



OKLAHOMA EPSCoR UPDATE

Promoting Innovative Research



OK NSF Established Program to Stimulate Competitive Research | July 2022

Two new OSU Faculty Hired Joins S³OK V-MQW Team

The Socially Sustainable Solutions for Water, Carbon, and Infrastructure Resilience in Oklahoma (S³OK) researchers aim to develop and test socially sustainable, science-based solutions for complex (“wicked”) problems at the intersection of land use, water availability, and infrastructure in Oklahoma (OK). S³OK will employ a framework informed by theories of public policy learning to invest in science at the intersections of four *Focus Areas*: (1) changing subseasonal to seasonal weather patterns (S2S), (2) variable and marginal quality water supplies (V-MQW), (3) shifting terrestrial water and carbon dynamics (TWCD), and (4) sustainable water and energy infrastructure (SI).

The design of the S³OK project provides a platform for enhancing STEM education across multiple academic levels; developing and increasing diverse and competent future generations of STEM workforce; improving public awareness across various age groups and demographics; serving the state by providing innovative technologies and resilient solutions; cultivating effective collaboration among universities, colleges, and institutes; and building human capacity through new faculty hires.

To help build the human capacity of the V-MQW team to develop new engineering technologies and modeling schemes for more effective reuse of marginal quality water and improve

understanding of water treatment efficiencies that are beneficial to utility sectors and end-users, Oklahoma State University (OSU) through the S³OK project hired two new faculty members last Fall semester.



Mary Elizabeth Foltz has joined the School of Civil and Environmental Engineering at OSU as an assistant professor. Her areas of expertise includes holistic tracing of biogeochemical contaminant transformations across water and gas phases in engineered and natural systems, and multi-scale modeling from mechanistic to global climate models. Foltz joins OSU from the University of Illinois at Urbana-Champaign, where she earned her doctorate (2021) and master’s degrees (2017) in environmental engineering, and a bachelor’s degree in environmental science from Indiana University Bloomington.

“Dr. Foltz will lead V-MQW tasks in examining temporally variant greenhouse gas emissions under different conditions in wetlands and in assessing sustainability of natural infrastructure options for wastewater reuse compared to conventional methods,” Mark Krzmarzick (V-MQW team lead) said.

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Kiranmayi Mangalgiri has joined OSU’s Department of Biosystems and Agricultural Engineering. Her research expertise lies in the intersection of determining the occurrence and fate of organic contaminants of emerging concern (CEC) in natural and engineered systems, and the development and design of treatment systems for contaminant miti-

gation in water and waste streams to facilitate safe and sustainable water reuse and resource recovery. Mangalgiri joins OSU from the University of California Riverside, where she was a post-doctoral research fellow. She earned her doctorate degree in environmental engineering from the University of Maryland-Baltimore County, and master’s and bachelor’s degrees in civil engineering from Texas A&M University and National Institute of Technology Karnataka, India, respectively.

“Dr. Mangalgiri will help the V-MQW team with compiling CEC data for municipal wastewater effluent and stormwater samples in OK and reviewing passive treatment approaches for removal efficiency for various classes of CEC,” Mark Krzmarzick said.

Update on SciENcv: Science Experts Network Curriculum Vitae

SciENcv is a researcher profile system for all individuals who apply for, receive, or are associated with research investments from federal agencies. The purpose of this system is to aid researchers in creating biosketches as well as current and pending support (C&P) documents needed for applying federal grant awards. For example, researchers with accounts at NSF can link such account SciENcv and import their current data from the NSF site. NSF and other federal agencies require all biosketches and C&P supporting documents to be submitted in an approved format such as the SciENcv format. For Frequently Asked Questions on SciENcv, click [here](#).

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Upcoming Event: OK NSF EPSCoR Research Retreat
September 22-23, 2022
Reed Conference Center
Midwest City

