

## Prevention, Control and Mitigation of Cyanobacteria and Cyanotoxins Webinar

Wednesday May 14, 2014

9:30am to 4:00pm EST

### OBJECTIVE

To share with interested public health personnel, environmental scientists and state/federal regulators information on the prevention, control and mitigation activities for cyanobacteria and their toxins in freshwater systems.

### WEBINAR ACCESS INFORMATION

Webinar Address:

<https://epa.connectsolutions.com/treatment-cyanoblooms/>

Pre-registration is not required. Sign in as guest with name and organization (if applicable).

Audio:

You have the option to listen to the audio portion of the webinar using computer audio (VoIP or Voice over Internet Protocol), or, alternatively, by calling in using your telephone.

#### Computer Audio

You can choose to receive the audio via your computer along with the visual portion of the presentation.

You need a computer with sound capability and speakers or headphones so you can hear the audio. Check your computer volume controls to make sure audio is not muted. We recommend a microphone so you can ask questions and fully participate in any discussion. If you don't have a microphone

The quality of your audio connection can vary depending on your Internet connection. Therefore, there may be some instances in which you may experience intermittent audio. If you have trouble hearing the audio on your computer, call in to the conference call via your telephone.

#### Telephone

Call-In Number: (866) 299-3188 Conference Code: 2025661125

The presentations, and written summary of the webinar will be published on the Cyanobacteria HABs website, Control and Treatment tab, <http://www2.epa.gov/nutrient-policy-data/cyanobacterial-harmful-algal-blooms-cyanohabs>

## SCHEDULE

TIME	PRESENTATION	SPEAKER
9:30 – 10:00	Welcome, Webinar Objective and Logistics	Lesley V. D’Anglada, DrPH Health and Ecological Criteria Division Office of Science and Technology, Office of Water USEPA
10:00-11:00	Controlling CyanoHABs in a world experiencing anthropogenic and climatic-induced change	Hans Pearl, PhD Kenan Professor Institute of Marine Sciences University of North Carolina
11:00-12:00	A Systems Approach to Freshwater Management: Waterbody Treatments	Kenneth Hudnell, PhD VP & Director of Science GridBee® / SolarBee®
12:00 - 1:00	<b>LUNCH</b>	
1:00 - 2:00	Cyanotoxins and Drinking Water Quality: Treatment Options	Judy Westrick, PhD Director Lumigen Instrument Center Wayne State University
2:00 – 3:00	MMIC (Mitigating Microcystis in the Chesapeake) Treatment Options For A Cyanotoxin Impacted Lake in Denton, Maryland	Allen Place, PhD Professor Institute of Marine and Environmental Technology Center for Environmental Sciences University of Maryland
3:00 - 4:00	Surface Water Sources and Their Watersheds Options when you have to “ <i>Drink Downstream From the Herd</i> ”	Thomas M. Conry, R.S., CLM Program Manager Production Quality Control and Watershed Programs City of Waco Water Utilities
4:00pm	<b>ADJOURN</b>	

## Presenters Biographies and Contact Information

**Hans W. Paerl, PhD.** University of North Carolina at Chapel Hill, Institute of Marine Sciences  
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Dr. Hans Pearl is a Kenan Professor of Marine and Environmental Sciences at the University of North Carolina's Institute of Marine Sciences. His research addresses aquatic nutrient cycling and primary production dynamics, environmental controls and management of harmful algal blooms, and assessing effects of human and climatic alterations of water quality and sustainability of inland and coastal waters worldwide. He has published over 250 refereed article and book chapters on these research topics. He received the 2003 G. Evelyn Hutchinson Award from the Association of the Sciences of Limnology and Oceanography, and the 2011 Odum Award from the Coastal and Estuarine Research Federation for addressing the causes, consequences and controls of eutrophication in aquatic ecosystems.

**Kenneth Hudnell, PhD.** VP & Director of Science GridBee®/SolarBee®, New Bern, NC;  
E-mail: [Ken.Hudnell@medoraco.com](mailto:Ken.Hudnell@medoraco.com); Tel: 252-288-6870;

Dr. Ken Hudnell investigated human health effects from exposures to algal and other toxins at the EPA for 23 years before transitioning to the development and assessment of equipment to treat water. He is Vice President and Director of Science for Medora Corporation that develops and manufactures solar- and grid-powered circulation and volatilization equipment, and an Adjunct Associate Professor in UNC-Chapel Hill's Department of Environmental Sciences and Engineering. Ken has worked with Congress since giving testimony on freshwater harmful algal blooms in 2008 to have all freshwater and EPA included in the Harmful Algal Bloom and Hypoxia Research and Control Act, and to have the Clean Water Act more fully implemented to form a Systems Approach to Freshwater Management.

