics, which is the flow of fluids through pipes. For instance, once the malt is steeped in water, called mashing, brewers must capture the sugars in water, called the wort. The wort is drained from the porridge-like malt remains. Too fast, and the pipes clog up. Too slowly and, well, who has that kind of time?

There is also lots of heat transfer, another basic engineering concept, from the boiling that forms the centerpiece of brewing to the chilling, which allows the beer to ferment.

"That's most of mechanical engineering," Cole says. Brewing also involves reaction engineering, which he calls "the cooking of brewing." The right temperature draws out the carbohydrates and lets them break into smaller sugars, which form alcohol when interacting with yeast, as well as the larger sugars, which give the beer a better mouth feel — a less watery consistency.

If you're not an engineer, he says, don't let the jargon — particularly all the equipment names, from the old German, such as tuns and lautering — fool you into thinking craft beer brewing is complicated. It can be as complicated as any engineer cares to make it, he says. But, essentially, "You've got a pot, a bucket and a cooler."

Cole tells beginners to pick up a five-gallon bucket and a two-and-a-half-gallon stock pot — and lots of soap to keep everything clean — "and you're done. If you wanted to brew beer right now, the first place we would go is a Home Depot." He brews in his kitchen and garage.

"Both of us could brew at the same time in this office," he says.

"With room left over," Parker says. His rig sits on a three-tiered industrial shelving unit in his garage, about 3 feet by 3 feet and perhaps 6 feet tall. On it are three connected containers: a lauter tun holding water on top; a mash tun in the middle, and a water boiling unit on the bottom.

Lessons centered on beer brewing haven't filtered into Cole's classes, which can involve rocket science, but the student project in Parker's senior-level Dynamics and Control class requires them to devise how to turn raw materials into pasteurized, filtered beer. (While most homebrewed beer is in-effect sterilized by boiling, it is not pasteurized.)

Parker splits his class into small groups, who build dynamic models for different steps of the process and set production targets. Then these groups get together to coordinate the engineering of the entire project, creating a simulation of the beer production process.

It likely would be sticky to focus more undergraduate classes on anything involving alcohol, the pair allows. But, as Cole points out, beer was the drink of choice for even young people in pre-industrial days, when it was mistakenly thought to be fortifying, rather than merely less harmful than their untreated rivers and streams. By making beer, he points out, "You've now made water safe to drink."

—Marty Levine ■

Science and craft beer brewing go hand in hand for engineering faculty members Robert Parker, left, and Dan Cole.

FACULTY & STAFF CAMPAIGN

Why they give

Through the Faculty and Staff Campaign, University employees can help Pitt thrive by contributing to any of more than 2,000 scholarship, fellowship and professorship funds. Payroll deductions are available, and donors of $1,000 or more are recognized through the Chancellor's Circle program.

Annually, nearly 3,000 Pitt employees take part in the campaign. Their backgrounds, and reasons for giving, are as diverse as the Pitt community.

The University Times is profiling some Faculty and Staff Campaign donors.

"If there are small things the University is working on, I try to funnel resources to that issue," says John Wilds, a University alumnus and assistant vice chancellor for community relations. "For example, the University needs more diversity."

That's why Wilds has been giving to Pitt for 32 consecutive years. He has contributed to the African American Heritage Classroom, the Equipoise Student Resource Fund, the African American Alumni Council Scholars, the Black Action Society, the School of Education and its Centennial Student Resource Fund, the College of General Studies, the Pitt Alumni Association Circle of Excellence Fund, the Cathedral Preservation Fund, and the Donald M. Henderson Scholarship Fund, among others.

"First-time givers have to recognize the importance of sustaining this academy," he urges. "It's important to bring in people who are aspiring, who may not have the means … That's why it's important to give to people who may not be as fortunate.

"You want to perpetuate something that has given you so much and you want [others] to have a chance for that," he adds. As a former student-athlete — although not on scholarship — Wilds recognizes that student athletes have extra pressures when it comes to balancing their studies and sports practices, and financial assistance will alleviate some of the responsibilities of going through college.

He also is pleased to meet some of the students to whom he gives, seeing the effects of his efforts among the African American Alumni Council Scholars, for instance: "How can you not be happy about it?" ■

—Marty Levine

RESEARCH NOTES

Anti-rejection drug can prevent inflammation of pancreas

Exposure to an X-ray dye during a common procedure to treat gallstones causes some patients to develop inflammation of the pancreas, according to researchers at the School of Medicine and Children's Hospital. In a study published online in Gastroenterology, the team noted that a single dose of FK506, an anti-rejection drug typically used after organ transplantation, might be able to prevent the complication.

During the endoscopic retrograde cholangiopancreatography (ERCP) procedure, doctors insert a fiber-optic endoscope through the mouth, esophagus, stomach and duodenum to access the bile ducts, where a gallstone might be lodged. The X-ray dye, also known as radiocontrast, is infused through a catheter so doctors can visualize the bile ducts and anything obstructing them, explained senior author and principal investigator **Sohail Z. Husain**, pediatrics faculty member.

Said Husain: "Thousands of ERCP procedures are performed every year, particularly for the removal of gallstones. But after the procedure, a fair number of patients develop acute pancreatitis, which is an exquisitely painful, life-threatening inflammation of the pancreas. Our findings provide the first explanation for why this complication occurs, namely through the signals that FK506 can block."

The research team examined what happened to pancreatic cells in mice after they received infusions of two common radiocontrast agents. They found the agents elevated cellular calcium levels, in turn activating proteins, particularly calcineurin, involved in inflammatory pathways that cause tissue injury. Similar results were observed in experiments with human pancreatic cells. Also, mice that were genetically modified to lack calcineurin failed to develop pancreatitis after radiocontrast exposure.

Mice that were given the anti-rejection drug FK506, which is an inhibitor of calcineurin, before and after infusion of the X-ray dye also were protected from pancreatitis.

