PORTLAND WATER BUREAU

F R O M   F O R E S T   T O   F A U C E T

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June 24, 2025

OESAC CEU Committee
PO Box 577
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Dear members of the CEU Committee:

Please consider this request for your approval of Portland Water Bureau's Spring 2025 Webcasts for 0.5 CEU's.

DATE	Portland Water Bureau Spring 2025 Webcasts	CEU's: 0.5
4/1/25	WRF Webinar: Utility Field Guide for Developing a Cyanobacteria and Cyanotoxin Monitoring Program	0.1
4/29/25	EPA Webinar: Lead Chemistry, Communication, and Local Engagement	0.1
4/30/25	EPA Water Workforce Webinar: The Water Tower - Leading the Way Through Innovation and Collaboration	0.1
5/1/25	The Role of Generative AI (GenAI) for the Global Water Sector	0.1
5/20/25	EPA Webinar – Funding Resources: Lead Service Line Replacement and Emerging Containments	0.1

Thank you in advance for your consideration.

Respectfully,

Brooke Gardner
Portland Water Bureau
brooke.e.gardner@portlandoregon.gov

Enclosures:
1. Letter of request to review
2. PWB Webcast Summaries and Speaker Bios

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Water Research Foundation Webinar: Utility Field Guide for Developing a Cyanobacteria and Cyanotoxin Monitoring Program

April 1, 2025

<u>Overview:</u>

Cyanobacterial blooms and associated cyanotoxin occurrences are increasing in frequency and magnitude. While some conventional drinking water processes can remove cyanobacterial cells during pretreatment and sedimentation, these processes are often ineffective for removing cyanotoxins. Utilities therefore need to implement either source control strategies or upgrade drinking water treatment plants or both.

To implement these solutions, utilities need to make data-driven decisions supported through effective monitoring. The Water Research Foundation's project 5120, _Utility Field Guide for Developing a Cyanobacteria and Cyanotoxin Monitoring Program_ sought to fill this gap by providing recommendations for best practices that utilities can use in the development of appropriate monitoring strategies tailored to their level of risk.

In this webcast, the research team will:

- Review the tools they developed to help utilities characterize cyanobacteria and cyanotoxin risk

- Help utilities understand specific risk tolerances

- Provide tips on developing an efficient and cost-effective monitoring plan

- Learn how to interpret data to obtain actionable intelligence for proactive source water management and treatment plan operations.

The team will also debut their Utility Field Guide for Developing a Cyanobacteria and Cyanotoxin Monitoring Program.

<u>Presenter Biographies:</u>

Erik Rosenfeldt, PhD, PE, Vice President and Drinking Water Practice Leader, Hazen and Sawyer

Erik is Hazen's Drinking Water Practice Lead and a senior member of the firm's Reuse and Applied Research groups. As the national practice lead, he is responsible for developing the strategic direction of the group to ensure our continued high level of technical excellence, quality, and service in solving our clients' most difficult challenges.

Erik aims to blend innovation and practicality for every project, diligently working to keep Hazen's place as a trusted advisor.

Susheera Pochiraju, PhD, Principal Engineer, Hazen and Sawyer

Susheera specializes in detecting and treating bacteria and chemical compounds that influence the taste and odor (T&O) of drinking water. She also has expertise in a host of other drinking water subjects, including treatment design, source water characterization, algal blooms, and bioassays. For her PhD, Susheera investigated novel T&O compounds in 18 drinking water utilities; her research was published in journals including *Water Research* and *AWWA Water Science*.

Husen Al-Muhtaram, PhD, Senior Research Associate, University of Toronto

Husen has a BS in Environmental Science from University of Toronto Scarborough and a Doctor of Philosophy in Environmental Engineering from University of Toronto. Before their current role as Senior Research Associate, they worked with the Ontario Ministry of Environmental and Climate Change, and held the following roles at University of Toronto: Course Instructor, Teaching Assistant, and Postdoctoral Fellow.

Menna Alnahas, PhD Candidate in Environmental Engineering, Drinking Water Research Group (DWRG) in the Department of Civil & Mineral Engineering at the University of Toronto

Menna is a dedicated PhD candidate in Environmental Engineering, within the Drinking Water Research Group (DWRG) in the Department of Civil & Mineral Engineering at the University of Toronto, with a research focus on tackling critical issues in drinking water treatment. Her work, under the supervision of Professor Ron Hofmann, centres on the monitoring and control of cyanobacteria and cyanotoxins, using cutting-edge technologies like artificial intelligence (AI) to address harmful algal blooms. As a researcher, Menna is currently working on AI-driven solutions for detecting and predicting harmful algal blooms in drinking water treatment facilities, aligning her research with her broader goal of enhancing water quality and public health.

