In reading through an early draft of this fall newsletter, mulling over what I should discuss, it became abundantly clear that I needed to discuss one thing in particular—research. While I make no apologies for focusing my last few letters on experiential learning and entrepreneurship, it is clear that research is never far from my mind. Indeed, I have made no secret of the fact that one of the end games in our efforts to integrate teaching, experiential learning and research into the student experience is to reach a point where we can begin to replenish our faculty ranks with research-active, junior faculty. In other words, research and learning in the college are inseparable, and each one supports the other as we work to enforce the role of Wright State as an innovative research leader for the region and beyond.

Within a two-week period this fall, CoSM held a series of profoundly successful research and innovation-focused events. On October 26, we held our inaugural "Festival of Research". As described in one of the enclosed articles, the festival occupied much of the common space in the Neuroscience and Engineering Collaborative building and featured posters, informational tables, research talks, pub science talks and improvisational sessions. The plenary talk by Provost Susan Edwards discussed the role of research in securing the future of the university. The event was truly spectacular and uplifting in every respect.

Why wetlands? Earth and Environmental Sciences associate professor, Silvia Newell knows very well the role that different wetlands, constructed, natural, and restored, play in removing the excess nutrients like nitrogen and phosphorus from the ground. These nutrients occur in agricultural areas from the use of fertilizers. Wetlands are buffer zones that help mitigate the effects of the fertilizers. For this reason she wanted to work with a rural school to teach students, who may grow up to become farmers or work on farms, to understand the importance of wetlands as buffer zones between farm fields and surface water. Through undergraduate student Megan Reed, who works in the Newell Lab, they were able to team-up with Greenon Local High School for a shoebox wetlands lesson.

CoSM welcomes two new faculty

Clintoria Williams, PhD - NCBP

Clintoria Williams, PhD, is an assistant professor in NCBP. She brings with her an abundance of experience in preclinical research, and previously served as an assistant professor at Emory University School of Medicine. Williams' research interests focus on the pathophysiology of kidney disease. In her past studies, Williams has identified a key functional difference in two calcium-dependent enzymes. In the kidney, these enzymes contribute to blood pressure regulation. Her work is funded by the American Heart Association and Aurinia Pharmaceuticals.
Yang Liu, PhD - Statistics

Yang Liu received his PhD in Statistics from Bowling Green State University, Ohio, in 2015, and continued his research as a Postdoc at Fred Hutchison Cancer Research Center, Biostatistics Program in Seattle, Washington, from 2015 to 2019. He is now an assistant professor of Statistics at Wright State University. Yang Liu’s research mainly focuses on high dimensional data analysis, machine learning, and statistical genetics, genomics. His research has a broad range of applications in genetic pathway analysis, feature selection of big data, and somatic mutation association studies.

NIH award used to battle viral respiratory infections

A team of Wright State University biology researchers is making strides on a novel approach to combatting viral respiratory infections. The work is funded by an award from the National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health (NIH). The project is expected to receive approximately $1.6 million over five years. The team is led by Kate Escoll, professor of biology in the College of Science and Mathematics. Escoll and her team have been investigating viral receptors, which must be present on human cells in order for the virus to attach to them and cause infection.

Taking the lead

Maula Bubulya, associate professor and associate chair of the Department of Biological Sciences in the Wright State University College of Science and Mathematics, participated in the Higher Education Resource Services (HERS) Summer Institute, a preeminence leadership development program that prepares women to become high-ranking decision-makers in higher education. She said she learned that being a bit introverted won’t stand in the way of her being a strong leader. And that her skills as a scientist are transferrable in assuming top university leadership positions. Bubulya joined the faculty of Wright State in 2005. She currently operates a lab funded by the National Institutes of Health.

NIH award funds novel cancer research

Kuppuswamy Arumugam, an assistant professor of chemistry in the Wright State College of Science and Mathematics, and Jonathan F. Arizbault from The University of Texas at Austin, are working on a novel approach to fighting cancer thanks to a three-year, $462,195 R15 award from the National Institutes of Health (NIH). The team includes postdoctoral, graduate and undergraduate researchers. The award is designed to support innovative projects in the design of experiments, along with the collection and analysis of data, presentations at meetings and drafting journal articles.

Medical Lab Science Program celebrates student success, and new internship collaboration with KHN

The Medical Laboratory Science (MLS) program is celebrating the success of this year’s cohort who on their first attempt achieved a 100% pass rate on the American Society for Clinical Pathology (ASCP) certification exams. Amy Waerman, MS, MT (ASCP) has been at the helm as program director since March 2017. She along with clinical coordinator Laura Roushena, PhD, MLS (ASCP) have continued the success of the Medical Laboratory Sciences program by training and graduating high caliber students who are incredibly valuable to our region’s health services.

Other program news is the announcement of a new paid internship with Kettering Health Network (KHN), Medical Laboratory Sciences Fellowship Program applications have been submitted for the 2019 spring term. The program aims to increase interest in the MLS program with the goal of being able to offer the internship on an annual basis.

