



Universitas 2017 Spring

IN THIS ISSUE

From the Dean



It is a pleasure to provide you with this latest issue of *Universitas*. Students, faculty, staff and alumni of

the College of Arts & Sciences have made significant recent achievements. As you read of the travels, pursuits and accomplishments, please note in particular the graduation of the inaugural class of students from Pittsburg State University's first doctoral program, the Doctor of Nursing Practice. We are very proud of this significant milestone and contribution to the healthcare of the residents of this region and beyond.

We would be remiss if we did not honor the passing of Dr. Helen

Kriegsman, long-serving professor and past chair of our university's Department of Math. Post-retirement, she continued to serve as a university volunteer providing leadership in both foundation and alumni endeavors.

As the recently named Dean of the College of Arts & Sciences, I am honored to serve the university in this position. Please feel free to contact me with news, input or other information. As dean, it is my intent to serve not only our campus community but also our broader community of friends, alumni and other stakeholders. Please enjoy "catching up" on our news, and thank you for your continued support of the College of Arts & Sciences and Pittsburg State University. Best regards!

Mary Carol G. Pomatto
Dean, College of Arts & Sciences

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Pomatto Named Dean

Pittsburg State University Provost Lynette Olson has announced the appointment of Mary Carol Pomatto as dean of the College



of Arts and Sciences. Pomatto has served as interim dean of the college since mid-January. Previously, she was director of PSU's Irene Ransom Bradley School of

Nursing.

"In her service as interim dean, Dr. Pomatto has represented the entire college equitably, addressing many complex issues in a timely and professional manner, and has made a positive contribution to Provost's Leadership

Council," Olson said. "After consulting with College of Arts and Sciences leaders, who without exception affirmed Dr. Pomatto's positive and steady leadership over the past months, it is evident to me that we could not ask for nor find a stronger leader for the college. "

"I'm honored to serve the university in this capacity," Pomatto said. "My experience as interim dean over the past nine months has confirmed for me something I already knew. The Arts and Sciences faculty and staff are highly skilled individuals who are incredibly dedicated to our students and our university. Our students, with the faculty's support, are accomplishing great things and laying the foundation for careers that will help change the world.

"It is an exciting time to lead the College of Arts and Sciences."

Pomatto graduated from PSU's nursing program in 1974 and received her master's degree in nursing from Texas Woman's University in 1978. She earned an education specialist degree from PSU in 1983 and a doctorate in education with an emphasis on human resources development and adult and continuing education from Oklahoma State University in 1992.

Pomatto was named chair of the Nursing Department in 2005. In addition to serving as chair and a member of the Nursing Department faculty, Pomatto served as the university's liaison to the Kansas Legislature for nine years.

The College of Arts and Sciences is the largest college at PSU, with 12 departments, three interdisciplinary units, and more than 50 degree programs.

Telegrams from Students

Chemistry: Charith Ranaweera, a PSU student of Polymer Chemistry who is working under Dr. Gupta's supervision, is a winner of the 2016 TRFA Excellence in Thermoset Polymer Research Award. The Thermoset Resin Formulators Association (TRFA) developed the Excellence in Thermoset Polymer Research competition to encourage and recognize advances in the science, engineering, and technology of thermosetting polymers and their formulations used in a variety of industrial applications. This prize provides student researchers with visibility and exposure for future employment goals.

This big competition receives application forms from students from universities throughout the USA and Canada. Ranaweera won this award from this large pool of BS,

MS and Ph.D students. He will travel to Raleigh, North Carolina to receive this award than includes a generous stipend and a travel allowance.

Physics: Nathan Flood, has been selected to participate in the International Summer Research Program in Gravitational-Wave Physics: Research Experiences for Undergraduates around the world. EGO - the European Gravitational Observatory - is located in the countryside near Pisa in the Commune of Cascina. In order to ensure the long term scientific exploitation of the VIRGO interferometric antenna for gravitational waves detection as well as to foster European collaboration in this upcoming field, the VIRGO funding institutions (CNRS for France and INFN for

Italy) have created a consortium called EGO (European Gravitational Observatory).