Beyond the lab, Menna is a strong advocate for inclusivity and diversity in STEM. As the former President of the Ontario Water Works Association (OWWA) Student Chapter and the founder of the IEEE Women in Engineering Chapter in Zewail City, she has built a legacy of empowering future leaders and fostering collaboration within the water community. Recognized with numerous awards, including the CDM Smith Scholarship 2023, Menna is not only a skilled researcher but also a leader committed to shaping a more sustainable and inclusive future in the water industry.

EPA Webinar: Lead Chemistry, Communication, and Local Engagement

April 29, 2025

Overview:

This extended training webinar event includes talks given at the 21st Annual EPA Drinking Water Workshop held on September 17-19, 2024. Q&A sessions will follow each presentation. Topics include: Lead Chemistry 101, Lead and Galvanized Iron Pipe Scale, Corrosion Control Methods and Approach, Ohio's Lead Strategy and Local Engagement Toolkit, and Michigan's 1/5 Sampling, Lead/Galvanized Service Lines, and Public Advisories.

Presenter Biographies:

Simoni Triantafyllidou, Ph.D., EPA Office of Research and Development

Simoni is an environmental engineer with EPA's Office of Research and Development, Center for Environmental Solutions and Emergency Response, Water Infrastructure Division. Her research and technical support efforts revolve around aquatic chemistry, drinking water quality/treatment, corrosion science, inorganic contaminants and sustainable drinking water infrastructure (premise plumbing/distribution systems).

Mike DeSantis, EPA Office of Research and Development

Mike is a physical scientist with EPA's Office of Research and Development, Center for Environmental Solutions and Emergency Response in Cincinnati, Ohio. He has 18 years of experience on the characterization of corrosion solids and their effects on drinking water quality in lead, copper, and iron drinking water piping. Mike has a Ph.D. in geology from the University of Cincinnati, an M.S. in geology from the University of Idaho, and a B.A. in biology with specialization in marine science from Boston University.

Jennifer Tully, EPA Office of Research and Development

Jennifer Tully currently works on different lead pipe scale projects for drinking water systems and evaluates lead pipe scale data. Part of ORD's bipartisan infrastructure program includes lead service line identification technologies for small and disadvantaged drinking water systems. Jennifer has been helping prepare to collect and sample galvanized iron drinking water pipes as these are potential legacy sources of lead (when upstream lead service lines (or other lead sources) have been removed). Jennifer received a degree in geology and high school science education. Their graduate degree was devoted to anthropogenic pollution in river sediment where they were able to find a whole host of metals, including lead chromate – an additive in yellow road paint. Their time with EPA started as an ORISE participant on the Unregulated Contaminant Monitoring Rule team in EPA's office of water. After three years Jennifer moved to an

ORISE position in EPA's research office focusing on lead pipe scale analysis, then to an on-site contractor position working on the same scales, then becoming a federal employee in 2019.

Justin Burke, Ohio Environmental Protection Agency

Justin has been an assistant chief in the Ohio Environmental Protection Agency's (Ohio EPA) Division of Drinking and Groundwaters since 2021, working with the Compliance, Enforcement, Source Water Protection, and Rule Making teams. He has worked in both the drinking water and environmental restoration programs over his 20+ year career at Ohio EPA. He grew up at several Marine Corps bases as a "military brat" in the 80s and 90s, including several years at Camp Lejeune, North Carolina, which is the site of one of the most significant drinking water contaminant exposures in the United States. Justin holds a B.S. in environmental science from the University of Cincinnati.

Aislinn Deely, Michigan Department of Environmental, Great Lakes, and Energy

As Michigan's Lead and Copper Rule Specialist, I specialize in safeguarding public health by ensuring the safety of our drinking water. My role involves implementing and overseeing community water supply compliance with state and federal regulations related to lead and copper levels and collaborating with local communities to address water quality concerns. Prior to working in the Lead and Copper Unit, I honed my analytical skills at the EGLE State Laboratory, where I performed partial chemistry analyses and lead and copper testing. My academic background includes a Bachelor of Science in Environmental Science from Queens College in New York City and a Master of Science in Environmental Biogeochemistry from the University of Michigan. During my graduate studies, I worked with Dr. Rose Cory, focusing on the processes that control the carbon cycle in arctic aquatic systems. I am passionate about environmental protection and committed to public health through rigorous scientific analysis and effective policy implementation. My experience bridges laboratory research and regulatory practice, enabling me to approach environmental challenges with a comprehensive and informed perspective.

EPA Webinar: Leading the Way Through Innovation and Collaboration

April 30, 2025

<u>Overview:</u>

In today's water sector, it is essential for utilities and industry professionals to collaborate, access vital training, and explore innovative technologies that address the challenges of 21st-century water service providers. An example of this collaboration is The Water Tower (TWT) in Gwinnett County, Georgia.

