

Headline: NSF Awards \$6 million to UAB Sustainable Smart Cities Research Center Bringing Development Opportunities of New Resilient Eco-friendly Water Sensors

The National Science Foundation (NSF) awarded a \$6 million project to a group of researchers from partnering universities, including a team from UAB led by Dr. Rouzbeh Nazari to fund the Development of New Resilient Eco-friendly Water Testing Sensors.

The goal is to develop printable sensors to measure toxic chemicals in surface water and drinking water simultaneously for widespread environmental surveillance and to measure levels of environmentally-produced toxins in human populations at risk and for individual use. “We expect that these sensors will enable a future convergence with the Internet of Things, artificial intelligence, and cell phone apps to provide widespread monitoring opportunities and create connected and smart water systems”, said Dr. Nazari, Associate Professor and Director of the Sustainable Smart Cities Research Center (SSCRC).



Once the research project is complete, sensors will be commercialized through industrial partners as well as other technology transfer organizations. The global commercial markets for these sensors include environmental chemical surveillance, municipal and homeowner water supply monitoring, and community groups.

“On-site simultaneous sensing of multiple toxic chemicals using a single sensor platform and a single detection technique in minimally prepared real-world water samples would be transformative for monitoring and enhancing environmental and public health,” said UAB team member Dr. Maryam Karimi, Assistant Professor of Environmental Health Sciences.

The project will also encourage training and mentoring programs for undergraduate and graduate students, post-doctoral scholars, and early career faculty in the program. The overall goal is to recruit, train and retain a diverse workforce.

Dr. Nazari has assembled a strong research team from UAB to work on this project, including Dr. Maryam Karimi, Dr. S. Abdollah Mirbozorgi, Dr. Jason Kirby, and Dr. Robert Peters. “We are excited to see these research projects with such impact, magnitude, and reach form and cultivate here at UAB”, said Dr. Wesley Zech, Interim Chair of the Department of Civil, Construction, and Environmental Engineering.

The partner universities working on this project include Louisiana Tech University, Boise State University, University of Arkansas Medical Sciences Campus, and the University of Arkansas at Pine Bluff.