PNWS-AWWA PFAS Workshop

Thursday, September 7th, 2023

Course Outline/Schedule

8:30 to 9:00 - Gathering and networking

9:00 to 10:00 - State of Regulations:
Mike Means (WADOH), Tyler Fortunati (Idaho DEQ) and Gregg Baird (OHA)

10:00 to 11:00 - Occurrence, Treatment, Destruction
Dr. Feng Xiao (University of Missouri) - Decomposition of PFAS during Thermal Reaction and Regeneration of Spent Media
Joanie Stultz (Brown & Caldwell) - Treatment Selection and Design for PFAS Management
Charlie Liu (Kennedy Jenks) - Field Demonstration of PFAS Destruction by a Pilot-Scale Nanofiltration and UV-Sulfite Treatment Train

11:00 to 12:00 Operations and Case Studies
Marshall Meyer (Lakewood Water District, WA) - Case Study
Pierre Kwan (HDR) - Issaquah, WA Case Study

12:00 to 1:00 Lunch

1:00 to 2:00 Funding and Public Outreach
Libby Barg-Bakke (Consor) - Communicating about PFAS While Maintaining Public Trust
Kim Pugel (Stantec) - Funding Considerations

Anticipated Learning Outcome

Participants in this course will learn about the regulatory status of PFAS compounds in their state, and will also be provided information around treatment of PFAS, sources of funding available for treatment, and how best to communicate with the public about the presence of PFAS in their water systems.

Speaker Info

- Gregg Baird – Oregon Health Authority, Drinking Water Services
    - Presentation Title: PFAS in Drinking Water in Oregon.
    - Professional Qualification: Gregg is a graduate of Oregon State University and has a B.S. in Soil Science (’95). He has been a Registered Environmental Health Specialist (REHS – License # EH-S-224131) in the state of Oregon since 2000.
    - Bio - Gregg Baird has worked for the Oregon Health Authority, Drinking Water Services for 15 years in the Technical Services Unit. Since November 2018, he

has been the Emerging Contaminants Specialist for the program. Prior to working for the state, he was employed for 8 years by the Clackamas County Environmental Health Department.

- Mike Means – Washington Department of Health, Office of Drinking Water
    - Presentation Title: PFAS in Washington State – Regulatory issues and occurrence
    - Professional Qualifications: Registered Geologist and Licensed Hydrogeologist in WA - #1754
    - Bio - Mike is currently the Capacity Development and Policy manager for the Office of Drinking Water at the Washington State Department of Health (DOH). Mike is a licensed hydrogeologist who has over 30 years of experience in environmental health. Mike originally started his career working on contaminated site cleanup activities across California in private consulting. He started work at local health conducting site hazard assessments for Kitsap County Public Health, overseeing landfill permitting and addressing MTCA actions at closed landfills in Kitsap. He became the Kitsap Public Health Drinking Water Manager in 2000 and moved to work at DOH Office of Drinking Water in 2006. He has worked with public water systems in Washington State for over 20 years at the local and state level. He has had the opportunity to coordinate groundwater concerns across multiple agencies.

- Tyler Fortunati – Idaho Department of Environmental Quality, Drinking Water Bureau Chief
    - Presentation Title: PFAS in Idaho Public Drinking Water Sources
    - Professional Qualifications: CPM, MSIH, REHS
    - Bio - Tyler Fortunati is the Drinking Water Bureau Chief at the Idaho Department of Environmental Quality. Tyler holds a B.S. in Biology with an emphasis in Ecology from Boise State University and a M.S. in Industrial Hygiene from Montana Tech of the University of Montana. He has been a Registered Environmental Health Specialist since 2007 and a Certified Public Manager since 2019. Tyler has worked in environmental and public health since 2006 at both the local and state levels.

- Marshall Meyer – Lakewood Water District, Engineering Manager
    - Presentation Title: PFAS Mitigation Strategy and Lessons Learned by a Regional Water Provider
    - Professional Qualifications: WA state PE 44255; PMP certification from PMI; WA WDM 4 and CCS – 15761
    - Bio - Marshall is the Engineering Manager for Lakewood Water District, a regional water provider in Pierce County, Washington. Marshall is a licensed civil

engineer in the state of Washington and a certified Project Management Professional. Prior to joining the Lakewood Water District in 2021, he was an engineering consultant for 19 years, working on complex hydraulic analysis and design projects for water systems throughout the region. At the District, Marshall leads the engineering activities including system analysis, capacity planning, operational analysis, and oversees the pumping, storage and water treatment department.

