PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

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November 25, 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 Fall 2025 Webcasts for 0.4 CEU's.

DATE	Portland Water Bureau Fall 2025 Webcasts	CEU's: 0.4
9/16/25	Water Resource Foundation Webinar: Enhancing Drinking Water Treatment Resilience to Wildfire Events	0.1
9/18/25	Water Resource Foundation Webinar: Smart Metering Playbook: Compendium of Resources for WRF Subscribers	0.1
10/14/25	Water Resource Foundation Webinar: Advanced Metering Infrastructure (AMI) Workshop: Better Use of the Systems and Data	0.1
10/28/25	Water Resource Foundation Webinar: Impact of GAC Treatment and Disinfection Strategy on DBP Formation and Overall Toxicity in Drinking Water	0.1

Thank you in advance for your consideration.

Respectfully,

Averi Tegethoff
Portland Water Bureau
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Enclosures:
1. Letter of request to review
2. PWB Webcast Summaries and Speaker Bios

Fall 2025 PWB Webinars

Water Research Foundation Webinar - Enhancing Drinking Water Treatment Resilience to Wildfire Events

September 16, 2025

Overview:

Water utilities are seeking ways to increase resilience of their surface water treatment facilities against the rising risk of extreme wildfires. Wildfires can increase turbidity, organic matter, metals, and nutrient concentrations in source waters, which can challenge conventional treatment unit processes.

The Water Research Foundation (WRF) project 5168, Enhancing Drinking Water Treatment Resilience to Wildfire Events, provides guidance to drinking water utilities to help increase treatment resilience to wildfires and will be the feature of this webcast.

Researchers collected over 500 gallons of wildfire ash from five different wildfires across the Pacific Northwest region. Using these samples, they investigated impacts of wildfires on source water quality for drinking water and assessed implications to treatability for a variety of treatment processes at both bench scale and pilot scale. Using dual pilot-scale treatment trains, pilot-scale testing explored operational responses to post-wildfire scenarios for a complete treatment train over an extended duration.

Learning Objectives:

- Resilience of different coagulation, oxidation, and filtration approaches.
- Treatment resilience frameworks.

Presenters:

- **Mac Gifford, PhD, PE, Water Quality Engineer, Portland Water Bureau**

  Mac is a Water Quality Engineer with a unique blend of academic achievement and industry experience. Advanced technical degrees in cutting-edge water treatment research, public infrastructure design and operation, and professional licensure are a solid foundation for a career solving water challenges. Specialties include Water Treatment, Water Quality, Regulatory Compliance, Resilient Infrastructure, Sustainable Technology, Drainage, Hydrology, Hydraulics, and Civil Systems Engineering.

- **Lynn Stephens, PE, North Drinking Water Leader, Brown and Caldwell**

Lynn is an Environmental engineer with a focus on planning, water quality characterizations, and treatment design for potable and recycled water systems – climate change resiliency planning and adaptation, One Water - integrated water management, project management, pilot studies, biological filtration, removal of specific constituents (i.e., 1,4-Dioxane, PCBs, and PFAS).

- **Harry Zhang, PhD, PE, Research Principal for Integrated Water and Stormwater, The Water Research Foundation**

  Dr. Harry Zhang is the Program Director at WE&RF for program areas in Sustainable Integrated Water Management (SIWM), Stormwater, Watershed, Decentralized Systems, and Climate Impacts on Water Quantity and Quality. Harry has more than 20 years of experience and has served as a subject matter expert in the field of water quality, stormwater management, Total Maximum Daily Loads (TMDLs), watershed management, regulatory compliance, environmental systems analysis, and water sustainability for both public and private sector projects. Prior to joining WE&RF, Harry served as technical program lead for programs funded by the U.S. EPA's Office of Research & Development (ORD), and Technical Support for Assessment and Watershed Protection (TSAWP) and National Watershed Protection Program (NWPP) by the Office of Water. In addition, Harry served as technical lead on water resources and water quality for industrial and private sector projects while in a global engineering consulting firm. Furthermore, Harry was appointed as one of 30 voting members for the Advisory Committee on Water Information (ACWI) by the Secretary of the U.S. Department of the Interior for three consecutive terms. Harry is the editor on sustainability subject for Journal of Water Science & Technology (WS&T) by the International Water Association (IWA).

Water Research Foundation Webinar - Smart Metering Playbook: Compendium of Resources for WRF Subscribers

September 18, 2025

Overview:

Join us for an upcoming webcast with SWAN (The Smart Water Networks Forum) unveiling key findings from the Smart Metering Playbook (5261), a comprehensive guide of resources built on insights from 50+ utilities, technology providers, and industry stakeholders across 22 countries. From selecting the right technology to building a business case and achieving

long-term value, a line-up of global speakers will share best practices, global case studies, and practical strategies to help utilities, vendors, and stakeholders maximize the benefits of Smart Metering projects. Whether you're just starting your automated meter reading/advanced metering infrastructure (AMR/AMI) journey or looking to unlock greater value from existing investments, this session will equip you with a strategic roadmap to help navigate this evolving landscape from a financial, operational, customer, and long-term sustainability perspective.