Flood will be fully supported by the program spending 8 weeks or so in Pisa conducting research at the Virgo site in Cascina, Italy.



Helen Kriegsman

Pittsburg State University has lost a dear friend. Helen Kriegsman, retired professor and former chair of the Math Department passed away Friday night at the age of 92.

Dr. Kriegsman joined the Pittsburg State faculty in 1947. In 1967, she became chair of the Math Department, the first woman to hold such a position at Pittsburg State University. She served the university in this role until her retirement in 1989.

President Steve Scott issued the following statement upon learning of Dr. Kriegsman's death.

"Dr. Kriegsman was an important part of our campus family for nearly 70 years. As a professor and as a chairperson, she positively transformed the lives of tens of thousands of students, including mine.

Her support for this university continued well after her retirement through the countless hours of service and



leadership she provided to our foundation and alumni boards.

Dr. Kriegsman was a mentor, a friend and, above all, an educator to be celebrated. She will be greatly missed. I offer my deepest condolences on behalf of the Pittsburg State University community."

Gorillas in Glacier Bay

No one forgets the moment they first saw the ocean, marveled in the sheer power of the water and tasted the salt in the air. It changed the life of Katie McMurry, PSU student, forever.

"For me, Alaska wasn't just the wildest place I've ever visited, but it was also the most beautiful and diverse. Exploring the tidal pools and following a pod of whales is something classroom ecology courses just can't compete with."

Students on this trip were engaged in every way possible. No amount of classroom lecture time could compare to the education they received in just a week. These students will most likely never forget what Devil's Club looks like in the field, and why they should avoid it. They will never forget the taste of handpicked blueberries along the trail or the low thunderous sound of the Margerie Glacier calving into the water.

In the classroom, students learn terms and concepts like succession and climate change. However, by traveling up Glacier Bay they were able to observe successional changes from the tiniest beach strawberries to the mighty spruce-hemlock forest and everything in between. They were able to see direct evidence for climate change from one of the wildest places on the planet. They

were able to explore the interface and interdependency between both marine ecosystem and terrestrial ecosystem. They had the opportunity to visit with and hear from professionals in the field.

Upon returning, student Tayler Frazier said "I have witnessed first-hand what my degree can do! I can finally explain to my family what I want to do with my degree!"

In addition to learning in the field, students were also able to connect with people who live in the small community of Gustavus just outside the park as well as see how the native Tlingit people survived and thrived off of the land. Many of the students noted the difference in attitude of the people compared to other places they had been or lived—they noticed that the residents of Gustavus were so much more connected to the land and treated it with an incredibly high regard. The sense of community in this little town, not connected to any other by a road, was something incredibly special. The required reading for this trip was a book written by Gustavus resident author, Kim Heacox. We were lucky enough to have him join us one evening during the trip. Sitting around a campfire with guitar in hand, he told stories and even sang a few songs.



Front Row: Karen Stoehr, Kirsten Winchester
Second Row: Katie McMurry
Back Row: Jesse Morland, Alex King, Sierra King, Tayler Frazier, Sarah Chenoweth, Delia Lister, Michael Vena, Alex Hill

It took a partnership to get PSU Gorillas to Alaska. A very enthusiastic PSU Biology alum, Dan Van Leeuwen, and his wife Dr. Sonya Culver—also a PSU alum—share an appreciation for getting students in the field and offered to host a group of students at no cost.

The trip was pure magic: students who had never seen the ocean explored tide pools and watched pods of whales with joy-filled, teary eyes.

