ERIE COUNTY WATER AUTHORITY
INTEROFFICE

October 7, 2024

TO: Terrance McCracken, Secretary to the Authority

FROM: Sabrina A. Figler, Director of Water Quality

SUBJECT: Request for Clayton Rumsey, Ph.D., Analytical Chemist to Travel to AWWA WQTC in Schaumburg, Illinois.

The AWWA WQTC is scheduled for November 17 - 21, 2024. The AWWA WQTC is a scientific and technical conference with the focus on all things related to water quality. Sessions offered are on the LCRI, taste and odor, PFAS detection and removal, microplastics, harmful algal blooms, cyanotoxins, Legionella, microbial and disinfection byproducts, emerging contaminants and biofilms. I find it beneficial to immerse Clayton in everything and anything water quality related. Clayton is very bright and ambitious and I want him to learn as much as possible.

Thank you for your consideration.

Sincerely,

Sabrina A. Figler

BUDGET INFORMATION: BUDGET YEAR 2024 Water Quality Unit 1030

GL #: 401000 640237 TRAINING
Remaing Balance: $4,900.00

cc: Chuck Eaton, Chief Operating Officer
Jenniber Hibit, Director of Human Resources

ERIE COUNTY WATER AUTHORITY
AUTHORIZATION FORM
For Approval/Execution of Documents
(check which apply)

Contract: **Project No.:**
Project Description: BOARD APPROVAL of Clayton Rumsey, PhD, Analytical Chemist to travel to AWWA WQTC in Schumburg, Illinois, November 17-21.

Item Description:

- [ ] Agreement
- [ ] Professional Service Contract
- [ ] Amendment
- [ ] Change Order
- [ ] BCD
- [ ] NYSDOT Agreement
- [ ] Contract Documents
- [ ] Addendum
- [ ] Recommendation for Award of Contract
- [ ] Recommendation to Reject Bids
- [ ] Request for Proposals
- [X] Other BOARD APPROVAL

Action Requested:

- [ ] Board Authorization to Execute
- [ ] Legal Approval
- [ ] Board Authorization to Award
- [ ] Execution by the Chairman
- [ ] Board Authorization to Advertise for Bids
- [ ] Execution by the Secretary to the Authority
- [ ] Board Authorization to Solicit Request for Proposals
- [X] Other BOARD APPROVAL

Approvals Needed:

APPROVED AS TO CONTENT:

- [X] Director of Water Quality _____ Date: 10/7/2024
- [X] Chief Operating Officer _____ Date: 10/07/2024
- [ ] Executive Engineer _____ Date: _____
- [ ] Director of Administration _____ Date: _____
- [ ] Claims Rep/Risk Manager _____ Date: _____
- [ ] Chief Financial Officer _____ Date: _____
- [ ] Legal _____ Date: _____

APPROVED FOR BOARD RESOLUTION:

- [X] Secretary to the Authority _____ Date: 10/7/2024

Remarks: _____

Resolution Date: _____ **Item No:** _____

TRAVEL REQUEST

Date: 10/3/24

Employee Name	Job Title	Department
Clayton Rumsey	Analytical Chemist	Water Quality

Destination: Water Quality Technology Conference - Schaumburg, IL

Is this training needed to meet professional licensing requirements? No

Description of training or business, and reasons and benefits of attendance:

Conference deals with emerging analytical techniques and technologies in water quality industry

Dates of Travel

From: 11/17/2024 To: 11/21/2024 Total number of business days: 4

Estimated Cost

Transportation $ [redacted] 450 Hotel Accommodations $ 800 Meals $ 500

TOTAL ESTIMATED COST $ [redacted] $1750 **W/ REGISTRATION FEE $** [redacted] $2475 (725)

Balance in the training budget prior to this trip $ 4900

Unit Number 1030 Primary Number 401000 G/L Number 640237

Comments (i.e. spouse traveling, preferences):

