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KANSAS STATE UNIVERSITY | Office of Governmental Relations

Tackling COVID-19: K-Staters taking on the challenge to help locally and globally

Kansas State University faculty and staff have been helping local and state efforts to battle COVID-19 by contributing their time and expertise as well as university resources.

"As the state's land-grant university, it is K-State's mission to serve our state, nation and world, so it's not surprising to see how K-Staters have stepped up to take on this fight," said Richard Myers, K-State president. "Whether in the lab, helping in the community or connecting people globally, K-State is making a difference."

In the battle against COVID-19:

- K-State faculty members are working at the Kansas Department of Health and Environment to help with COVID-19 testing at the department's laboratory in Topeka.
- Labs and colleges across K-State have contributed more than 60,000 items of critical personal protective equipment, or PPE, to the Kansas Division of Emergency Management and the Riley County Emergency Operations Center to distribute to health care professionals at the state and county levels. The items include 58,500 gloves and nearly 1,600 N95 masks. Other contributions include lab coats, testing equipment and safety goggles.

Serving the state
The state made the request for KDHE lab assistance to employees at Kansas Board of Regents universities who are experienced with laboratory procedures. Since these university employees are also all state of Kansas employees, they are allowed to provide qualified services to other state agencies in times of emergencies and are reimbursed. The K-Staters are assisting with logging samples, record-keeping and other routine work so that the trained KDHE staff can focus on the critical work of running COVID-19 tests.

K-State labs also have contributed PPE for health care workers locally and at the state level. The contributions are from colleges, departments and units from across campus. Included in the contributions are testing equipment — reagents and kits — that researchers from K-State's Biosecurity Research Institute in Pat Roberts Hall shared with the KDHE to expand its COVID-19 testing capacity.

"Working with the state, our local Emergency Operations Center leadership and our health providers on campus, we are coordinating contributions of supplies and talent from our research labs to prepare for and meet this crisis head on," said Peter Dorhout, vice president for research.

Students in the College of Architecture, Planning & Design are 3D-printing face shields for area health care organizations. The face shields are being made by students in the Digital Fabrication Club, or DigiFab Club. The shields feature the K-State Powercat and the word "K-State." Based on an open-source design plan, the shields are produced using the college's 3D-printing and laser-cutting resources. The club has made over 175 face shields so far and demand for them is high, with request from Hoxie and as far away as Florida.

One Health
Tools needed to treat animals can help save human lives, which is why the College of Veterinary Medicine is doing what it can to help during the pandemic. Bonnie Rush, dean of the College of Veterinary Medicine, said U.S. Department Agriculture Secretary Sonny Perdue has asked that those in the veterinary profession and at veterinary colleges share resources with local health organizations in the effort to contain COVID-19.

"Secretary Perdue and the American Veterinary Medical Association developed recommendations for veterinarians to help in this national fight," Rush said. "We are fortunate to have a teaching hospital, veterinary diagnostic laboratory and research labs with skilled personnel who use common tools for human medicine. I am grateful for the creativity and commitment demonstrated by students, faculty and staff to contribute resources and time to this fight."

Along with College of Veterinary Medicine faculty working at the KDHE lab in Topeka, the college also have donated N95 masks to Lafene Health Center and prepared needed equipment to transfer a state-of-the-art ventilator to Ascension Via Christi Hospital in Manhattan.

Going global
K-State's efforts also have global reach through its cyber land-grant university leadership and research.

- Two free online forums created by K-State are helping educators and even parents around the nation and world with the transition to remote learning. In its first few weeks, the Keep Teaching: Resources for Higher Ed, created by K-State Global Campus, had more than 1,500 people involved from across the U.S. and from more than 15 countries. Joining this forum is one created by the College of Education for P-12 education, the Remote Learning P-12 community.

- Researchers from Kansas State University are doing their part to help discover a treatment for COVID-19 through a second licensing agreement with Cocrystal Pharma.

  The new agreement with Cocrystal grants the use of two patented series of protease inhibitors developed by Kyeong-Ok "KC" Chang and Yunjeong Kim, virologists in the K-State College of Veterinary Medicine. Collaborators include William Groutas, a medicinal chemist at Wichita State University, and Stanley Perlman at the University of Iowa.