New Faculty



Dr. Christopher Childers is a new assistant professor of history at PSU. Childers teaches courses in colonial history, the American Revolution, and the early American republic. He also teaches Kansas history and public history courses for the department. A native of Olathe, Kansas, Childers earned PhD in American

history at Louisiana State University in 2010. Childers's research focuses on the political and constitutional history of the early American republic



Dr. Leah Childers returns to Pittsburg State University after working at Benedictine College from 2013-2016. She received her

PhD from Louisiana State University in 2010 in geometry group theory before joining the faculty at PSU from 2010-2013. She has supervised numerous undergraduate and masters research projects, published papers on the mapping class group, and most notably coauthored a

chapter in the book *Office Hours with a Geometric Group Theorist*—a book designed to introduce active areas of research to undergraduate students.

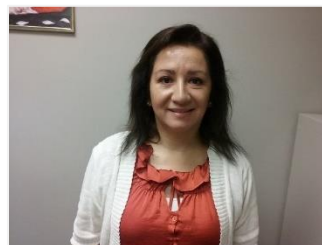


Dr. Jorgenson Borchert joined the English faculty this fall semester after receiving her doctorate in Rhetoric, Writing, and Culture from North Dakota State University in Fargo, ND. Her dissertation examined ways of engaging first-generation college students in the first-year writing classroom, and she plans to continue her studies of first-generation college students here at Pittsburg State University. Research specialties include composition and rhetoric, grant writing and research, and writing pedagogies. When not working, she enjoys playing open-world video games and catching up on what is new on Netflix.



Kayce Mobley (Political Science & International Studies): "Kayce Mobley joined the faculty in the Department of History, Philosophy, and the Social Sciences in the fall of 2016. A native of Brunswick,

Georgia, she earned her doctorate in political science from the University of Georgia in 2015, while simultaneously completing a graduate certificate in university teaching. After finishing graduate school, she spent a year as a visiting assistant professor at Wabash College in Indiana. Her teaching and research interests broadly concern international relations, with specific focus on foreign policy, security, and disproportionate responses in crises. In her free time, she enjoys traveling, hiking, cooking, playing cards, and discussing *The West Wing* with other devotees.



Dr. Yasmina Vallejos is an Assistant Professor of Spanish and specializes in contemporary Latin American literature and film, with a focus

on Southern

Cone narrative. Her research and teaching interests are in the areas of postcolonial, cultural studies, and the idea of identity representation in Latin America. She received her PhD from Purdue University. Her research interests are: Latin American Literature and Culture (19th - 20th Century); Latin American Women Novelists; Displacements and Migrations; Bildungsroman and Performance Theory.

PSU at Midwest Model United Nations



On February 22 – 25 of This year, the Model United Nations delegation from Pittsburg State University traveled to St. Louis, MO to participate in the Midwest Model United Nations conference (MMUN). The delegation of 10 students represented the country of Colombia. PSU also sent two press delegates representing the New York Times.

As part of the MUN simulation, members of the PSU delegation acted as Colombian diplomats. They became experts on both Colombian domestic politics as well as the country's foreign policy.

They acquired this knowledge under the tutelage of Dr. Lauren Balasco, the MUN faculty advisor. "Students studied topics related to the prevention of an arms race in outer space," said Balasco, "and how to prevent terrorists from accessing Weapons of Mass Destruction." They also learned about human rights issues such as gender equality and the prevention of torture. "Not only were students responsible for understanding the major debates on these issues, but students also had to research the Colombian government's position on these topics."

This was challenging, according to Balasco because it has been an important year in Colombian politics.

The PSU MUN delegation and its advisor are grateful for the financial support provided by Pittsburg State University that allowed students to participate in this important academic experience. In particular, the club wants to recognize the Pittsburg State University Foundation, the Office of Graduate and Continuing Studies, the Legislative Council on University Affairs, and the Department of History, Philosophy and the Social Sciences for their contributions and support that made this experience a success.



Nursing Practice Graduates

PSU conferred its first bachelor's degree in 1913 and on Friday, Dec. 16, it passed another milestone with the graduation of its first Doctor of Nursing Practice class.

Founded in 1903, the institution that is now Pittsburg State University, conferred its first bachelor's degrees in 1913. The first master's degrees were conferred in 1930 and the first specialist in education (Ed.S) degree in 1962. On Friday, Dec. 16, PSU observed another milestone when it confers its first doctoral degrees on the 12 students who have just completed PSU's Doctor of Nursing Practice program.