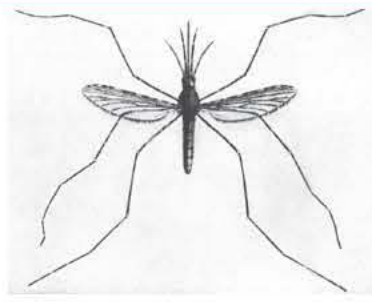
"In the future, we will test other radiocontrast agents to see if they, too, affect the same inflammatory pathways," Husain said. "This study already sets the stage for a clinical trial to test whether calcineurin inhibitors alone or in combination with other drugs can prevent post-ERCP pancreatitis."

The team included Pitt faculty members **Shunqian Jin**, **Abrahim I. Orabi**, **Tianming Le**, **Tanveer A. Javed**, **Swati Sah** and **John F. Eisses**, with researchers from Allegheny General Hospital and the University of Cincinnati.

The project was funded by the National Institutes of Health (NIH).

Mosquito-borne viruses subject of $4M in grants

Scientists at the Center for Vaccine Research (CVR) recently received nearly $4 million through



five federal grants to study a group of related mosquito-borne viruses. The ultimate goal is to develop vaccines and therapies against the deadly diseases.

The research will be conducted in the Regional Biocontainment Laboratory at Pitt, a high-security facility that allows scientists to safely contain and examine potentially dangerous pathogens.

William Klimstra is principal investigator on three of the grants and about half the funding. **Kate D. Ryman** is principal investigator on the other two grants. Both are faculty members in the School of Medicine's microbiology and molecular genetics department.

Said Klimstra: "While the number of people who get these diseases is relatively small, the severity of the diseases and their potential emergence in larger populations or for use as bioweapons drive the necessity for development of countermeasures."

Two of Klimstra's grants, both from NIH and totaling $847,000, focus on Eastern equine encephalitis virus (EEEV), a rare disease that is found primarily in the Atlantic and Gulf states and kills about half of the people it infects. One of the grants will be used to examine a specific part of the genetic code of the virus that is largely responsible for the severity of human disease, while the other will go toward developing a novel, live-attenuated vaccine against the virus.

Klimstra's other grant, which is a collaboration with colleagues at Washington University in St. Louis and Oregon Health and Sciences University, will provide $1.2 million to Klimstra and CVR colleagues from the Department of Defense (DOD). This will be used to develop a novel, inactivated vaccine against three strains of alphavirus, a group that comprises about 30 different viruses mainly transmitted by mosquitoes — including EEEV and Venezuelan (VEEV) and Western (WEEV) equine encephalitis viruses, which cause periodic outbreaks in the Americas.

Ryman received $1 million from DOD to study how these three encephalitic alphaviruses and another mosquito-borne virus, Rift Valley Fever virus (RVFV), enter the brain. The RVFV component is led by **Amy Hartman**, infectious diseases and microbiology faculty member in the Graduate School of Public Health. The goal is to develop ways to limit brain entry by the virus and identify biological markers of disease severity to use as a measure of the effects of the vaccines and therapeutics. This grant also involves studies with collaborators at the University of Wisconsin.

Ryman also received $725,000 from DOD in collaboration with investigators at the Naval Medical Research Center to raise anti-VEEV antibodies by immunizing cows that have been genetically altered to produce human antibodies. These antibodies will be assessed for their potential use in protection against alphavirus diseases, similar to convalescent sera, which is derived from the blood of people whose immune systems successfully fought off an infection.

Several of the grants have option periods that, given successful results in initial studies, will result in an additional $3 million in funding.

Said Ryman: "The technologies used in these studies and the systematic manner in which vaccines and therapeutics for the alphaviruses are being developed are novel and, given positive results, these approaches can be readily applied to other emerging infectious diseases."

Pitt faculty members **Simon Watkins** and **Douglas Reed** are involved in some of these studies.

Pitt leads $1.5M trial of antimicrobial resistance

The School of Medicine will be leading a $1.5 million national trial to examine methods to reduce unnecessary use of antibiotics in post-acute and long-term care (PA/LTC) facilities.

The three-year study, funded by the Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ), will investigate guidelines and tools to help PA/LTC facilities better manage urinary tract infections (UTIs), which often are misdiagnosed and incorrectly treated.

Said **David A. Nace**, medicine department faculty member, director of long-term care and flu programs in the Division of Geriatric Medicine, and primary investigator on the AHRQ grant: "Antimicrobial resistance is a hot-button issue in health care nationally and internationally — and improper overutilization of antibiotics is the single largest culprit. It is critically important that we find ways to cut unnecessary use of antibiotics."

The World Health Organization and the White House, among others, recently made announcements declaring efforts to address antimicrobial resistance top priorities. JAMA Internal Medicine published an article recently reporting that antibiotic use is highly variable across nursing homes, exposing residents to an increased risk of antibiotic-related harms and indicating a need to improve antibiotic stewardship in PA/LTC facilities.

The leading reason for antibiotic use at PA/LTC facilities is to treat a suspected UTI. Antibiotics often are started before a correct diagnosis is made. However, as many as two-thirds of those suspected cases turn out not to be UTIs, and the patients don't benefit from — and could be harmed by— the antibiotics.

When used incorrectly, antibiotics can kill good bacteria and allow harmful, drug-resistant bacteria to flourish. Antibiotics also can cause allergic reactions or side effects and are the leading cause of adverse drug reactions in long-term care facilities.

Nace, also chief medical officer for UPMC Senior Communities, and his co-investigators at AMDA-The Society for Post-Acute and Long-Term Care Medicine and the University of Wisconsin, are looking at existing guidance and research on UTIs to develop comprehensive guidelines and tools geared toward easy implementation at PA/LTC facilities.

In 2016, the team will enroll 40 PA/LTC facilities from Pennsylvania, Texas, North Carolina and Wisconsin in the trial. Half will receive the guidelines, as well as ongoing mentoring and education, while the other half will operate as normal.