Approvals

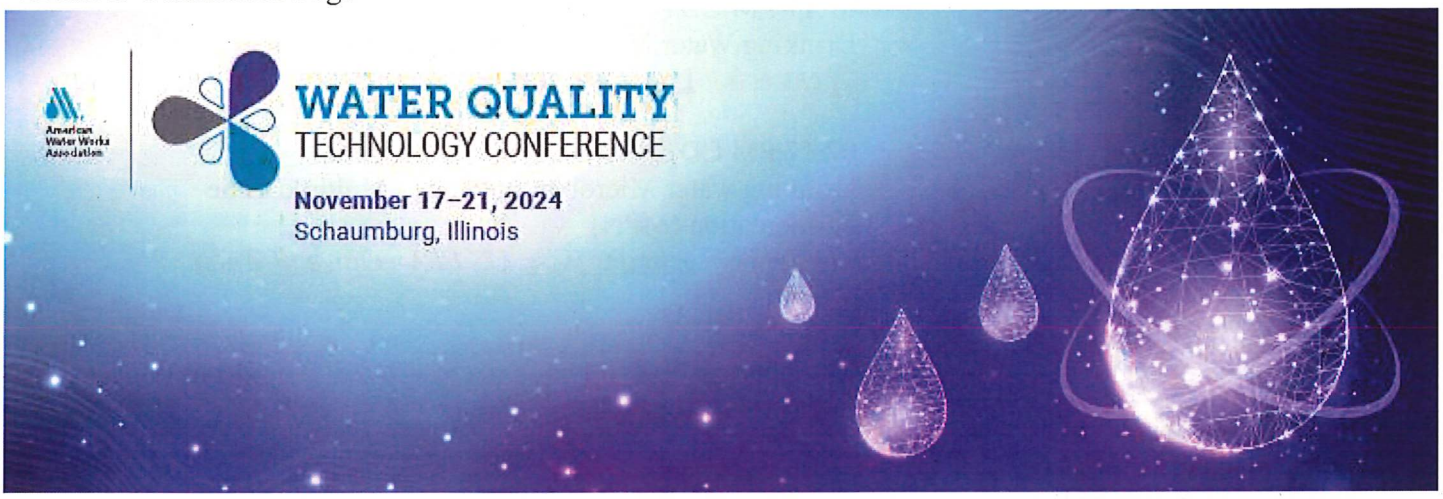
Department Head [signature] Date 10/7/2024

Chief Operating Officer [signature] Date 10/7/2024

Secretary [signature] Date 10/7/24

Rev. 08/23

↖ Back to Conference Page



Sun. Nov 17↗ Mon. Nov 18↗ Tue. Nov 19↗ Wed. Nov 20↗

Track

Search

Hide All Details

Below are all sessions containing your keyword search

Sunday, November 17, 2024

PCW01 - Drinking Water Microbiology: Methodologies and Quality Control

Moderator(s):

Event Type: Pre Conference Workshop

Event Track: Pre Conference Workshop

08:00 AM - 05:00 PM CDT | SunDetails

Add to Calendar

OVERVIEW: Pre-Conference Workshops are an additional cost and require pre-registration. Refer to registration rates for estimated pricing.

This workshop will provide an overview of the microbial drinking water programs within the US and Canada. Training will include a hands on component where attendees can observe and perform the methods used to analyze drinking water supplies. The workshop will also provide an overview of Quality Control and Quality Assurance (QC/QA) programs and how they are necessary in drinking water programs.

PRESENTATIONS:

07:17 PM CDT
Canadian Drinking Water Microbial Regulations
Speaker(s): Norma J. Ruecker

Advances in Treatment
Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs
Emerging Contaminants & Issues
Lead, Copper & Corrosion Control
Micro Focus
PFAS
Plenary Session
Water Quality, Monitoring, and Next-Gen Applications

Event Type

Educational Session
Poster Session
Pre Conference Workshop

Clear All Filters

Filter By Speaker

While AWWA has taken care to ensure the qualifications of speakers, presenters and moderators at this conference, the opinions, comments and other views made by participants in his/her presentation(s) are not necessarily those of AWWA nor its officers, directors, planning committee or staff.