"It is such a gratifying feeling to finally see our first Doctor of Nursing Practice graduates!" said Cheryl Giefer, interim director of PSU's Irene Ransom Bradley School of Nursing. "The graduation of our inaugural DNP class in the very same semester we achieved a positive CCNE accreditation visit for our DNP Program is monumental in the history of the School of Nursing."

Giefer said conferring the first DNPs caps off years of work.

"This is an endeavor that I became involved with back in 2009 when I requested a sabbatical leave with the goal of planning of the curriculum for the DNP program," Giefer said.

Trina Larery, who will receive her DNP degree Friday, said she's proud to be part of PSU's history.

"I am honored that I had the opportunity to be selected to be in the inaugural class," Larery said.

Larery, who received her master's degree in nursing from PSU, said she always thought that if PSU ever offered a doctoral program in nursing, she would want to be part of it. She did, however, have questions about what she might learn.

"To be honest I wasn't sure what I could learn from the program," Larery said. "I had been a nurse practitioner for nine years and felt very comfortable in that role and in my knowledge."

It turned out to be an eye-opening experience.

"It was not what I expected," Larery said. "It was very challenging. I had to see myself as more than I was before. Instead of being a clinician I had to give in to the idea that I was a leader, a role model and a visionary for the nursing profession along with a clinician. Taking a leadership role was never something I was comfortable with until this program."

Larery said the faculty were always there to help her through the rigorous program.

"They were always there for me and truly want students to succeed," Larery said. "I can't tell you how many times I have called some of the faculty crying, saying I couldn't do it. They talked me off the ledge every time, and now here I am, graduating in a few

days. That personal touch and the investment they have in students makes PSU the only place I wanted to be."

Barbara McClaskey, a University Professor in the School of Nursing, said the investment in the Doctor of Nursing Practice program will pay dividends in the form of improved health care in the region immediately.

"The DNP program at Pittsburg State helps to assure that the region will continue to be served by practitioners with the highest possible level of education and clinical preparation," McClaskey said.

Giefer agreed.

"Our DNP graduates are planning to remain in their home communities of Frontenac, Girard, Neodesha, Parsons, Wichita, Nevada (Mo.) and Grove (Okla.)," Giefer said. "They will continue to serve the people in our region and will assist in meeting their health care needs with an expanded knowledge base in an increasingly complex environment."

McClaskey said that amidst the celebration for the first DNP class, it was important, also, to give credit to the many people who helped make the program possible.

"This program would not have happened without the support of the entire university community, administration, faculty, and staff, and without students who had a goal of life-long learning and always wanting to provide the best for their patients," McClaskey said.



Cole Morrison: Finding a Career

There probably aren't many Pittsburg State University seniors busier than Cole Morrison.

If he's not in class, you might find him on the road, heading to a site visit for a potential solar power installation, or back at his office at CDL Electric, working on a solar panel installation design.

"Right now I'm pretty swamped," Morrison said. "I'm on the phone a lot with utility providers, getting metering applications turned in and code specifications done on system designs. There's a lot that it entails."

Morrison, originally from Iola, will graduate from PSU in this week, but he's already hard at work in an area that he says he's passionate about. Morrison has turned his experience in PSU's Bachelor of Integrated Studies Degree in Sustainability, Society and Resource Management (SSRM) into a career.

"I really had had no idea what to major in when I came to PSU," Morrison said. "I already had some credits because of dual credit classes in high school. I pretty much had all my preliminary classes out of the way, so I had to make a decision quickly."

Morrison met with an academic adviser who pointed him toward Jim Triplett in the Department of Biology when she learned of his passion about the outdoors and the environment.

"Dr. Triplett introduced me to sustainability and I got right into it," Morrison said. "I took a couple of classes and really enjoyed it."

