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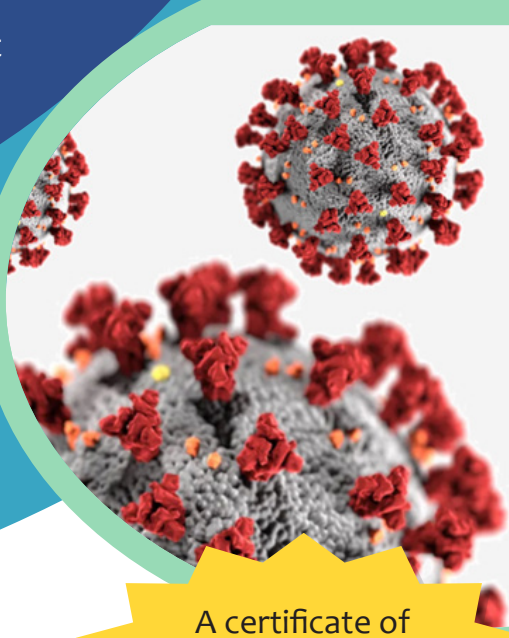
Water Research Webinar Series

A bimonthly webinar series focused on EPA's water research



SARS CoV-2 in Wastewater Monitoring: Linking Research and Application to Meet Immediate Needs

A certificate of attendance will be offered for this webinar

Wednesday, September 30, 2020 from 2:00-3:00 pm ET

Optional Q&A session from 3:00-3:30 pm ET

Registration: register.gotowebinar.com/register/3447286021037377039

Widespread studies conducted national and globally indicate that genes specific to SARS-CoV-2 (coronavirus that causes COVID-19) can be detected in wastewater. The ability to collectively sample both symptomatic and asymptomatic individuals has lead dozens of states, cities, and universities to actively monitor wastewater to inform public health decisions. The clarity of the reflection of community prevalence of infection within the mirror of wastewater can be distorted by several factors, including variation in analytical detection methods, decay and dilution of viral genes during wastewater transport, and imprecision in relating the wastewater signal to other imperfect measures of community infection rates.

This webinar will focus on the following collaborative efforts of EPA's SARS-CoV-2 wastewater monitoring research team to reduce uncertainties:

- Method development within the lab.
- Application in sewersheds with distinctive levels of industrial and stormwater impacts–in coordination with the Cincinnati Metropolitan Sewer District.
- Development of a wastewater surveillance systems in Ohio–in support of the Ohio Department of Health.

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Presenters

Nichole Brinkman, Ph.D.
Nicole is a microbiologist with EPA's Office of Research and Development (ORD), Center for Environmental Solutions and Emergency Response (CESER) and is a member of ORD's SARS-CoV-2 wastewater monitoring team. Her research focuses on waterborne pathogens and antimicrobial resistance determinants in the environment, including current research on microbial community profiles in U.S. aquatic resources, quantifying pathogen loads in alternative source water to determine risk-based reduction targets for safe reuse in decentralized reuse applications, developing viral surrogates to monitor treatment efficacy in decentralized reuse systems, and dissemination of waterborne pathogens and antimicrobial resistance determinants in the environment. Nichole received her Ph.D. in biological sciences from the University of Cincinnati.

Scott Keely, Ph. D.
Scott is an interdisciplinary scientist with EPA/ORD, Center for Environmental Measurement and Modeling and is a member of ORD's SARS-CoV-2 wastewater monitoring team. His research involves bioinformatic analysis of next-generation nucleic acid sequence data from environmental and gut microbiomes and human waterborne pathogens, such as *Giardia, Cryptosporidium,* and respiratory/enteric viruses. Scott's research includes the development of genetic human/ecological indicators for EPA's National Aquatic Resource Surveys, modeling antimicrobial resistance in the environment, and the development of novel indicators for treatment efficacy in water reuse. Scott received his Ph.D. in molecular genetics, biochemistry, and microbiology from the University of Cincinnati College of Medicine.

Bruce Smith. P.E.
Bruce is the Assistant Superintendent of the Regulatory Compliance and Safety Division with the Metropolitan Sewer District of Greater Cincinnati, Ohio, where, in addition to divisional administrative duties, he leads the Compliance Services Section and oversees research activities. Bruce holds a professional engineering license and has a B.S. in chemical engineering from the University of Cincinnati where he also completed environmental engineering masters-level course curriculum.

Jay Garland, Ph.D.
Jay is a senior scientist with EPA/ORD/CESER and is a member of ORD's SARS-CoV-2 wastewater monitoring team. In his almost 30 years of federal service, he has worked on a range of topics, including methods for microbial community analysis, factors affecting survival of human associated pathogens, and various biological approaches for recycling wastes. His current efforts focus on advancing innovative approaches to water infrastructure, including mitigating risks associated with antimicrobial resistance in the water cycle. Jay received his Ph.D. in environmental science from the University of Virginia.

Rebecca Fugitt
Rebecca is the Assistant Chief of the Bureau of Environmental Health and Radiation Protection at the Ohio Department of Health (ODH) where she oversees programs related to residential water and sewage, harmful algal blooms, fish consumption advisories and health assessment, *Legionella*, radioactive materials licensing, X-ray registration and inspection, and radiation health and safety. She holds a B.S. and an M.S. degree in geological sciences from Ohio University and is a registered sanitarian in the state of Ohio. Rebecca was the program manager for the Residential Water and Sewage program at ODH for 19 years, and program manager for the Water Resources Section at the Ohio Department of Natural Resources for 11 years. Prior to joining the state, Rebecca served as a research hydrogeologist for the National Ground Water Association.