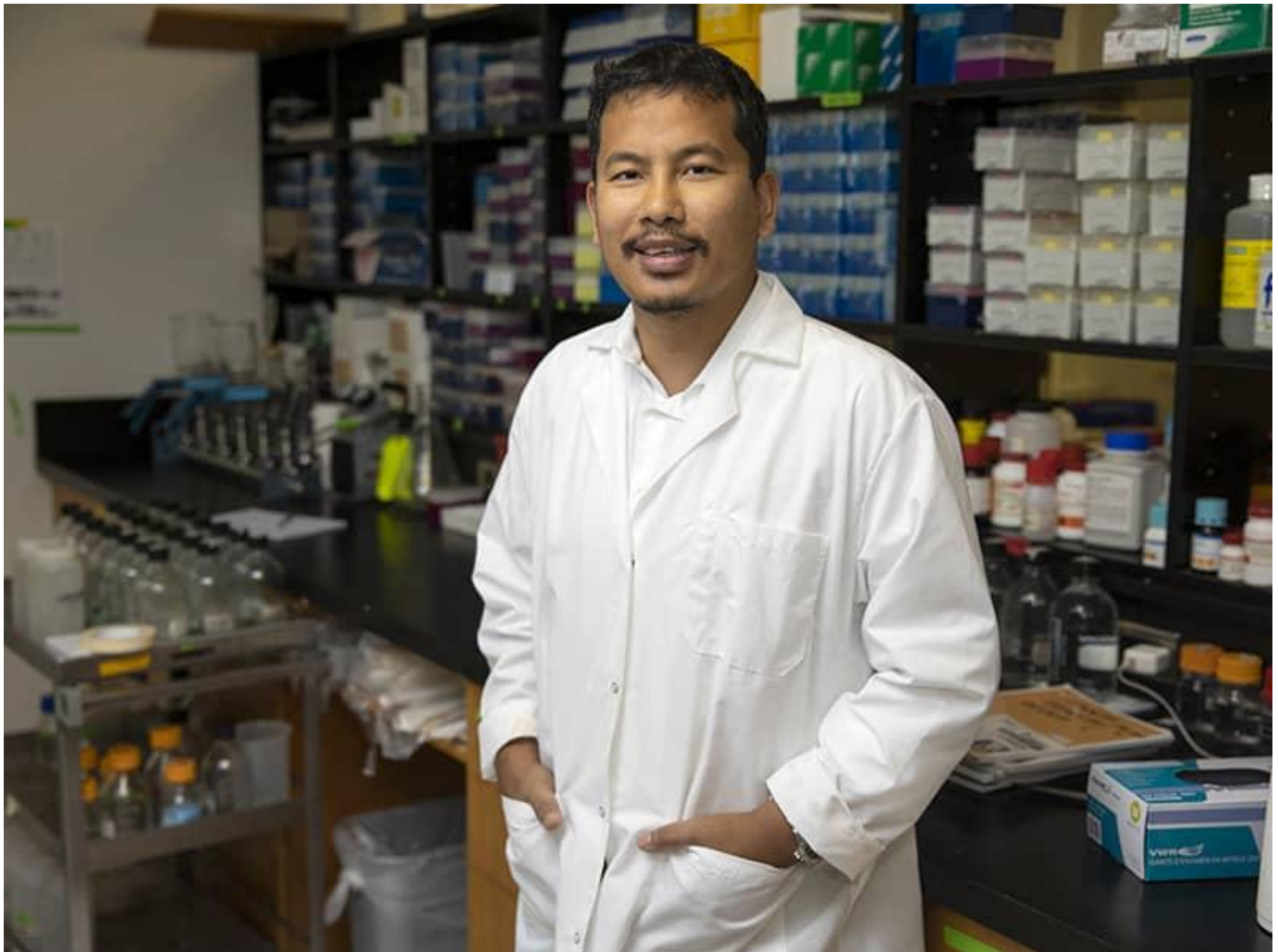


Tulane researcher part of \$1.24 million EPA grant to study viruses in wastewater

December 02, 2021 12:30 PM Lance Sumler

lsumler@tulane.edu

(504) 247-1443



Sherchan has served as a subject matter expert in the areas of onsite wastewater treatment and water quality for the National Environmental Health Association and is also a registered environmental health specialist. (Photo by Rusty Costanza)

As more extreme weather causes water to become scarcer in regions due to drought, scientists are exploring ways to recycle wastewater for irrigation and other non-potable uses. But before it can be released back into the environment, it must be free of any pathogens.

The Environmental Protection Agency has awarded a [\\$1.24 million grant](#) to Tulane University and a multi-university research team to come up with standards for measuring viruses and other pathogens in treated wastewater for water re-use projects.

[Samendra Sherchan](#), an associate professor in the department of Environmental Health Sciences and director of the [Water Quality Lab](#) at Tulane University School of Public Health and Tropical Medicine, is part of the research team led by University of California at Irvine that will identify a suite of viral pathogens and detection methods that may serve as indicators of viral risk in water reuse projects.

There are already hundreds of water reclamation facilities across the United States that recycle billions of gallons of water daily. The water collected is used for irrigation, industrial purposes or to replenish groundwater aquifers, but there's no standard protocol in place to test the water for pathogens and other viruses that could pose public health risks.

Sherchan, an expert in environmental virology, will provide expertise in comparing viral pathogen and surrogate detection methods in wastewater by different labs to develop a set of testing standards that can be adopted by water utilities.

"We will apply these standard operating protocols to wastewater samples collected from wastewater reclamation plants across the U.S., at different seasons and treatment processes to identify the best markers for viral pathogens in wastewater," Sherchan said. "This project is an important opportunity that will help to meet the ever-increasing demand for usable water on earth under changing climate."

The study team will partner with water utilities in Florida, California, Louisiana, Hawaii, Utah and several other states to conduct the project. They will also create models to predict human viral pathogens in water discharges based on surrogates, indicators, and treatment conditions. Additionally, they will also create models to estimate any health risks from exposure to the recycled water.

"We will also integrate the outcomes from the cross-regional and cross-laboratory study into quantitative microbial risk assessment models," Sherchan said. "This project will play a vital role in addressing public health concerns related to human viral pathogens in wastewater for non-potable reuse."