CDL Electric, meanwhile, had been thinking about adding a sustainable energy division to its growing operation. Larry Seward, owner of the company, said he expects the demand for solar energy, in particular, to continue to grow for the foreseeable future and he knew his company needed to be part of that growth.

Seward's son, Dustin, who is also a Pitt State student, met Morrison through mutual friends and suggested a meeting between Morrison and his dad.

Seward said his meeting with Morrison convinced him that he would be a good choice to help CDL build its new division.

"I really liked his energy," Seward said. "He's a good people person and has a lot to offer."

Morrison signed on, but knew he had a lot to learn. The SSRM degree, the only one of its kind in Kansas, is a broad program designed to provide interdisciplinary experience and credentials for students who may want to work in a variety of fields, ranging from city and local government, conservation, wildlife management, land development or business. Morrison still had a lot to learn about the nuts and bolts of solar panel installation.

"I did a lot of self-educating," Morrison said. "I took a lot of online courses. I learned a lot from people in the field. Our dealers and some of the people who helped us get the ball rolling on the solar division have been really helpful."

Alicia Mason, an associate professor in the Department of Communication, is the program coordinator for the BIS in Sustainability, Society and Resource Management. She said many of the students who have gone through SSRM, like Morrison, have paired the program with either graduate study or government and industry experience.

"We are very fortunate to attract the interest of a wide variety of students who appreciate the interconnectedness of the sustainability triad (economics, environmental and social equity) and seek to improve the lives of others in the communities they serve," Mason said.

According to Mason, recent SSRM graduates are working in jobs such as local and regional planning and zoning, conservation mapping and public health.

Morrison is just beginning his career and can't predict where it will take him in the future, but right now, he said, he's in an exciting place.

"I have a passion for this and this is what I want to do for the rest of my life," Morrison said.

Military Friendly

For the seventh consecutive year, Victory Media has selected Pittsburg State University for its list of Military Friendly Schools. According to Michelle Hensley, the veterans certifying official in PSU's Registrar's Office, the designation reflects years of ongoing support by the university for veterans and their families. Vets say that work is paying off.

"Pittsburg State has been a wonderful experience for me as a student veteran," said Lucas Arnold, a junior recreation major, originally from Neodesha, Kan. "PSU does an awesome job of facilitating and creating a welcoming environment for veterans who want to better their future. The university is also extremely concerned with how our veterans feel about their learning experience

and environment. There isn't a better place around that gives you caring help, college pride, and the best possible learning experience."

According to Victory Media, the Military Friendly Schools designation is based on a process that includes extensive research and a nationwide data-driven survey. The Military Friendly Schools and a similar Military Friendly Employers list are intended to help veterans as they make decisions about continuing their education or seeking employment.

In addition to the survey, schools and university were measured on criteria that included student veteran retention, graduation, job placement, loan repayment, persistence and loan default rates.

More information for members of the military, veterans and their families can be found at <http://www.pittstate.edu/admission/information/veteran/index.dot>.



Making food safer

Researchers at Pittsburg State University have developed a process that may one day make a night out at your favorite restaurant, a trip to the grocery store or turning on the tap in a developing nation a much safer experience.

Tuhina Banerjee, a chemist in PSU's Department of Chemistry, along with Assistant Professor Santimukul Santra, Professor James McAfee, and six students in the department, combined magnetic resonance imaging (MRI) and fluorescence to create a device that enables scientists to detect the presence of dangerous bacteria in food and water, and to do so in less than an hour.

Their research was published recently in the American Chemistry Society (ACS) journal, *Infectious Diseases*.

The research has major implications because bacterial contamination of food and water is one of the world's leading causes of sickness and death. In the U.S., one in six Americans will get sick this year from a foodborne illness, according to the Centers for Disease Control. Of those 48 million, more than 125,000 will be hospitalized and 3,000 will die.

The culprit is often *E. coli*, a large group of bacteria that surround us every day. Most are harmless, but some, like *E. coli* O157:H7, are very dangerous, as companies like Costco and Chipotle have discovered at great cost.