  Through the new agreement, Cocrystal Pharma, a clinical-stage biotechnology company, will use the K-State-patented protease inhibitors to further develop a possible treatment of the coronavirus infection that causes COVID-19.

  A previous licensing agreement with the company included broad-spectrum antiviral compounds with a focus on norovirus and Middle East Respiratory Syndrome, known as MERS. The newly licensed technologies include broad-spectrum antiviral compounds with a specific focus on coronavirus, including SARS-CoV-2, which causes COVID-19.

Wichita State University launches satellite nursing program at Kansas State University

Kansas State University and Wichita State University will launch a dual-degree program that will give students the opportunity to earn both a Bachelor of Science from the College of Health and Human Sciences at K-State and a Bachelor of Science in nursing from the College of Health Professions from WSU. Both degree programs will be held in Manhattan. This is the first and only program of its kind in Kansas.

Students in the program will spend the first three years in the College of Health and Human Sciences, then submit an application for WSU's traditional Bachelor of Science in nursing program. Accepted students will spend the next two years in the program and earn their nursing degree from WSU. Upon completion of the program, graduates earn two bachelor's degrees, one from each institution.

WSU will welcome students enrolled in the K-State College of Health and Human Sciences to its nursing satellite program in fall 2021. Twenty students will be accepted into the program each semester. Students will initially work with a K-State advisor, then a WSU nursing advisor when they are accepted into the nursing program.

"This program is a milestone for both universities, and we are excited to be moving forward," said John Buckwalter, the Betty L. Tointon dean of the College of Health and Human Sciences at K-State. "This program represents our innovative approach to providing students with more opportunities while making an immense contribution to local health care."

Visit the new WSU and K-State Pathway to Nursing program website for more information and FAQ about the program.

The College of Health and Human Sciences at Kansas State University prepares students for meaningful lives and careers that promote human well-being through business, design, education, health and human behavior. The college boasts internationally recognized faculty and programs through the School of Family Studies and Human Services and departments of hospitality management; interior design and fashion studies; food, nutrition, dietetics and health; and kinesiology; as well as gerontology, our secondary major offered through the K-State Center on Aging. For more information visit hhs.k-state.edu.

Dean named for Carl R. Ice College of Engineering

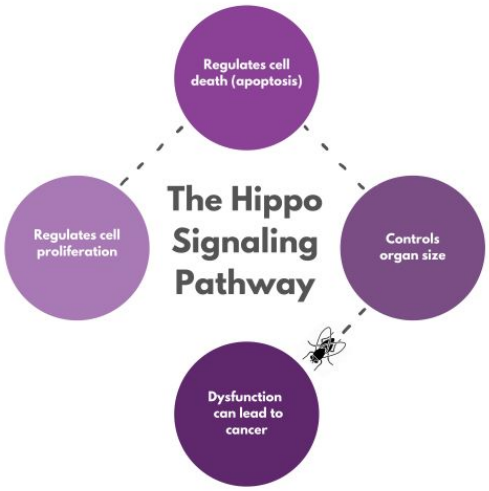
An accomplished materials engineer and experienced administrator will become the next dean of the Carl R. Ice College of Engineering at Kansas State University.

Matthew J. O'Keefe, executive director of the Haley Barbour Center for Manufacturing Excellence and professor of chemical engineering at the University of Mississippi, has been appointed to the post by K-State Provost Charles Taber following a national search. As part of the appointment, O'Keefe will hold the LeRoy C. and Aileen H. Paslay Chair in Engineering. He will start his new duties on July 13.

"Dr. O'Keefe is well prepared to become the next chief administrator of the Carl R. Ice College of Engineering," Taber said. "With his distinguished record in academia and industry, Dr. O'Keefe understands the impact of engineering and computing on society, knows the challenges coming in these technology-based areas and has the leadership and innovative thinking skills to empower the faculty, staff, students and alumni of the Carl R. Ice College of Engineering to meet these challenges and lead this college into the future."

As dean, O'Keefe will be responsible for the oversight and direction of the college's teaching, research, extension outreach, public engagement, fiscal stewardship and fundraising efforts. He will oversee the state's most comprehensive engineering school with more than 3,400 undergraduates and 400 graduate students, as well as more than 160 faculty involved with the college's 12 degree programs housed in eight departments.