**Allen Place, PhD.** University of Maryland, Institute of Marine and Environmental Technology;  
E-mail: [place@umces.edu](mailto:place@umces.edu); Tel: 410-234-8828

Dr. Place is a full professor at the Institute of Marine and Environmental, UMCES, in Baltimore, MD. Dr. Place was drawn to enter the field of toxic algal blooms when an organism, thought to be *Pfiesteria piscicida*, killed more than 30,000 fish in the Chesapeake Bay and sickened more than three dozen people. He has been able to demonstrate that the causative organism in many local and international fish kills is in fact a dinoflagellate called *Karlodinium veneficum*. As a researcher Dr. Place has been successful in purifying and characterizing the toxin this organism produces, as well as showing the mechanism of action of this compound. Dr. Place and his laboratory have been well integrated with State-related monitoring activities through critically needed rapid field assessments of water quality. His prompt, accurate assessments of algal species and toxins have been crucial to early appreciation of human health risks when water quality has been in question and has informed near- and long-term State decisions on water

safety and management. Dr. Place's resources have also improved communication by public agencies on the effects and causes of toxic algal blooms to the public. In a recent NOAA funded Prevention, Mitigation, and Control grant with Dr. Kevin Sellner, he has investigate methods for mitigation of cyanobacterial blooms.

**Thomas M. Conry, R.S., CLM.** City of Waco Water Utilities Services, Waco, Texas;  
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Mr. Tom Conry is the Production Quality Control and Watershed Programs Manager at the City of Waco Water Utilities. Tom has been serving the City of Waco since January 2000, and is responsible for the Production Quality Programs, including water treatment, laboratory support, watershed and Lake Waco data collection and assessment, and wastewater treatment. He participated in the development of Dissolved Air Flotation technology for drinking water treatment plant and initiated and coordinated the application of plant landscaping using recycled materials. He led the design, construction, and development of a 180-acre freshwater marsh on a 302-acre tract at the Lake Waco Wetlands. He designed and coordinated a comprehensive five-year assessment of Lake Waco from 2003 through 2006, evaluating physical structure, algal communities and responses, nutrient sources, fish communities, macrophytes, and general chemical properties. He is also an adjunct professor at Baylor University. Before joining the City of Waco Water Utilities, Tom worked with the Brazos River Authority as the Water Quality Planner, at the Waco Field Office of the Texas Water Commission, and as a Licensed Sanitarian with the McLennan County Health Department performing on-site sewage facility inspections, restaurant inspections, and non-STD epidemiological investigations.

**Judy Westrick, PhD.** Lumigen Instrument Center, Wayne State University, Detroit, Michigan;  
E-mail: [westrick@chem.wayne.edu](mailto:westrick@chem.wayne.edu); Tel: 313-577-2579

Dr. Judy Westrick is the Director of the Lumigen Instrument Center at Wayne State University, Detroit MI. She earned a Ph.D. in Chemistry from the University Colorado, Boulder. Over the last 15 years, Dr. Westrick has conducted research on cyanotoxins in the following areas: 1) determining the occurrence, removal and/or inactivation efficiency of cyanotoxins in the drinking water industry; 2) toxicity of cyanotoxins; and 3) developing standard analytical methods for the priority algal toxins. She has organized and served on expert panels, reviewed grants, written reviews, and edited a special edition of *Toxicon*. Most of Dr. Westrick's current research has focused on performing occurrence studies, determining cyanotoxin susceptibility to drinking water treatment processes, developing analytical methodologies, validating commercial analytical products and designing a "flexible" qPCR probe to determine the risk of cyanotoxin production. She has developed a rapid chromatographic method for the CCL priority cyanotoxins that has been successfully adapted to photodiode array, mass spectrometer, and tandem mass spectrometer detection systems. As a former certified drinking water operator and Greater Cincinnati Water Works shift chemist, she has strived to focus her research on drinking water application.