For a year, the team will collect data on the number of UTIs before and after the trial, the rate of appropriate and inappropriate treatment, and adverse outcomes. Once the trial concludes, all the facilities will be given the guidelines, tools, mentoring and education.

"There's a lot of pressure across both agriculture and medicine to rein in use of antibiotics," said Nace. "We are very quickly running out of antibiotics to do the job for us, and the problem is only going to grow worse. New antibiotics are not being created and licensed fast enough to keep pace with bacterium's ability to develop drug resistance. Efforts like ours to become better stewards of existing antibiotics are among the few solutions left at our disposal."

Different immune response found in severe asthma

The immune response that occurs in patients with severe asthma is markedly different than what occurs in milder forms of the lung condition, according to researchers from the School of Medicine. Those unique features could point the way to new treatments, they said in an article published online in the Journal of Clinical Investigation.

People with severe asthma, in which the airways become inflamed and constrict to impair breathing, do not get better even with high doses of corticosteroids, the mainstay of treatment for typical asthma, explained **Anuradha Ray**, medicine faculty member.

Said Ray: "About 10 percent of asthma patients have a severe form of the disease, but they account for up to half of asthma costs in the U.S. and Europe. That's because these patients frequently need to go to the emergency room or be hospitalized when they have an acute asthma episode."

For the study, conducted as part of the doctoral thesis of **Mahesh Raundhal**, a graduate student in the laboratory of **Prabir Ray**, a faculty member in medicine and co-senior author, the research team examined lung cell samples obtained from patients also participating in the severe asthma research program (SARP), which is sponsored by the National Heart, Lung and Blood Institute of NIH to improve the understanding of severe asthma. **Sally Wenzel**, medicine faculty member and director of the University of Pittsburgh Asthma Institute of UPMC, is the Pitt SARP principal investigator.

Researchers observed that the immune cells, called CD4 T-cells, in the airways of severe asthmatics secreted different inflammatory proteins than those in mild disease, particularly interferon gamma. The analysis of human samples helped them to develop a mouse model of the disease by introducing an allergen and a bacterial product to induce an immune profile and airway hyper-reactivity that were poorly controlled by corticosteroids, comparable to human severe asthma patients.

When they subjected mice that lacked the interferon gamma gene to the severe asthma model, they found that the mice could not be induced to develop severe asthma. Using computer modeling to identify links between interferon gamma and asthma-associated genes, they learned that as interferon gamma levels rose, the levels of a protein called secretory leukocyte protease inhibitor (SLPI) dropped.

In follow-up experiments, the team found that boosting SLPI levels reduced airway hyper-

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RESEARCH NOTES

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reactivity in the animal model.

"We'd like to better understand why severe asthma occurs in most people right from the start," Anuradha Ray said. "We also want to find agents that can raise SLPI levels for clinical use."

In a new project that began this month, she and Wenzel will continue studying the immune response and genetic roots of severe asthma in 120 patients and in animal models through a five-year, $8 million grant from the National Institute of Allergy and Infectious Diseases, also part of the NIH.

Other Pitt project leaders were **Timothy B. Oriss** and **Jay Kolls**, who co-authored the paper. University faculty **Fernando Holguin**, **Douglas Landsittel** and **Donald DeFranco** also were part of the team.

NIH and the Cystic Fibrosis Foundation research development program funded the project.

Why does teen brain value rewards over risks?

Why does the promise of a reward — basically any kind of fun — cause teens to throw caution to the wind?

Contemporary scientific theory suggests that teenagers are risk takers because they crave the feel-good rush of dopamine, a neurotransmitter that helps control the brain's reward and pleasure centers. That theory, however, has been based on a long line of studies on the adult brain.

Bita Moghaddam, neuroscience faculty member in the Dietrich School of Arts and Sciences, and her research group have taken a look at the teen brain — the teen rat's brain, specifically — and found that scientists' presumptions may be off base.

Said Moghaddam: "The adolescent brain doesn't work the way we think it does. We have a set of predictions about it that keep proving to be wrong, that they seek pleasure because dopamine is more active. This study shows that may not be the case."

She recently published a paper in Biological Psychiatry showing that when adolescents are faced with the prospect of a reward, their dopamine neurons are actually activated less than in adults.

This may seem counterintuitive, but, to Moghaddam, it makes perfect sense. The study shows that adult rats get a small dopamine rush from simply anticipating a reward, while adolescent rats don't get the same level of dopamine-based satisfaction. In humans, this is reflected in teenagers needing to do something, even a risky something, to get that dopamine rush. Anticipation isn't enough for teens.

"The study also shows that preactivation [of the dopamine neurons] — pausing for a millisecond or two before doing something — is missing in the adolescents," Moghaddam adds. "So they actually go into action and start seeking reward without that sort of pause that the adult brain may have."

Moghaddam's study also sheds some light on why adolescents seem prone to doing the same thing again and again even if it ends badly every time.

"When adults learn that there will be no reward, their dopamine cells stop responding. But adolescent dopamine cells retain memories of past rewards," she says.

Evolutionarily speaking, this may have been a useful survival trait. "At that age, 'This did something good, and maybe it will again,' is very important," Moghaddam says. "Those years were very critical for [ancient] humans, an important time to secure food and to find a mate, to be proactive. 'Maybe I can go back to find food where I found it once even though it wasn't there the last time.' That memory is there and helps motivate a person to look for a reward where they found it before." But that property of adolescents' brains also can make them vulnerable to drug seeking and disadvantageous risk-taking, Moghaddam says.

Other authors were Pitt postdoctoral associates **Yunbok Kim** and **Nicholas Simon** and postdoctoral fellow **Jesse Wood**.

The National Institute of Mental Health funded the research.