"Having collaborated with K-State engineering faculty and students on research projects, and working with K-State-educated engineers throughout my career,



Veterinary researcher receives $1.58 million NIH grant to explore pathway for better cancer therapies

New research at Kansas State University is following a unique pathway that could lead to innovative therapies for treating cancer and other human disorders.

Jianzhong Yu, an assistant professor in the College of Veterinary Medicine, recently received a National Institutes of Health R01 Grant totaling $1,580,922 over five years to uncover how an evolutionary pathway may affect tumor development and cancer.

The study, "Upstream regulation of the Hippo signaling pathway," will explore the molecular and cellular function of a novel regulator.

Originally discovered in the Drosophila fruit fly, the Hippo pathway is a key regulator of tissue growth in both the fruit fly and mammals. Its dysfunction has been implicated in a wide range of human disorders, including cancer.

"Given the strong link between Hippo pathway dysfunction and human cancer, Hippo pathway represents a clear target for cancer therapy," Yu said. "The Hippo pathway responds to a variety of extracellular signals such as contact-inhibition and mechanical forces, but the underlying mechanisms remain unclear."

The objective of Yu's study is to answer that question. His group will first characterize a novel key regulator for the Hippo pathway, then determine how it regulates Hippo pathway function, and explore how

there was immediate interest in applying for the position. Knowing firsthand that K-State graduates and faculty are highly respected nationally and internationally, and having positive interactions with the professional staff and alumni on numerous occasions, it was a privilege to have been nominated as the next Leroy C. and Aileen H. Paslay endowed chair and dean of engineering."

O'Keefe has served in his current position since 2017 and provides administrative oversight of the center's personnel, facilities, operations and academics. Before joining the University of Mississippi, O'Keefe was with the Missouri University of Science and Technology from 1999 to 2017 where he served as chair of the Department of Material Science and Engineering from 2016-2017. O'Keefe also served as director and senior investigator for Missouri S&T's Graduate Center for Materials Research from 2007-2016. The center accounts for 75% of patents and royalty income at the university. In addition, he was the interim assistant vice chancellor of global learning at Missouri S&T from 2015-2016.

As a researcher, O'Keefe focuses on thin films, coatings, environmentally friendly processing and characterization of materials. He has been principal investigator on more than $10 million in funded research and another $24 million as a co-principal investigator. A fellow of ASM International, O'Keefe is co-inventor on six issued patents, three of which are licensed and generate royalties. He has published more than 140 peer-reviewed and conference proceedings papers and has served as a peer reviewer for 20 journals. He also has supported and advised 11 master's and 12 doctoral students, as well as 11 postdoctoral fellows. His work has earned eight faculty excellence awards, three outstanding teaching awards and three best paper awards.

DID YOU KNOW?

The Department of Interior Architecture & Product Design in the College of Architecture, Planning & Design became the Department of Interior Architecture & Industrial Design.

this regulation affects Hippo pathway function in tissue growth.

K-State team funded by $1.3 million NIH grant to combats hypertension

A team of researchers, led by Kansas State University associate professor Punit Prakash, has been funded with more than $1.3 million from the National Institutes of Health to expand preliminary studies that indicate mild heating of benign adrenal tumors can disrupt their unregulated aldosterone production. Through the U.S-Ireland Research and Development Partnership, project partners in the Republic of Ireland and Northern Ireland will receive additional funding from related agencies in their countries.

"We will develop, optimize and evaluate an approach for definitive treatment of PA, employing minimally invasive microwave devices delivered under image guidance to selectively heat benign adrenal tumors," said Prakash, who holds the Paul L. Spainhour Professorship in Electrical Engineering and is a Michelle Munson-Serban Simu Keystone research scholar in the Mike Wiegers Department of Electrical and Computer Engineering.

"Successful completion of this project," he said, "will lead to the development of a minimally invasive approach for definitive treatment of hypertensive patients with benign aldosterone-producing adenomas in one or both adrenal glands."

The NIH project, with program sponsor the National Institute of Biomedical Imaging and Bioengineering in the U.S. Department of Health and Human Services, will be funded over four years through the Bioengineering Research Grants program.

The project, titled "Treating primary aldosteronism-induced hypertension via microwave thermal therapy," is well-aligned with the Carl R. Ice College of Engineering's health research thrust as well as the internationalization theme of K-State 2025.

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