Learning Objectives:

- Learn how to maximize the benefits of Smart Metering projects
- Roadmap to navigate the evolving landscape of AMR/AMI

Presenters:

- **Shirley Ben-Dak, Senior Advisor, SWAN Forum**
  Shirley serves as the organisation's Senior Advisor, guiding staff and volunteers along an output-driven culture. Since 2016, she has led innovation and strategic activities, supporting SWAN's regional and global expansion. She has developed strategic plans, established smart water frameworks, curated unique workshops, facilitated global innovation sessions, and industry research projects. A certified PMP, she serves as the CEO & Founder of Bird Eye Consulting, an impact-driven project management firm working with public, private and non-profit clients across water, smart cities, digital transformation, and sustainability. Prior to SWAN, Shirley completed an MSc. in Sustainability Management from Columbia University focused on water resource management and sustainable cities
- **Freddie Guerra, Digital Water Solutions Leader for North America, GHD**

  I am a strategist with over 30 years of experience who understands innovation is the key to taking on our planet's biggest challenges. My focus has been assisting the public sector to connect deep human and data insights with the possibilities of technology to define and deliver new realities, with enhanced experiences that can improve lives and deliver extraordinary mission outcomes. Building on a long legacy of innovation, I collaborate with clients in accelerating their digital transformation by bringing agile processes, human-centered design, digital platforms, and smart analytics to create better customer experiences and drive improved performance. I know that digital water and smart cities are not about innovation for its own sake, but operationalizing new technologies that improve citizen services, organizational effectiveness, and mission capabilities. More importantly, I recognize that an empowered, digital-ready workforce is a critical enabler of this transformation.

- **Johnathan Cruz, Director of Financial Planning & Innovation, Moulton Niguel Water District**

  Johnathan Cruz is the Director of Financial Planning & Innovation at Moulton Niguel Water District. He has a rich background in financial planning and analysis, with experience at Moulton Niguel Water District, Raftelis Financial Consultants, Inc., and The Princeton Review. Cruz holds a Master of Arts in Economics from the University of California, Riverside. His role involves overseeing financial planning, innovation, and ensuring the district's financial health and sustainability.

- **Alex Barter, Managing Director, B4T**

  Alex Barter is the Managing Director of B4T, a company he founded in 2016 with the vision of "A Jellyfish for every home." B4T specializes in Internet of Things (IoT) technology, focusing on environmental sustainability and product development. The company has delivered over 50 unique IoT projects across various sectors, including maritime, utilities, and horticulture, and has developed innovative products like the Jellyfish and Man-o-War devices. Barter holds a BEng in Electronic Engineering from the University of Brighton and has a strong background in technology and product development.

Moderator:

- **Sydney Samples, Research Principal, The Water Research Foundation**

Advanced Metering Infrastructure (AMI) Workshop: Better Use of the Systems and Data

October 14, 2025

Overview:

Advancing metering infrastructure (AMI) technologies have increasingly gained adoption in the water industry over the past decade and are widely recognized as the best available technology for water meter reading. As utilities have completed their AMI implementations, gained experience using the systems, and amassed larger historical data sets, they have begun to examine other uses for AMI systems and data. These other uses have the potential to transform AMI from an expensive meter-reading system to a true data management platform able to support the digital utility of the future.

The Water Research Foundation (WRF) project 5208, *Advanced Metering Infrastructure*

(AMI) Workshop: Better Use of the Systems and Data, provides guidance on how to realize benefits beyond meter readings for customer billing, and helps utilities understand improvement opportunities enabled by the new AMI data sets and associated data processing, analysis tools, and potential control tools.

Learning Objectives:

- Highlight and share existing innovative use cases from industry leaders that expand the use of AMI data beyond simply obtaining meter readings for customer billing.
- Discuss how to foster an environment for representatives from different sectors of the water industry to collaboratively identify gaps in the current AMI technology landscape and brainstorm forward-looking AMI technology and data uses to fill those gaps.
- Outline the role of each water industry sector in advancing the use of AMI systems and data.

Presenters:

- **Devin Akbas, Management Consultant, Arcadis**

  Young professional with broad consulting experience helping utility clients optimize business practices by leveraging technology. Diverse expertise in Advanced Metering Infrastructure (AMI), business case development, software requirements gathering, business intelligence, data visualization and analysis, process modeling, and utility billing system implementation.

- **Michelle Maddaus, PE, President, Maddaus Water Management**

  Michelle performed hundreds of Water Demand and Conservation Forecasts, Water Conservation Master Plans. Conducted hundreds of Commercial water efficiency surveys and trainings for over 500 people. Perform Cost-Benefit Analysis calculations to prioritize water conservation measures. Expert trainer and offered Cost Benefit Analysis Workshop trainings for over 20 years all across the United States and in Australia, Chile, and the United Kingdom.