Computer simulation of pressure sores developed

Researchers at the School of Medicine have devised a computational model that could enhance understanding, diagnosis and treatment of pressure ulcers related to spinal cord injury.

In a report published online in PLOS Computational Biology, the team also described results of virtual clinical trials that showed that for effective treatment of the lesions, anti-inflammatory measures had to be applied well before the earliest clinical signs of ulcer formation.

Pressure ulcers affect more than 2.5 million Americans annually and patients who have spinal cord injuries that impair movement are more vulnerable to developing them, said senior investigator **Yoram Vodovotz**, surgery faculty member and director of the Center for Inflammation and Regenerative Modeling at the school.

Said Vodovotz: "These lesions are thought to develop because immobility disrupts adequate oxygenation of tissues where the patient is lying down, followed by sudden resumption of blood flow when the patient is turned in bed to change positions. This is accompanied by an inflammatory response that sometimes leads to further tissue damage and breakdown of the skin."

Added co-author **Gwendolyn A. Sowa**, physical medicine and rehabilitation faculty member in the school: "Pressure ulcers are an unfortunately common complication after spinal cord injury and cause discomfort and functional limitations. Improving the individual diagnosis and treatment of pressure ulcers has the potential to reduce the cost of care and improve quality of life for persons living with spinal cord injury."

To address the complexity of the biologic pathways that create and respond to pressure sore development, the researchers designed a computational, or in silico, model of the process based on serial photographs of developing ulcers from spinal cord-injured patients enrolled in studies at the Rehabilitation Engineering Research Center on Spinal Cord Injury. Photos were taken when the ulcer was initially diagnosed, three times per week in the acute stage and once a week as it resolved.

Researchers then validated the model, finding that if they started with a single small round area over a virtual bony protuberance and altered factors such as inflammatory mediators and tissue oxygenation, they could recreate a variety of irregularly shaped ulcers that mimic what is seen in reality.

They also conducted two virtual trials of potential interventions, finding that anti-inflammatory interventions could not prevent ulcers unless applied very early in their development.

In the future, perhaps a nurse or caregiver could simply send in a photo of a patient's reddened skin to a doctor using the model to find out whether it was likely to develop into a pressure sore for quick and aggressive treatment to keep it from getting far worse, Vodovotz speculated.

"Computational models like this one might one day be able to predict the clinical course of a disease or injury, as well as make it possible to do less expensive testing of experimental drugs and interventions to see whether they are worth pursuing with human trials," he said.

The team included Pitt's **Cordelia Ziraldo**, **Alexey Solovyev**, **Ana Allegretti**, **Shilpa Krishnan**, **David Brienza** and **Qi Mi**, plus researchers from the University of Chicago and the Louis Stokes Cleveland Veterans Affairs Medical Center.

The project was funded by the U.S. Department of Education; NIH's National Institute on Disability and Rehabilitation, and IBM.

Hybrid has potential for "materials that compute"

Moving closer to the possibility of "materials that compute" and wearing your computer on your sleeve, researchers at the Swanson School of Engineering have designed a responsive hybrid material that is fueled by an oscillatory chemical reaction and can perform computations based on changes in the environment or movement, and potentially even respond to human vital signs. The material system is sufficiently small and flexible that it could be integrated into a fabric or introduced as an inset into a shoe.

Anna C. Balazs, Distinguished Professor of Chemical and Petroleum Engineering, and **Steven P. Levitan**, John A. Jurenko Professor of Electrical and Computer Engineering, integrated models for self-oscillating polymer gels and piezoelectric micro-electric-mechanical systems to devise a new reactive material system capable of performing computations without external energy inputs, amplification or computer mediation.

Their research appeared in Scientific Reports, published by Nature. The studies combine Balazs' research in Belousov-Zhabotinsky (BZ) gels, a substance that oscillates in the absence of external stimuli, and Levitan's expertise in computational modeling and oscillator-based computing systems.

By working with **Victor V. Yashin**, chemical and petroleum engineering faculty member and lead author on the paper, the researchers developed design rules for creating a hybrid "BZ-PZ" material.

Said Balazs: "The BZ reaction drives the periodic oxidation and reduction of a metal catalyst that is anchored to the gel; this, in turn, makes the gel swell and shrink. We put a thin piezoelectric (PZ) cantilever over the gel so that when the PZ is bent by the oscillating gel, it generates an electric potential (voltage).

"Conversely, an electric potential applied to the PZ cantilever causes it to bend. So, when a single BZ-PZ unit is wired to another such unit, the expansion of the oscillating BZ gel in the first unit deflects the piezoelectric cantilever, which produces an electrical voltage. The generated voltage in turn causes a deflection of the cantilever in the second unit; this deflection imposes a force on the underlying BZ gel that modifies its oscillations. The resulting see-saw-like oscillation permits communication and an exchange of information between the units."

Multiple BZ-PZ units can be connected in serial or parallel, allowing more complicated patterns of oscillation to be generated and stored in the system. In effect, these different oscillatory patterns form a type of memory, allowing the material to be used for computation. Levitan adds, however, that the computations would not be general purpose, but rather specific to pattern-matching and recognition, or other non-Boolean operations.

Said Levitan: "Imagine a group of organ pipes, and each is a different chord. When you introduce a new chord, one resonates with that particular pattern. Similarly, let's say you have an array of oscillators and they each have an oscillating pattern. Each set of oscillators would reflect a particular pattern. Then you introduce a new external input pattern, say from a touch or a heartbeat. The materials themselves recognize the pattern and respond accordingly, thereby performing the actual computing."

Developing so-called "materials that compute" addresses limitations inherent to the systems researchers currently use to perform either chemical computing or oscillator-based computing. Chemical computing systems are limited by both the lack of an internal power system and the rate of diffusion as the chemical waves spread throughout the system, enabling only local coupling. Further, oscillator-based computing has not been translated into a potentially wearable material. The new hybrid BZ-PZ model solves these problems and points to the potential of designing self-powered synthetic material systems.

