

US EPA/PWB Webinar Program: US EPA: Source Water Protection and Harmful Algal Blooms
April 26th, 2022

Webcast Summary:

Overview:

- I. Using Molecular Methods to Study Cyanobacterial Blooms. This presentation introduces molecular monitoring approaches used in the detection and quantification of cyanobacterial groups and cyanotoxin genes implicated in harmful algal blooms. Results will be presented from next generation sequence analysis and qPCR/RT-qPCR methods to characterize cyanobacterial community structure, associated bacterial community, toxic cyanobacteria, and geographically localized genotypes or species. The methods study cyanobacterial functional genes associated with nutrients in toxin production, their relationship to water quality parameters, and explore drivers of cyanotoxin production using mRNA-based sequence analysis. This presentation also discusses occurrence, distribution, temporal-spatial variations of cyanobacteria, especially toxin-producers, and use as early warning systems for cyanotoxin production.
- II. Funding Integration Tool for Source Water: Finding a Plan a FITS. With different funding mechanisms available, it can be difficult finding one that works for specific source water protection needs. EPA's Source Water Protection Team created the Funding Integration Tool for Source Water (FITS), a one-stop-shop tool that explains how users can integrate various federal funding sources to support activities that protect drinking water sources. This presentation discusses the basic functions and value of the tool and demonstrates use of FITS in a mock scenario.

Presenter Biography Information

Jorge Santo Domingo, EPA's Office of Research and Development

Jorge Santo Domingo is a microbiologist in EPA's Office of Research and Development. He works in a wide range of microbiology and molecular biology projects related to drinking water, wastewater, recreational waters, fecal pollution, antibiotic resistance bacteria, biosolids, and cyanobacterial blooms. Jorge was one of 65 fellows elected to the American Academy of Microbiology Class of 2022. Jorge obtained his Ph.D. in microbiology from Michigan State University.

Terrell Tiendrebeogo, EPA's Office of Water

Terrell is an environmental engineer on the Source Water Protection Team in EPA's Office of Water. Since 2019, Terrell has worked with partners within and outside EPA to promote and strengthen source water protection. His primary responsibilities include data analysis and outreach. Prior to joining EPA, Terrell worked as a consultant for Maryland Department of the Environment. Terrell holds a Master of Science in Environmental Science.

April Byrne, EPA's Office of Water

April Byrne is a physical scientist on the Source Water Protection Team in EPA's Office of Water. For the past year, April has served as an ORISE Intern on the Source Water Protection Team analyzing federal spending on source water protection through the

Drinking Water State Revolving Fund set-asides, section 319 non-point source grants, and the Clean Water State Revolving Fund. April graduated from Indiana University with a Master of Science in Environmental Science and a Master of Public Affairs. During her graduate studies, she concentrated in water management and worked on a variety of spatial analysis projects.