- Feng Xiao – University of Missouri, Department of Civil and Environmental Engineering, Associate Professor
    - Presentation Title: Decomposition of PFAS during Thermal Reaction and Regeneration of Spent Media: Implications for Drinking Water Treatment
    - Professional Qualifications: PE in North Dakota (License#: PE-27194), Editor, Journal of Hazardous Materials, Associate Editor, Journal of Environmental Engineering (ASCE)
    - Bio - Dr. Feng "Frank" Xiao is a tenured Associate Professor in Civil Engineering at the University of Missouri (Columbia). He is an Editor of Journal of Hazardous Materials and an Associate Editor of ASCE Journal of Environmental Engineering. His research focuses on water and soil quality engineering, including disinfection byproducts and black carbon. Currently he is leading an interdisciplinary team with diverse expertise to address open questions in the following research areas: (i) the fate and transport of per- and polyfluoroalkyl substances in aquatic and soil environments; (ii) new and cost-effective water treatment and soil remediation technologies; and (iii) new analytical tools and non-target identification by high resolution mass spectrometry. Dr. Xiao completed his Ph.D. at the University of Minnesota and his postdoctoral training at the Connecticut Agricultural Experiment Station. He received the USEPA STAR Early Career Award in 2019 and United States National Science Foundation CAREER Award in 2021.

- Joanie Stultz – Brown and Caldwell, Project Engineer
    - Presentation Title: Considerations for Treatment Selection and Design for PFAS Management
    - Professional Qualifications: Professional Engineer 57707 Washington; M.S., Environmental Engineering University of Washington, 2015; B.S., Environmental Engineering University of Vermont, 2012
    - Bio - Joanie Stultz is an environmental engineer with Brown and Caldwell's Seattle Office. She has experience in water, and wastewater treatment design, water quality assessment, and hydrologic and hydraulic modeling. Joanie's focus is on drinking water treatment, with experience in providing project management support and design on several projects including PFAS GAC and IX

treatment design projects, an On-site Hypochlorite Generation design project, and task and schedule management for an interdisciplinary, multi-year permitting and water management project for a large private industry client.

- Charlie Liu – Kennedy Jenks Consultants, Staff Engineer and National PFAS Lead
    - Presentation Title: Not So Forever Chemicals – An Overview of Current PFAS Destruction Technologies
    - Professional Qualifications: Colorado School of Mines | Golden, Colorado Ph.D., M.S., Civil and Environmental Engineering Advisors – Christopher Bellona, Timothy Strathmann 2011 – 2015; University of California San Diego | San Diego, California B.S. Chemical Engineering
    - Bio - Charlie Liu is the National PFAS Lead at Kennedy Jenks Consultants and in the KJ Applied Research Group. He specializes in separation and destruction of PFAS and investigates challenges in emerging contaminants, water quality, and water reuse. He obtained his Ph.D. and M.S. in Environmental Engineering at the Colorado School of Mines and his B.S. in Chemical Engineering from the University of California San Diego. He is actively involved in local AWWA chapters and regulatory participates in committee meetings.

- Libby Barg-Bakke, Consor, Principal of Strategic Planning and Commissions
    - Presentation Title: Communicating about PFAS While Maintaining Public Trust
    - Professional Qualifications: Master of Community and Regional Planning, University of Oregon; B.S, Fisheries and Wildlife Biology, Kansas State University
    - Bio: Libby Bakke, principal of Consor Strategic Planning & Communications, has over 24 years of experience in strategic water communications. She is widely known for her planning and outreach expertise, working with elected officials, interest groups, and the public to build long-term support and trust for programs and projects. Libby holds a BS degree in Biology from Kansas State University and a Masters's in Community and Regional Planning from the University of Oregon. Libby has attained the State of Oregon's Level 4 Water Treatment and Water Distribution Operator licenses.

- Kim Pugel, Stantec, Associate
    - Presentation Title: Funding PFAS Projects – eligibility, trends, and priorities
    - Professional Qualifications: Bachelor of Science, Environmental Engineering, California Polytechnic University, San Luis Obispo, California; Masters of Science, Civil Engineering, University of Colorado Boulder, Boulder, Colorado; Doctor of Philosophy, Civil Engineering, University of Colorado Boulder, Boulder, Colorado
    - Bio: Kim is a management consultant for Stantec, with a background in civil engineering and a PhD in utility management. Within Stantec's North American

Funding Team, she leads water funding in the PNW and California, and she specializes in EPA, FEMA, and Bureau of Reclamation funding. Kim and her team have helped utilities (both large and small) strategize and secure $3 billion for water and wastewater infrastructure across the country.

- Pierre Kwan, HDR, Water Treatment Technical Leader
    - Presentation Title: Lessons Learned from the City of Issaquah's Seven Years of PFAS Treatment
    - Professional Qualifications: Licensed PE – WA, OR, NM, BC. 24 years industry experience
    - Bio: Pierre Kwan is HDR's Water Treatment Technical Leader and is responsible for the technical implementation of water treatment projects across HDR. With over 20 years of experience, he oversees all of HDR's global staff for the planning, design, financing, construction, and operation of water treatment systems for a range of applications and industries, and contaminants. His specific relevant experience includes extensive groundwater treatment, especially with PFAS contamination.