TWT is a first-of-its-kind nonprofit global water innovation hub for water and wastewater utilities, researchers, private companies, and water-related organizations to collaboratively solve critical, real-world water and environmental challenges.

Through applied research, technology innovation, workforce development, and industry engagement, TWT provides innovative solutions tailored to the water sector. A key focus is integrating and expanding skilled-trades programming to attract and develop the next-generation of water workforce professionals.

This webinar is part of an ongoing series of webinars to provide information across the water sector on ways utilities and others are addressing the challenges of building and maintaining a sustainable water workforce for the future. We have had excellent feedback on our previous webinars.

Presenters:

Melissa Meeker, CEO, The Water Tower

Melissa has over 30 years of experience in water resources management with an emphasis on water supply diversity and resiliency through alternative sources including reuse, stormwater, and desalination. Having worked in public, private, and not-for-profit sectors, Melissa's broad range of expertise covers public policy, regulation, and management with a focus on innovative technologies, workforce development, and public engagement. Throughout her career, Melissa has demonstrated a unique grasp of state, federal and international dynamics, keen political instincts, and a proven track record of working with decision makers and boards to develop effective programming to address the water industry's most pressing challenges. Her ability to quickly form relationships that result in powerful alliances has created water resource management opportunities across the United States and around the world. Melissa currently serves as the Chief Executive Officer of The Water Tower at Gwinnett and The Water Tower Institute, two nonprofits focused on enabling solutions in research, technology, training, and engagement around water. Pursued to take on this role in 2018, Melissa was the primary architect around the creation of this one-of-a-kind innovation center and has been with the project from inception, through construction and marketing, and into full operations. Melissa views The Water Tower as the culmination of her diverse professional experiences, including running the largest water management district in Florida and multiple water-related research foundations. In 2022, Melissa was recognized with the One Water, Water Innovation Award, the Gwinnett Chamber of Commerce Moxie Influence Award, and was invited to participate in multiple conferences, webinars, and podcasts. She holds a Master of Science Degree in Environmental Resources Management.

Courtney Lee, Director of Workforce Development and Training, The Water Tower

Courtney has over 10 years of experience working in curriculum design, science instruction, and community engagement in public school settings. At The Water Tower, she directs Continuing Education courses and coordinates training events with key partners, collaborators, and members of the community. Courtney's expertise also involves developing and executing outreach programming to engage and recruit the next generation of water workers. She joins us from Gwinnett County Public Schools, where she was a chemistry teacher and curriculum developer.

Angelita Cortez, Training Grad and new Gwinnett County Lab Technician

Angelita is the first official graduate of the The Water Tower's Water Workforce for Resilient Communities Program. Her Georgia Class III Wastewater Operator certification was completed in tandem with her degree in Biology from Georgia State University. They were CURE Research Lab at Georgia State University and currently serve as Water Quality Associate II with Gwinnett County and member of Georgia Association of Water Professionals.

Water Research Foundation Webinar: The Role of Generative AI (GenAI) for the Global Water Sector

May 1, 2025

Overview:

Digital technologies play an important role in addressing current and future water sector challenges, such as aging infrastructure, water resource scarcity, and workforce sustainability. Supporting the rapidly evolving digital technology needs of the water sector is important to The Water Research Foundation (WRF), American Water Works Association (AWWA), and Water Environment Federation (WEF), evolving into a partnership with Karmous Edwards Consulting.

While digital transformation of the water sector has been underway for many years, the emergence of generative artificial intelligence (GenAI) represents a significant opportunity to enhance the efficiency and resiliency of the water sector. Digital transformations should help unify leading minds across disciplines in a concerted effort to pilot generative AI applications, share knowledge, increase employee accessibility, mitigate risks, and champion digital transformation within the water sector

This webcast will disseminate the interim results of WRF project 5321, *The Role of Generative AI (GenAI) for the Global Water Sector*.

Learning Objectives:

- Development and involvement of the Global Generative AI Utility Group (G3).

- Establishing a foundational understanding of GenAI's potential role.

- Cultivating a common vocabulary to discuss GenAI.

- Describing to-date utility experimentation.

Presenters:

Fidan Karimova, Water Environment Federation

Fidan is the Senior Director of Circular Water Economy and previously served as Practice Leader, Global Sustainability & Innovation, with Water Environment Federation. Previously Fidan served as Innovation Program Manager and Technology Collaboration Manager in the Water Research Foundation. They have a BS in International Business and MS in Environmental Management from University of Maryland.