Balazs and Levitan note that the current BZ-PZ gel model oscillates in periods of tens of seconds, which would allow for simple non-Boolean operations or pattern recognition of patterns like human movement. The next step is to add an input layer for the pattern recognition, something that will be applied to self-oscillating gels and piezoelectric films for the first time.

The research is being funded by a National Science Foundation Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) grant, which focuses on scientific problems that lie at the intersection of traditional disciplines. ■

—Compiled by Marty Levine

Starflamedia/Dollar Photo Club

Donald A. Robbins

Donald A. Robbins, a well-known figure in Pitt-Bradford's chemistry department, died June 27, 2015, at his home in Prentissvale, Pennsylvania, following a lengthy illness. He was 57.

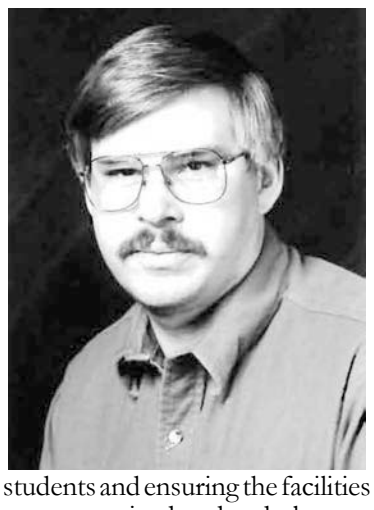
Born in Olean, New York, Robbins was a lifelong resident of the Bradford area. He earned his bachelor's degree in chemistry at St. Bonaventure and his master's degree in chemistry at The State University of New York-Fredonia.

Over the course of a 33-year career at Pitt-Bradford, Robbins taught chemistry and later worked as a lab technician. He served as UPB's hazardous waste officer for more than 25 years and was a member of the UPB Faculty Senate health and safety committee.

Robbins was hired in 1980 as an assistant instructor of chemistry and took on the role of hazardous waste officer in 1988. He was promoted to instructor of chemistry in 1999.

When his faculty position was eliminated in 2003, Robbins continued in his part-time staff role of hazardous waste officer. In 2013 he became a full-time laboratory technician in biology and chemistry, continuing in that role until January 2014.

Francis Mulcahy, director of the UPB chemistry program, said Robbins took on a wide range of duties in the chemistry department, at times handling ordering supplies, supervising work-study



students and ensuring the facilities were organized and orderly.

Mulcahy remembered Robbins as a friendly colleague who displayed great kindness and devotion to his students. "He took time with them. He was a great teacher," Mulcahy said. "He brought into the chemistry program a lot of students who otherwise wouldn't have been chemistry majors."

Robbins' caring attitude extended to colleagues as well. When Mulcahy first came to the campus, Robbins reached out to make him feel welcome. "He made me feel part of the family," extending social invitations and taking him hunting.

The son of a noted gunsmith, Robbins enjoyed deer and turkey hunting, fishing and trap shooting. He also was an Eagle Scout.

Robbins was a member of the American Chemical Society, the National Environmental Training Association and the Eldred Conservation Club.

Robbins enjoyed spending time with his young granddaughter and was looking forward to a second grandchild on the way, Mulcahy said.

Robbins is survived by his wife of 31 years, Andrea Robbins, who is a UPB chemistry faculty member; son Donnie Robbins; daughter Christine Snyder and son-in-law Mitch Snyder; granddaughter Kara Snyder; brother Clair Robbins, and sister-in-law Rose Robbins.

Memorial donations may be made to the Juvenile Diabetes Association.

—Kimberly K. Barlow ■

Orysia Karapinka

"That's what I am: a teacher," retired associate professor of history Orysia Karapinka wrote to her former student Russell Martin when she learned that he had organized and edited an increasingly rare honor in academics, a festschrift, celebrating her 43 years at Pitt. "I love working with students. I try to instill in them the same excitement I have for thinking historically and for reading sources."

Karapinka died on June 4, 2015, of lung cancer. She was born in Ukraine on Oct. 11, 1938, and after World War II her family emigrated to Irvington, New Jersey.

Karapinka earned a BA from Smith College in history. She earned an MA in Russian history from the University of California-Berkeley in 1961, receiving her PhD in the same discipline from that institution in 1967.

That year, she joined Pitt's history department, becoming one of its first two female faculty members, who were hired simultaneously. By 1974, she had been promoted to her final rank and was awarded tenure.

She received the University's Distinguished Teaching Award in 1990 and in 2003 joined the Faculty Honor Roll in recognition of her teaching. She retired in 2010.

Martin, a faculty member at Westminster College, published "Ad Fontes: Essays in Russian and Soviet History, Politics and Society in Honor of Orysia Karapinka" in 2010. It contains contributions from Pitt faculty as well as those from Harvard, Westminster College, Samford University, Piedmont Virginia

Community College, Wittenberg University and the University of the Sciences of Philadelphia.

In his introduction, Martin noted that his longtime mentor "is, to be sure, one of the field's master teachers. She serves as a model for all of us still in the field during these crepuscular times." With her retirement, he added, students "will now be deprived of what might have been for them one of the most dynamic, inspiring and demanding classroom experiences of their college careers."

Martin says today: "She was frankly the most amazing teacher I've ever had. Her lecture notes were more useful to me than any I had at Harvard. She was rigorous and exacting on her students. Her class would be the one the business majors and the psychology majors would remember more than any else."

He recalls Karapinka delivering "fearsome lectures, designed, it seemed, to thin the room out," but actually just setting a tone for the course. "She had this outward veneer of sternness and unapproachability but nothing could be further from the truth. Once you got to know her a little bit she was the most generous person with her time," opening her office as a "mecca," he recalls, for students to argue with her academically.

Some people disparage large universities for not emphasizing teaching enough. Martin's experiences with Karapinka's courses leave him disagreeing with such a sentiment to this day. "She wasn't really a researcher. She devoted all of her energy to teaching. She cared deeply about it, and she knew she was good at it."