Banerjee said she has seen first-hand how serious these bacterial outbreaks can be.

"Dr. Santra and I are both from India, where cholera has sometimes spread because of contaminated water supplies," Banerjee said.

Santra, who came to PSU as part of its Polymer Chemistry Initiative, said news stories about *E. coli* contamination of foods in the U.S. inspired the PSU researchers to think about using nanosensors to try to detect common pathogens, first in water.

The nanosensors are made up of iron oxide particles combined with an optical dye and antibodies that latch onto the *E. coli* cells. The nanosensors clump around the bacteria and this can be detected by MRI, for very small amounts, and fluorescence, for large amounts.

The researchers began by testing water from PSU's University Lake and from a number of other sources.

"We found that the nanosensor is very good at picking up contaminations," Santra said.

For their research, Banerjee and Santra, teamed up with Professor James McAfee, a biochemist in the department.

"A very important part of the collaboration was his very insightful questions," Santra said.

Additionally, six students assisted in the research and the senior researchers said their help was crucial.

"The time commitment research takes is challenging," Banerjee said. "Some things have to be checked or measured frequently. Shoukath Sulthana, Tyler Shelby and the other students could be in the lab on weekends or after hours to make this project successful."

"The students are very hard working," Santra added. "I'll ask for something and they'll get it done in a timely manner."

Sulthana, a graduate student in polymer chemistry and Shelby, an undergraduate student in chemistry, who worked on developing the new bacterial contamination detector, said the research experience they've had at PSU is invaluable.

"I think it goes back to what makes this place special," Shelby said. "I don't know where else you would have the contact time with professors that we do here. I've spent

countless hours in professors' labs, talking to them about what they're working on."

Shelby is a recipient of the Star Trainee Award from the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) and he is following up the research on *E. coli* with a paper that explores how nanosensors may be used for the rapid detection of the Influenza virus.

McAfee said Shelby's PSU experience will be a big boost as Shelby applies to MD/Ph.D. programs.

"Having done this research and having a paper published in a highly regarded journal is worth a thousand A's," McAfee said. "That's one of the reasons that having students involved in this type of research is so important."

Banerjee said that since the researchers published their work, they have been getting calls from researchers around the world. The work was described in an American Chemical Society press release and was reported in several scientific news magazines. Recently, Banerjee received an invitation to present a talk at the 2017 International Food Technology Conference in Las Vegas. In addition, the researchers have been asked to submit an editorial article for the journal *Future Microbiology*, which they have done.

The next step, in order to make a rapid detection system available in the field, is miniaturization.

"The next step is to work with engineers to develop a chip that can take the process out of the lab and into the field," Banerjee said.

In the meantime, the researchers are exploring ways the technique they've developed could be used for the rapid detection of other pathogens, such as influenza and Zika.



Holly Cranston

Holly Cranston earned a bachelor's degree in biology from PSU in 1998 and a medical degree from the University of Kansas Medical School in 2003. At KU, Cranston received four of the seven awards given at graduation from the Family Medical Residency Program, including the Jack C. Walker Award for the most outstanding resident in family medicine and the research award for the most outstanding family medicine research project. She also completed a year as a fellow in Geriatric Medicine at KU.

Cranston started her medical career in Pittsburg and opened her own private

practice and clinic, The Cranston Clinic, in 2007. Today the clinic employs two nurse practitioners and six additional employees.

Cranston's Medical Board Certified Specialties include family medicine, geriatrics, hospice and palliative care.

Cranston practices at Via Christi Hospital where she has served as chief of the medical staff and on the board. From 2011 until 2013, Cranston was medical director for Via Christi's Home Health Services and was director for Southern Care Hospice between 2010 and 2012.

Cranston holds memberships in the American Directors Medical Association, the Kansas Academy of Family Physicians and the American Academy of Family Physicians.

Cranston continues to support Pittsburg State and PSU students through her mentorship of students in both the PSU Doctor of Nursing Practice and Pre-Med Programs.