07:17 PM CDT
Drinking Water Microbial Methods - Membrane filtration
Speaker(s): Laura Boczek

07:17 PM CDT
Drinking water Microbial methods - Multiple Tube Fermentation (MPN)
Speaker(s): Jennifer Best, *US EPA - Office of Water*

07:17 PM CDT
Microbiology 101
Speaker(s): Laura Boczek

07:17 PM CDT
Sample Collection
Speaker(s): Laura Boczek

07:17 PM CDT
US EPA Drinking Water Microbial Regulations
Speaker(s): Jennifer Best, *US EPA - Office of Water*

07:18 PM CDT
Drinking Water Methods - Enzyme substrate
Speaker(s): Laura Boczek

07:18 PM CDT
QA/QC Microbiology Drinking water methods and program
Speaker(s): Norma J. Ruecker

PCW02 - Adding Utility Benchmarking to Your Continuous Performance Improvement Toolbox

Moderator(s): Frank Roth

Event Type: Pre Conference Workshop

Event Track: Emerging Contaminants & Issues, Pre Conference Workshop

08:00 AM - 12:00 PM CDT | SunDetails

Add to Calendar

OVERVIEW: Pre-Conference Workshops are an additional cost and require pre-registration. Refer to registration rates for estimated pricing.

This workshop shows utilities how to use benchmarking data from AWWA's Utility Benchmarking Survey (UBS) to improve performance. Using results from UBS, utilities can focus their efforts on areas with gaps and set improvement

targets. This workshop will educate attendees on how to utilize the UBS data as a part of their continuous performance improvement process. Three utilities will share their experiences in how they use the UBS data to drive strategic performance. Several examples will be provided in demonstrating how these utilities established performance targets and how they communicate their performance to their stakeholders. Workshop attendees will take part three group exercises to learn how to use specific UBS indicators to improve performance and service delivery.

PRESENTATIONS:

PCW03 - Algae and Cyanobacteria Blooms: Track, Identify and Predict

Moderator(s): Polly Barrowman

Event Type: Pre Conference Workshop

Event Track: Emerging Contaminants & Issues, Pre Conference Workshop

01:00 PM - 05:00 PM CDT | SunDetails

Add to Calendar

OVERVIEW: Pre-Conference Workshops are an additional cost and require pre-registration. Refer to registration rates for estimated pricing.

Cyanobacteria have the potential to produce harmful toxins which can cause adverse health effects in humans and animals. Monitoring tools are needed to assess environmental conditions and stop blooms in their nascent stages. By highlighting three HAB monitoring technologies, this workshop will provide a comprehensive introduction to algae HAB monitoring, from the reservoir to the lab.

PRESENTATIONS:

07:08 PM CDT
Algae and Cyanobacteria Blooms: Track, Identify and Predict
Speaker(s): Polly Barrowman, *Yokogawa Fluid Imaging*

07:08 PM CDT
Algae and Cyanobacteria Blooms: Track, Identify and Predict
Speaker(s): Greg Ford, *Phytoxigene*

07:08 PM CDT

Algae and Cyanobacteria Blooms: Track, Identify and Predict
Speaker(s): Chris Lee, *AquaRealTime*

Monday, November 18, 2024

OGS - Safe Water on Tap for Towns and Villages: Leveraging Flocs, Filters, and Physics to Revolutionize Resilient Water Treatment

Moderator(s):
Event Type: Educational Session
Event Track: Plenary Session
08:15 AM - 09:30 AM CDT | MonDetails

Add to Calendar

OVERVIEW:

PRESENTATIONS:

PST01 - Monday Morning Poster Sessions

Moderator(s):
Event Type: Poster Session
Event Track:
09:30 AM - 10:30 AM CDT | MonDetails

Add to Calendar

OVERVIEW:

PRESENTATIONS:

09:30 AM CDT
A Tale of Two Waters: Navigating the Depths of Groundwater Scarcity versus the Surface Tensions of Policy and Supply
Speaker(s): Jamie Griles, *Arcadis*

09:30 AM CDT
Batch Kinetic Testing as a Predictor for RSSCT Performance
Speaker(s): Abigail Sveen, *University of North Carolina*

09:30 AM CDT
Beyond Hardware: Exploring Soft Sensors for Enhanced Process Monitoring and Control Through Data-Driven Redundancy
Speaker(s): KARTHICRAJA V M, *CDM SMITH*

09:30 AM CDT
Continuous Flow in-liquid Plasma Discharge for PFAS Destruction in Drinking Water
Speaker(s): Shaobo Deng, *University of Minneosata*

09:30 AM CDT
Electro-regeneration of PFAS-laden activated carbons in groundwater
Speaker(s): Gamze Ersan, *Arizona State University*

09:30 AM CDT
Examining Water Reuse Source Water Components: Causes of Viral Persistence in Urine
Speaker(s): Abigail Atwood, *University of Michigan*