Student Spotlight

By the numbers

Wright State University graduate students, Fan Yang and Michele Miller, captured first place in a prestigious international data competition by analyzing biomedical data to create a model that could be used to help patients with sickle cell disease better manage their pain. Yang is pursuing her Ph.D. computer science, and Miller is working on her Ph.D. in environmental science, they teamed up to take the top prize in the Datathon at Carnegie Mellon University’s Center for Casual Discovery. The data used by Yang and Miller was collected from patients with sickle cell disease. Analyzing the data, which is part of Yang’s dissertation and the duo’s TRU-Pain project.

A Pakistani journey to conservation

Sella Janjua is an Environmental PhD candidate at Wright State, and a Panthera Sabin Snow Leopard Grant recipient. Panthera’s Snow Leopard Program currently leads or supports conservation activities in five of the 12 snow leopard range countries, including China, India, Kyrgyzstan, Pakistan, and Tajikistan. Janjua shared her amazing journey in snow leopard conservation with Panthera’s blog titled Feline Notes, which is reported here with permission from Panthera, a global wild cat conservation organization.

Continue below for her story.
My snow leopard research journey began in a very unlikely place: studying fish genes with Pakistan’s Bioresource Research Centre (BRC) at the start of my career. I had a background in biochemistry and wanted to pursue cancer research and drug development, so it was hard to digest the rationale behind my assignment to study the genetic diversity of fish. The only interest I had in fish was ordering it fried or grilled.
Postdoc researcher wins prestigious poster award
Research showing that changes in neurons in the brain may be responsible for cognitive dysfunction associated with Type 2 diabetes won a best poster award for Wright State University postdoctoral researcher Ryan Griggs. Griggs was honored with the Best Poster Award for Postdoctoral Fellows at the 15th annual Neuroscience Day sponsored by the Ohio Alum Valley chapter of the Society for Neuroscience. The Society for Neuroscience is a professional organization for research focused on the study of the nervous system. It is the largest neuroscience society in the world, with nearly 37,000 members. Griggs is pictured with Leonid Yermakov, an M.D.-Ph.D. student and Katschirin Susuki, assistant professor of NCBP.

Read more

NOAA Sea Grant Finalist
Environmental Sciences Ph.D. candidate Alison Agather is among the 66 successful finalists of the National Oceanic and Atmospheric Administration (NOAA) Sea Grant's John A. Knauss Marine Policy Fellowship program (Knauss) class of 2019. This is a competitive and prestigious appointment. Knauss fellows receive hands-on experiences transferring science to policy and management through one-year appointments with Federal government offices in Washington, D.C. Agather is a member of the 40th anniversary class and the first finalist to represent Wright State University. As an undergraduate, she became interested in how chemicals move through the physical environment based on their properties. Her research focused on mercury in wetlands and lakes. In the lab she gained experience in mercury chemistry and instrumentation. Agather was recently notified that her appointment is with the Ocean Prediction Center (OPC), which is part of NOAA and the National Weather Service. She will work as a Marine Policy Assistant.

Read more

Alumni Spotlight
Red rock romance
Wright State grad Sara Torra-Bergquist is the earth and environmental education ranger at Red Rock State Park in Arizona, one of only two such rangers in the state. Her office rubs up against the spectacular tangerine sandstone buttes and canyons of Sedona. After graduating from Red Mountain High School in 2001, Torra-Bergquist joined the Air Force. From 2002 to 2008 she was stationed at Trisol Air Force Base in Oklahoma, where she worked as a surveillance instructor aboard the E-3 AWACS, an early warning aircraft with a distinctive radar dome above the fuselage. She moved to Dayton, joined the Air Force Reserve at WPAFB, and enrolled at Wright State to study geology.

Read more

Supporting the College
2018 Scholarship Reception
On October 27, 2018, the College of Science & Mathematics held its 4th annual Scholarship Recognition Reception. The event brought together more than 100 scholarship fund donors and recipients for a celebration and appreciation ceremony. Over the past year, we awarded more than $250,000 to 118 students, providing financial assistance for the 2018-19 academic year. We are grateful to those who generously donated to these scholarships and provided support and encouragement to our students. Thank you for helping our students succeed!

Every gift to the college matters. To learn about how you can actively engage with CoSM today, contact Jacqueline Neal, Director of Development for the College of Science and Mathematics, at jacqueline.neal@wright.edu.

Learn more

In memoriam
Julián Gómez-Cabaronero, an acclaimed Wright State University cancer researcher whose scientific contributions made him a hometown hero in his native Spain, died on Nov. 12 at the age of 59. While at Wright State, Cabaronero, a professor of biochemistry and molecular biology, discovered a key protein that plays a critical role in the development of breast cancer tumors and the spread of the disease to the nearby lungs. Cabaronero is survived by his wife, Teresa Madrid, and his two children, Julia and David.

Read more

Announcements
Wright State biologist Yvonnie Vitalbonomou awarded Fulbright scholarship
Stephanie Goodwin presented bystander intervention training at National Academies convention
Environmental scientist Yingli Dong presented research reports at outdoor science day
Congratulations to the 2018 CoSM Faculty awards winners