A memorial service for Karapinka will be held on Aug. 17 at 11:30 a.m. in Heinz Chapel.

—Marty Levine ■

PEOPLE OF THE TIMES

The People of the Times column features recent news on faculty and staff, including awards and other honors, accomplishments and administrative appointments.

We welcome submissions from all areas of the University. Send information via email to: utimes@pitt.edu, by fax at 412/624-4579 or by campus mail to 308 Bellefield Hall.

For submission guidelines, visit www.utimes.pitt.edu/?page_id=6807.

Charles "Chip" Burke III was honored with the Excellence in Safety Award at the 2015 USA Hockey's Annual Congress/Night of Tribute awards dinner. Burke was recognized for his contributions in improving safety and reducing injury in youth sports through his 20-year association with USA Hockey.

Burke, a clinical associate professor at the School of Medicine and a UPMC orthopaedic surgeon, has been volunteering with USA Hockey for years, including being a 15-year member of the safety and protective equipment committee and team physician for the 2002 Winter Olympics. He also has served as part of the coaching education program, teaching coaches about safety in youth sports.

During Burke's 25 years as team physician with the Pittsburgh Penguins, he made his most notable contribution to NHL safety by developing the National Hockey League's concussion program.

President Barack Obama recently appointed a pathologist from the University of Pittsburgh Cancer Institute (UPCI), partner with UPMC CancerCenter, to a national board charged with identifying the most promising cancer research projects nationwide.

Yuan Chang, distinguished professor of pathology in the School of Medicine, has been appointed with four other scientists to serve as members of the National Cancer Advisory Board.

The National Cancer Advisory Board consists of 12 members who advise the National Institutes of Health's (NIH) National Cancer Institute.

Richard Schulz, director of the University Center for Social and Urban Research, is the recipient of the American Psychological Association's 2015 Baltes Distinguished Research Achievement Award. The honor recognizes research careers that have featured exceptional theoretical and empirical contributions to the psychological science of aging. It is the most prestigious research award on aging given by the American Psychological Association.

A distinguished service professor of psychiatry, Schulz's research centers on adult aging and development. His work has focused on social-psychological aspects of aging, including the impact of disabling late-life disease on patients and their families.

Five staff members at Pitt-Bradford have been promoted to help lead the institution's newly established Office of Enrollment Management.

James Baldwin, formerly assistant dean of academic affairs, registrar and director of Science in Motion, will assume responsibility for the new office as its vice president of enrollment management.

Both **Alex Nazemetz**, director of admissions, and **Melissa Ibanez**, director of financial aid, have been promoted to associate vice president of enrollment management. **Bob Dilks**, director of transfer and nontraditional student recruitment, has been promoted to assistant vice president of enrollment management. All three will retain their director titles for their respective departments. **Christina Marrone**, previously associate registrar and assistant director of enrollment services, has been promoted to registrar and director of enrollment services.

The Department of Civil and Environmental Engineering in the Swanson School of Engineering has named **John T. Sebastian** the inaugural McKamish construction management director. Sebastian, president of Sebastian Consulting Solutions, is a faculty member in the department.

The construction management and sustainability program concentration encompasses public and private sector perspectives, building and engineering construction, and the roles played by all the participants on the construction team (owners, contractors, design professionals, and other supporting professionals). The program emphasizes managerial decision-making in an engineering context and teaches students decision-making skills that are important to the successful completion of construction projects as measured by time, cost and quality objectives. In addition, the program develops in the students those professional qualities that will make them effective managers — communication skills, computer applications, ethical standards and leadership attributes.

Sebastian has more than 35 years of experience in the construction industry. He was executive vice president and member of the board of directors of Dick Corp., a national general contractor, and DCK Worldwide, an international contractor and successor company to Dick Corp.

The Association of Women's Health, Obstetric and Neonatal Nurses has chosen **Susan Albrecht**, associate dean for external relations for the School of Nursing, as the winner of the 2015 Distinguished Professional Service Award, the organization's highest honor.

The association is committed to strengthening the nursing profession and improving health outcomes for women and babies.

Albrecht specializes in smoking cessation, substance use and its relation to pregnancy. Her work, which has been widely published, has been funded by the U.S. Centers for Disease Control and Prevention.

Albrecht directs the nursing PhD program. She also works as a nurse practitioner in the Student Health Service, as a substitute school nurse and volunteers as a crisis intervention counselor for Pittsburgh Action Against Rape.

Pitt's Dick Thornburgh Forum for Law and Public Policy has awarded prizes to two recent University law school graduates.

The J. Evans Rose Jr. Prize for Public Service was awarded to **Casey L. Martinez**. The honor is granted annually to a recent alumnus of the school who has aspired to a career in public service.

Martinez has accepted a position with the Department of Justice. He will serve as an attorney within the Executive Office of Immigration Review for the U.S. Immigration Court in Las Vegas.

As a Pitt law student, Martinez assisted foreign-born defendants through Pitt's Immigration Law Clinic. He also interned with the Community Justice Project and the United States Attorney's Office of the Western District of Pennsylvania.