Cranston and her husband, Greg (BS 1996), have two children, Caitlin, who is 11; and Madison, who is 8. They live in Weir, Kan.



Frankenstein

Special Effects Make-Up Artist Brandi Graber says she loved watching scary movies when she was little, so it is a two-hour labor of love when she transforms Stephen Reida from a friendly Pittsburg State University junior into the iconic creature from Mary Shelley's novel, "Frankenstein."

PSU Theatre's production of the Victor Gialanella play, based on the horror classic, ran Oct. 27-30 in the Dotty and Bill Miller Theater in the Bicknell Family Center for the Arts at PSU.

Graber said she was drawn to theater as a youngster and eventually went to Hollywood, where she studied at the Joe Blasco Make-Up School.

"I started working in movies after that," Blasco said.

It's likely that the audiences that attend PSU's production this week have already seen Graber's work in films such as "Austin Powers," "George of the Jungle" and "Jurassic Park 2" and on television in "The X Files" and "Seinfeld."

"Frankenstein" director Gil Cooper said Graber's outstanding make-up work is just one of the many elements that have come together to make this production special.

Those elements include fight training by a veteran choreographer whose husband is an MMA fighter, complex set changes by scenic designer Linden Little and period costumes by costume designer Lisa Quinteros.

Cooper said he's particularly pleased by the way the student actors embraced their roles.

Reida, from Wichita, said he was excited to play the creature.

"My mom raised me on black-and-white scary movies," Reida said. "It's a lot of fun (to

play this character.) I haven't gotten to do something like this on stage before."

Reida said he was eager to see his mother's response to his character.

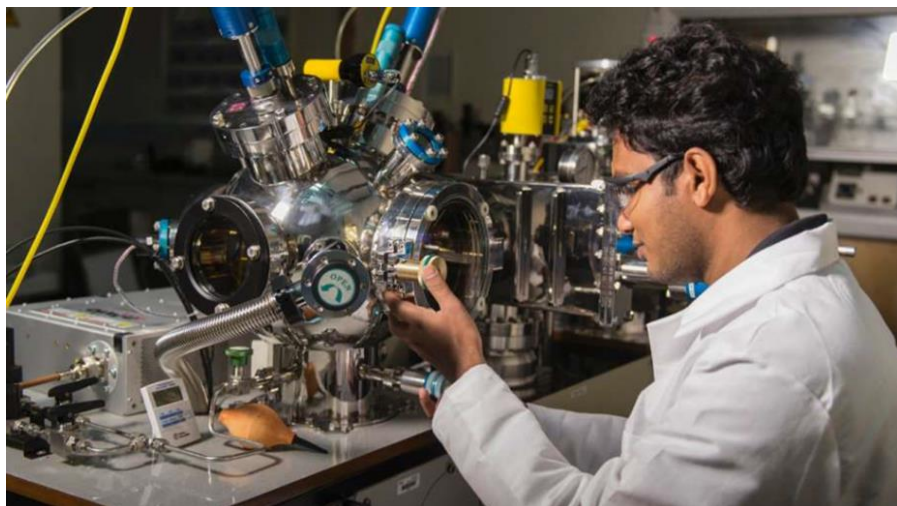
"My mom doesn't even know what I look like bald, yet," Reida said. "She is in for a surprise."

Cooper said in addition to the actors who portrayed the 12 characters in the play, many more students worked long hours behind the scenes to make the production run smoothly.

"All together, there were about 50 students involved in some facet of the production," Cooper said.



Student recognized for environmentally friendly research



Charith Ranaweera, a graduate student in Pittsburg State University's polymer chemistry program, has recently been recognized for his research on flame resistant polyurethane foams that are based on limonene, an extract from waste orange peels.

That orange peel you tossed in the trash after breakfast, this morning, could one day be part of the solution for creating environmentally friendly products that insulate our homes and protect us from the elements.

Charith Ranaweera, a graduate student in Pittsburg State University's polymer chemistry program, has recently been recognized for his research on flame resistant polyurethane foams that are based on limonene, an extract from waste orange peels.