David Hale, Engineer, American Water Works Association

David is Program Manager and previously Engineer with the American Water Works Association. Prior roles include Sales Engineer with Boyer Sales & Service, Project Engineer Inter with FCI Constructors, Inc., and Project member with Marty Air. David has a bachelor's degree in mechanical engineering technology from Colorado Mesa University.

Gigi Karmous-Edwards, CEO and President, Karmous Edwards Consulting

Before their current role as CEO and President at Karmous Edwards Consulting, Gigi was Digital-lead Director at Amane Advisors, Vice President at Fathom, Smart Water Technology, Director of Technology at Smart Water Networks, and several other roles. Gigi serves on a number of boards and has a BS in Chemical Engineering and master's degree in electrical, electronics and communication engineering.

Robert Bornhofen, Director of Innovation, DC Water

Dr. Robert Bornhofen serves the Authority as Director of Innovation. In this capacity, he is tasked with innovation strategy development and delivery, oversight of research and idea capture, key stakeholder engagement, partnerships, value creation, delivery, communication and workforce engagement, and innovation sustainability. As a dynamic Innovation Leader, Dr. Bornhofen brings hands-on experience in leading organizations toward realizing innovation goals. His career spans over 20 years across a broad mix of industry experience involving both large and small companies. Dr. Bornhofen earned a Doctorate degree from the University of Maryland, a Master of Science degree from Colorado State University, and a Bachelor of Science degree from the University of Minnesota. His past corporate experience in innovation includes IBM, Citibank, & Delta Air Lines, among other companies. Dr. Bornhofen holds two U.S. Patents for original and patentable technologies. Passionate

about change, Dr. Bornhofen embraces the creative spirit that goes into innovation, where smart people come together to transform great ideas and strategies into extraordinary outcomes that drive tangible business benefits. Looking ahead, it is Dr. Bornhofen's privilege to serve DC Water and its ratepayers in this capacity. His aim is to help formulate and advance strategy across the organization that leads to innovative solutions consistent with DC Water's vision, mission, and core values.

Jeff Sparks, Director of Digital Water, Hampton Roads Sanitation District

Jeff Sparks is the Director of Digital Water at the Hampton Roads Sanitation District in Eastern Virginia, US. In this role, he oversees the integration of artificial intelligence, machine learning, and digital twin technologies into HRSD's daily operations. He holds a Bachelor of Science degree in Civil and Environmental Engineering from the Virginia Military Institute, a Master of Science degree in Environmental Engineering from Virginia Tech, and a PhD from Université Laval. Jeff is also a licensed Professional Engineer in the State of Virginia.

Moderator: Sydney Samples, Research Manager, The Water Research Foundation

EPA Webinar – Funding Resources: Lead Service Line Replacement and Emerging Contaminants

May 20, 2025

Part 1: Funding for States to Support Lead Service Line Replacements and Addressing Emerging Contaminants. The Drinking Water State Revolving Fund (DWSRF)—a federal-state partnership between EPA and states—can help communities improve their drinking water infrastructure by replacing lead service lines (LSLs) and reducing exposure to emerging contaminants, including PFAS. The Infrastructure Investments and Jobs Act (IIJA) provides $15 billion in funding specifically for replacing LSLs and $4 billion to address emerging contaminants in drinking water. IIJA provides an additional $11.7 billion in general-purpose funding through the DWSRF, which can also be used for lead pipe replacement, emerging contaminants, or other drinking water infrastructure projects. This presentation will provide an overview of the DWSRF, discuss borrower and project eligibilities for LSL identification and replacement, and cover eligibilities for emerging contaminants in drinking water.

Keelan Baldwin, EPA Office of Water

Keelan is a physical scientist with EPA's Office of Water (OW), Office of Ground Water and Drinking Water (OGWDW). She serves on the Drinking Water State Revolving Fund Team, where she assists with lead service line replacements and emerging contaminants under the Infrastructure Investments and Jobs Act. Previously, Keelan worked with EPA as an ORISE research participant.

Part 2: Grant Funding for Public Water Systems to Address Emerging Contaminants in Small or Disadvantaged Communities. The Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) grant program appropriated $5 billion of non-competitive funding awards over five years for states, territories, and Tribes to improve drinking water quality. The grants empower them to better support their eligible communities in addressing emerging contaminants, including PFAS. This presentation will provide an overview of the EC-SDC grant program, including project and community eligibilities and examples.

Lida Daly, EPA Office of Water

Lida is with EPA's OW, OGWDW where she leads the Emerging Contaminants in Small or Disadvantaged Communities grant program for states and territories. Prior to joining EPA, she worked at the United States Peace Corps Headquarters and previously served as a Peace Corps volunteer (PCV) in the Kyrgyz Republic working with rural women and sustainable community development. As a PCV, Lida led a grant-funded drip irrigation project supporting rural farmers, which fueled her passion to ensure that communities have access to water.