The prize is named for the late School of Law alumnus and

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CALENDAR

July

Thursday 9

Medicine Grand Rounds
"HIV for the Primary Care Physician," Ken Ho, medicine; UPMC-Shadyside west wing aud., noon (rubinoje@upmc.edu)
Community Relations Volunteer Event
Greater Pgh. Community Food Bank, 1 N. Linden St., Duquesne. Shuttle leaves from Bigelow Blvd. at 3:30 pm. (kcm21@pitt.edu)

Friday 10

SBDC Workshop
"The 1st Step: The Mechanics of Starting a Small Business"; Mervis, 7:30-10 am (register: www.entrepreneur.pitt.edu)
HSLS Workshop
"Painless PubMed," Barb Folb; Falk Library classrm. 1, 11:30 am (folb@pitt.edu)

Saturday 11

Czechoslovak Room Event
"600th Anniversary of Master Jan Hus' Death," Jon Coulter; 113 CL, 5 pm (RSVP: 412/667-1439)

Monday 13

HSLS Workshop
"Painless PubMed," Jill Foust; Falk Library classrm. 1, 9:30 am (jef2@pitt.edu)

Tuesday 14

GI Lecture
"IV Sedation & Monitoring," Joseph Talarico; Presby M2 C-wing conf. rm., 7:30 am (joj2@pitt.edu)
CTSI/IRB Research Seminar
"The Changing Landscape: Requests for Use of Central IRBs," Jean Barone; S120 BST, noon (pao100@pitt.edu)

Thursday 16

HSLS Workshop
"EndNote Basics," Melissa Ratajeski; Falk Library classrm. 2, 10 am (mar@pitt.edu)
Medicine Grand Rounds
"Cutaneous Drug Reactions," Timothy Patton, dermatology; UPMC-Shadyside west wing aud., noon (rubinoje@upmc.edu)

Friday 17

• Summer 6-week-2 session deadline for students to submit monitored withdrawal forms to dean's office.

GI Lecture
"Evaluations & Management of Nonvariceal UGI & LGI Bleeding," Adam Slivka; Presby M2 C-wing conf. rm., 7:45 am (joj2@pitt.edu)
SVC Research Seminar
"Reveal the Dark Matter in Cancer," Da Yang, pharmaceutical sciences; Scaife lecture rm. 6, noon
SAC Lunchtime Healthy Ride
Erin Potts, Pgh. Bike Share; meet at Carnegie Library, noon (healthyridepgh.com)
Allegheny Observatory Lecture
"50 Years of the Cosmic Microwave Background," Arthur Kosowsky, physics & astronomy; 159 Riverview Park, North Side, 7:30 pm (reservations: 412/321-2400)

Sunday 19

Pitt Day at Kennywood; details: sac.pitt.edu.

Monday 20

Bradford Campus Exploration Day
10 am, UPB (www.upb.pitt.edu/visit)

Tuesday 21

GI Lecture
"Complications of Cirrhosis: Evaluations & Management (Part 1)," Kapil Chopra; Presby M2 C-wing conf. rm., 7:30 am (joj2@pitt.edu)
HSLS Workshop
"Painless PubMed," Linda Hartman; Falk Library classrm. 1, 11 am (lhartman@pitt.edu)
HSLS Workshop
"PowerPoint for Conference Posters," Julia Dahm; Falk Library classrm. 2, 1:30 pm (jdahm@pitt.edu)

Wednesday 22

• Summer 4-week-3 session deadline for students to submit monitored withdrawal forms to dean's office.

HSLS Workshop
"Focus on Behavioral Medicine: Searching in PsycINFO," Michele Klein Fedyshin; Falk Library classrm. 1, 9 am (kleinf@pitt.edu)
Blood Drive
WPU lower lounge, 9 am-2 pm (4-7708)
CIDDE Workshops
"Developing a Teaching Philosophy Statement," 11 am; "Encouraging Student Participation," 2 pm; 815 Alumni (register: www.cidde.pitt.edu/workshops)
PancreasFest Conf.
Through July 24; U Club, 5:30-8:30 pm; July 23, 7:30 am-5:45 pm; July 25, 6:30 am-2:30 pm (register: www.pancreasfest.org)

Thursday 23

Medicine Grand Rounds
"Cystic Fibrosis: From Salty Sweat to Personalized Medicine," Michael Myerburg, pulmonary, allergy & critical care medicine; UPMC-Shadyside west wing aud., noon (rubinoje@upmc.edu)