"Currently, the starting chemicals for polyurethane and many other polymers are obtained from petrochemicals and therefore are not renewable," said Ram Gupta, an assistant professor in PSU's Department of Chemistry. "In addition, one of the main limitations of polyurethane foams is their low flame retardancy."

In his research, Ranaweera attacked both of those issues. He began by using the limonene to synthesize a bio-polyol that could be substituted for the petrochemicals normally used to produce polyurethane. To increase the fire retardant properties of the product, he incorporated a compound that contained phosphorous.

"We showed that polyurethane foam prepared from our bio-polyol can be used for thermal insulation and packaging with the additional benefit of fire safety," Ranaweera said.

For his research, Ranaweera was recognized by the Thermoset Resin Formulators Association with the Excellence in Thermoset Polymer Research Award, which recognizes advances in science, engineering and technology relating to thermosetting polymers. Those products are used in a wide variety of daily applications, including structural adhesives, sealants, coatings, composites, insulation and packaging. The award is open to all BS, MS and Ph.D. students at accredited colleges and universities in the U.S. and Canada.

"Recognition at this level is an outstanding achievement for any student," Gupta said, "and it shows that our polymer program is

highly competitive with some of the best programs in North America."

Ranaweera's paper, "Bio-based Polyols using Thiol-Ene Chemistry for Rigid Polyurethane Foams with Enhanced Flame Retardant Properties," will appear in the *Journal of Renewable Materials*.

This isn't the first recognition for Ranaweera, who came to PSU from his home in Sri Lanka because of the university's polymer chemistry degree programs. In the 18 months Ranaweera has been at PSU, he has published seven peer-reviewed journal articles and presented his work in more than 10 national and regional conferences.

Ranaweera gives high praise to Gupta for the way he mentors the student researchers in the polymer chemistry program and guides their research.

"He's like a father to us," Ranaweera said. "He guides us and gives us instruction every step of the way."

Gupta, who came to PSU as part of its Polymer Chemistry Initiative, said he enjoys working with undergraduate and graduate students as they do their research.

"I enjoy teaching and nurturing them," Gupta said, "and the students get the advantage of doing this research at the Kansas Polymer Research Center, which is a world leader for bio-based research."

Ranaweera said he hopes to go on from his experience at PSU to earn a Ph.D. in polymer chemistry and eventually to have a career in industry research.

For more information on Polymer Chemistry Initiative at PSU, visit

<http://www.pittstate.edu/departments/chemistry/polymer/index.dot>

2017 College of Arts and Sciences Faculty Awards



Amy Hite, Associate Professor, Irene Ransom Bradley School of Nursing, winner of the Excellence in Service Award.

Above: Mary Carol Pomatto, Dean of the College, Amy Hite, and Karla Childs, Chair of the Arts and Sciences Academic Policies Committee.



Amber Tankersley, Associate Professor, Department of Family and Consumer Sciences, winner of the Excellence in Advising Award.

Above: Kathleen Flannery, VP of University Advancement, Amber Tankersley, and Karla Childs, Chair of the Arts and Sciences Academic Policies Committee.



Ram Gupta, Assistant Professor, Department of Chemistry, Winner of the Excellence in Teaching Award.

Above: Kathleen Flannery, VP of University Advancement and Karla Childs, Chair of the Arts and Sciences Academic Policies Committee, are pictured with Ram Gupta.



Santimukul Santra, Assistant Professor, Department of Chemistry, Winner of the Excellence in Research Award.

Above: Mary Carol Pomatto, Dean of the College, and Karla Child, Chair of the Arts and Sciences Academic Policies Committee, are pictured with Santimukul Santra.



Trent Kling, Assistant Professor, Department of Communications, Winner of the Excellence in Creative Activity Award.

Above: Mary Carol Pomatto, Dean of the College, and Karla Childs, Chair of the Arts and Sciences Academic Policies Committee, are pictured with Trent Kling.



Universitas 2017 Spring
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