- **Katie Collins, Water Conservation Specialist, City of Fort Collins**

  I manage the Xeriscape Incentive Program (XIP), and I love giving people the tools to make informed choices about water conservation. I love interacting with people and sharing my knowledge. With every conversation, email, and presentation, I feel like I'm making an impact – whether it's big or small, it makes a difference in our

community, and I love that. The XIP program is so much fun because we get to see something through from start to finish and really build a relationship with people along the way. We want to encourage the relationship with the landscape, learning when it needs water, learn the needs of the plants, be informed about what works in our climate, and move away from the "set it and forget it" mindset. I really appreciate that the education piece of the program allows participants to continue on their own.

- **Kristy Lavelle, Expert Management Consultant, Arcadis**

  I have been presented with many opportunities throughout my career. I have pursued those opportunities with an unwavering determination to succeed. My success particularly shines through when problem-solving in difficult situations. I was with Aclara Technologies for 17 years. The experience I gained in numerous positions is invaluable. While I technically had been with the same employer for many years, the company had evolved, allowing me to grow and expand my role along the way. I began my career just after college with a position that immediately challenged my abilities. I still refer to my time at W.I.C.C. Ltd. for lessons applicable to certain challenging situations today. I continually look to leverage my experience in new opportunities. My goal is to continue expanding my capabilities and making a positive impact on those around me with each interaction

Moderators:

- **Jian Zhang, PhD, Research Principal, The Water Research Foundation**

Impact of GAC Treatment and Disinfection Strategy on DBP Formation and Overall Toxicity in Drinking Water

October 28, 2025

Overview:

Water systems that cannot meet U.S. Environmental Protection Agency (EPA) Stage 1 and 2 Disinfectants and Disinfection Byproducts Rules (D/DBPRs) requirements through lower-cost options (like enhanced coagulation, softening, or pH optimization) may need additional treatment. While granular activated carbon (GAC) is effective at removing total organic carbon—the main precursor for disinfection byproducts (DBPs)—it can also shift DBP formation toward more toxic species, even as it reduces overall DBP mass.

The Water Research Foundation (WRF) project 5140, ***Impact of GAC Treatment and***

Disinfection Strategy on DBP Formation and Overall Toxicity in Drinking Water, builds on WRF project 4560, ***GAC Control of Regulated and Emerging DBPs of Health Concern***, to evaluate the impact of GAC treatment with and without prechlorination on DBP formation and the corresponding toxicity in drinking water.

Learning Objectives:

- A new approach for evaluating cytotoxicity from both known (regulated and unregulated) and unknown DBPs.
- The impact of GAC treatment, with and without prechlorination, on DBP formation and toxicity, including effectiveness even at higher total organic carbon breakthrough.
- Why GAC followed by chlorination is a more reliable strategy than free chlorine followed by chloramines for reducing DBP-associated toxicity while maintaining compliance.
- How high-throughput toxicogenomics assays can be applied to assess DNA and oxidative stress under different treatment and disinfection conditions.
- How these findings on DBP toxicity are relevant to the EPA's ongoing review of the Microbial and Disinfection Byproduct Rules (M/DBPRs).

Presenters:

- **Caroline Russell, PhD, PE, BCEE, Chief Technologist/Vice President, Carollo Engineers**

  Caroline manages and provides technical leadership on water supply, treatment, and distribution system projects for water utilities across the U.S. Leading Water Research Foundation projects on disinfection by-products (DBPs), cyanotoxins, and lead and copper corrosion control. Serving as Water Innovation Manager for Carollo, identifying and pursuing opportunities to integrate the best available science and technology solutions for water utility clients.

- **William Mitch, PhD, PE, Professor, Stanford University**

  Bill Mitch received a B.A. in Anthropology (Archaeology) from Harvard University in 1993. During his studies, he excavated at Mayan sites in Belize and surveyed sites dating from 2,000 B.C. in Louisiana. He switched fields by receiving a M.S. degree in Civil and Environmental Engineering at UC Berkeley. He worked for 3 years in environmental consulting, receiving his P.E. license in Civil Engineering in California. Returning to UC Berkeley in 2000, he received his PhD in Civil and Environmental

Engineering in 2003. He moved to Yale as an assistant professor after graduation. His dissertation received the AEESP Outstanding Doctoral Dissertation Award in 2004. At Yale, he serves as the faculty advisor for the Yale Student Chapter of Engineers without Borders. In 2007, he won an NSF CAREER Award. He moved to Stanford University as an associate professor in 2013.

- **April Gu, PhD, Professor, Cornell University**

  April Z. Gu joined the Cornell faculty in 2018. Gu received her B.S. in Environmental Engineering and Science from Tsinghua University in Beijing, China and a Ph.D. in Civil and Environmental Engineering, jointly in Microbiology, from the University of Washington, US. She worked as a process engineer and research scientist for HDR Engineering, specializing in water and wastewater treatment processes design for three years before she returned to academia. Gu's major research interest involves understanding and applying biological agents (e.g. microorganisms) and their functions to detect, transform or mitigate environmental pollutants in both natural and engineered systems. Gu was a faculty member in the Department of Environmental Sciences at the Northeastern University from 2006 to 2017. She stays active in both academic societies and water professional organizations and has served on various committees for IWA, WEF, ACS and AEESP.

<u>Moderator:</u>

- **Grace Jang, PhD, Research Principal, The Water Research Foundation**