Defenses

Pharmacy/Pharmaceutical Sciences
"Rational Design of Nanocarriers With Enhanced Carrier-Drug Interaction for Improved Cancer Chemotherapy," Peng Zhang; July 9, 456 Salk, 1 pm
Nursing
"Effect of Music Intervention During Daily Weaning Trials in a Long-term Acute Care Hospital: A 6-Day Prospective Randomized Crossover Trial," Zhan Liang; July 13, 451 Victoria, 9 am
SHRS/Health Information Management
"Comprehensive Approach to Explaining Users' Acceptance & Intention to Use Electronic Health Records (EHR) in a Practice Setting, Focusing Specifically on Rehabilitation Facilities With a Primary Emphasis on Saudi Arabia's Health Care System," Abdullah Alanazi; July 14, 6053 Forbes Twr., 10 am
A&S/Geology & Planetary Science
"A Quantitative Assessment of Atmospherically Generated Foam Cements: The Insights, Impacts & Implications of Wellbore Integrity & Stability," Richard Spaulding; July 15, 214 SRCC, 1 pm
A&S/Economics
"3 Essays on Information Economics," Jae Won Kang; July 16, 4716 Posvar, 9 am
Medicine/Molecular Virology & Microbiology
"Cell Type Dependent Effects on HSV Transcription," Justine Harkness; July 16, 503 Bridgeside Point II, 1 pm
SHRS/Rehabilitation Science & Technology
"Development & Assessment of Advanced Assistive Robotic Manipulators User Interfaces," Cheng Shiu Chung; July 16, 4065 Forbes Twr., 1 pm
SHRS/Rehabilitation Science & Technology
"Development & Evaluation of a Smartphone Virtual Seating Coach Application to Facilitate Powered Seat Function Usage for Powered Wheelchair Users," Yu-Kuang Wu; July 17, 4065 Forbes Twr., 3 pm
A&S/Chemistry
"Examination of 'Primary', 'Secondary' & 'Tertiary' Structural Elements of Bis-amino Acids: Progress Toward Fauxteins," Matthew Parker; July 20, 307 Eberly, 11 am
A&S/Geology & Planetary Science
"Estimating the Limits of Infiltration in the Urban Appalachian Plateau," Sarah Lavin; July 20, 214 SRCC, 1 pm
Nursing
"Acceptability & Feasibility of Reiki for Symptom Management in Children Receiving Palliative Care," Susan E. Thrane; July 20, 129 Victoria, 1 pm
Public Health/Infectious Diseases & Microbiology
"Studies on the Cellular Factors & Hormones Controlling HIV Transmission in an Organ Culture Model," Soni Sankapal; July 20, A115 Crabtree, 1 pm
SHRS/Physical Therapy
"Neuromuscular Electrical Stimulation as a Supplement to Stabilization Exercises in Patients With Chronic Low Back Pain: A Randomized Controlled Trial," Muhammad Alrwaily; July 21, 4014 Forbes Twr., 8 am
SHRS/Communication Science & Disorders
"2f2-f1 DPOAE Sources in Contradiction to the 2-Source/2-Mechanism Model," Jennifer Horn; July 21, 6081 Forbes Twr., 11 am
Nursing
"Time-series Analysis & Clustering to Characterize Cardiorespiratory Instability Patterns in Step-down Unit Patients," Eliezer Bose; July 21, 451 Victoria, 2 pm
SHRS/Sports Medicine & Nutrition
"The Evaluation of Scapular Kinematics & Muscular Characteristics of the Scapular Stabilizers in Overhead Athletes Presenting With Scapular Dyskinesis Compared to Healthy Controls," Michelle Varnell; July 21, 4060 Forbes Twr., 2 pm
Nursing
"Development of a Measure of Self-advocacy Among Female Cancer Survivors," Teresa L. Hagan; July 22, 117 Victoria, noon
Public Health/Epidemiology
"Health Disparities Between Whites & Japanese in Measures of Diabetes & Subclinical Atherosclerosis in an International Population-Based Study," Vasudha Ahuja; July 23, 330 Bellefield Professional Bldg., 10:30 am
Nursing
"Testing a Model of Health-related Quality of Life in Women Living With HIV," Nahed Saad Alsayed; July 23, 430 Victoria, 1 pm
A&S/Physics & Astronomy
"Improving Graduate Students' Content & Pedagogical Content Knowledge," Emily Marshman; July 23, 321 Allen, 5 pm

Theatre

PICT Production
"Sharon's Grave"; Heymann Theatre, July 16-Aug. 8 (times & tickets: www.picttheatre.org/play/sharons-grave)

Deadlines

Pgh.'s Transformational Philanthropists Portrait Gallery
Nominations due to buechel@pitt.edu by July 14. (philanthropy.gspia.pitt.edu/Projects/ThePittsburghPhilanthropyProject/tabid/1130/Default.aspx) **2016 Searle Scholars Program**
Materials due to Michelle Broido by noon July 15. (www.ctsi.pitt.edu/documents/Searle.pdf)
NIH Maximizing Investigators' Research Award
Letters of intent due Aug. 9. (grants.nih.gov/grants/guide/rfa-files/RFA-GM-16-003.html)

Event Deadline

The next issue of the University Times will be the last issue of the summer term. It will include University & on-campus events of July 23-Sept. 3. Information for events during that period must be received by 5 pm on July 16. Send information to utcal@pitt.edu. ■

CLASSIFIED

- $8 for up to 15 words; $9 for 16-30 words; $10 for 31-50 words.
- For University ads, submit an account number for transfer of funds.
- All other ads should be accompanied by a check for the full amount made payable to the University of Pittsburgh.
- Reserve space by submitting ad copy one week prior to publication. Copy and payment should be sent to University Times, 308 Bellefield Hall, University of Pittsburgh, Pittsburgh 15260.
- For more information, call Barbara DelRaso, 412/624-4644.

HOUSING/RENT-SALE

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PEOPLE OF THE TIMES

CONTINUED FROM PAGE 7

University trustee.

The Dick Thornburgh Prize for Legal Service went to **Elizabeth E. Cook**. The award recognizes recent Pitt law graduates who have used their legal training on behalf of low-income communities and have expressed aspirations for related career pursuits.

Cook is serving as an attorney within the Colorado State Public Defender's Office.

While a law student at Pitt, Cook worked as a legal intern for the Allegheny County Public Defenders Office, assisting senior attorneys in devising defense strategies for individual defendants and playing an active role in all stages of trial participation.

Cook was one of 10 law students who taught constitutional law and legal procedures within Pittsburgh's Propel Charter Schools.

In addition to her JD degree, Cook also received a BA in English literature and a BS in psychology from the Dietrich School of Arts and Sciences in 2010.

Pitt-Bradford has named **Josh Horton** as its sports information director.

Horton comes to Pitt-Bradford from his alma mater, Misericordia University, where he was the assistant sports information director, promoting student athletes in 23 NCAA sports.

Horton has spent time as a play-by-play broadcaster for the Morehead City (N.C.) Marlins, a member of the collegiate wood-bat Coastal Plain League and the Mankato (Minn.) MoonDogs of the collegiate Northwoods League.

While in college, Horton served as the assistant director of media relations for the New York Yankees' Triple-A affiliate in Scranton/Wilkes-Barre.

He was a sports correspondent for several newspapers and has done freelance work for numerous media outlets.

Two April graduates of the Swanson School of Engineering have been awarded 2015 Whitaker International Fellowships, which provide overseas research opportunities for emerging professionals in bioengineering fields.

Daniel Freer will pursue a Master of Research degree in medical robotics at Imperial College London. While in the United Kingdom, he will assist in the development of a wearable device that will aid in the physical rehabilitation of knee-surgery patients.

Drake Pedersen will work with a team of cardiovascular researchers at the University of Palermo in Italy. He will assist in a large-scale project that seeks to enhance the durability of tissue-engineered heart valves, which are currently used in nearly 40 percent of the world's heart-transplant procedures. ■