09:30 AM CDT
Feasibility of Direct PFAS Removal from Contaminated Waters and Concentrates with Ion Exchange in Suspension
Speaker(s): Elisabeth Vaudevire, *PWNT Holding B.V.*

09:30 AM CDT
Investigation of Removal of Per- and Polyfluoroalkyl Substances from Aqueous Solution using Modified Biochar
Speaker(s): Masoumeh Akbarpour, *University of Central Florida (UCF)*

09:30 AM CDT
Leveraging Water Quality Data to Assess an Aquifer Storage and Recover Facility
Speaker(s): Kirstin Eller, *San Antonio Water System*

09:30 AM CDT
Modern Analytical Technologies in RO Membrane Applications: Dechlorination Optimization, Monitoring and Control
Speaker(s): Vadim Malkov, *Hach Company*

09:30 AM CDT
PFAS Removal in Surface Water Versus Groundwater: A Comparison of Media Performance and Operational Challenges
Speaker(s): Caitlin Glover, *Stantec*

09:30 AM CDT
Park City, Utah Promotes Ski Fluoro Wax Free Due to PFAS Contamination in Drinking Water Wells

Speaker(s): Michelle De Haan, *Park City Municipal Corporation*

09:30 AM CDT
Passive Sampling for the Monitoring of PFAS in Water
Speaker(s): Samantha Henningsen, *ALS Environmental*

09:30 AM CDT
Potable Reuse Technologies: Biofiltration and MXene Membrane Tandem Approach
Speaker(s): Jonathan Clayton, *University of Alabama*

09:30 AM CDT
Rapid PFAS Testing with no compromises: Direct Inject Analysis
Speaker(s): Jamie Fox, *Enthalpy Analytical*

09:30 AM CDT
STREAM - A Satellite analysis Tool for Rapid Evaluation of Aquatic environMents
Speaker(s): Nima Pahlevan, *Science Systems and Applications Inc. (SSAI)*

09:30 AM CDT
The Impact of Natural Organic Matter on PFAS Removal Pathways During Electrochemical Water Treatment
Speaker(s): Donald Ryan

09:30 AM CDT
The Use of Sensory GC Analysis to Identify Odorants Other than Geosmin and 2-Methylisobornel in Drinking Water
Speaker(s): Zhihang Yin

09:30 PM CDT
Investigating the Removal Mechanisms of Per- and Polyfluoroalkyl Substances in a Surface Water Filtration System
Speaker(s): A. H. M. Sadmani, *University of Central Florida*

09:30 AM CDT
Identifying PFAS Surrogate(s) for Improved Design and Monitoring of Granular Activated Carbon and Ion Exchange Resin Processes
Speaker(s): Ehsan Banayan Esfahani, *University of British Columbia*

MON01 - Manganese Removal and Release

Moderator(s): Philip Brandhuber, Olivia Fontaine
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues

10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session will tackle manganese contamination, from regulatory frameworks to practical applications such as biofiltration, delving into case studies like the Washington State Manganese Initiative and the dual challenge of manganese and arsenic treatment in Lincoln, Nebraska.

PRESENTATIONS:

10:30 AM CDT
Washington State Manganese Initiative - When Regulations Are Not Enough
Speaker(s): Stephen Deem, *Washington Department of Health*

11:00 AM CDT
Manganese Distribution System Release after Implementing Treatment or Switching Sources
Speaker(s): Asher Keithley, *U.S. Environmental Protection Agency*

11:30 AM CDT
Mechanistic Insights into Manganese Removal from Groundwater using Biofiltration
Speaker(s): Hemant Arora, *University of Waterloo*

MON02 - Reuse and Concentrate Management

Moderator(s): Keisuke Ikehata
Event Type: Educational Session
Event Track: Advances in Treatment
10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session focuses on cutting-edge approaches in potable water reuse and concentrate treatment technologies. Topics include demonstrating pathogen removal with sMBR, enhancing risk resiliency for potable reuse in El Paso, and 1,4-dioxane removal using RO and concentrate stream oxidation.

PRESENTATIONS:

10:30 AM CDT
Risk Resiliency through Potable Reuse: the Next Horizon for El Paso Water
Speaker(s): Caroline Russell

11:00 AM CDT
Treatment of 1,4- Dioxane with Reverse Osmosis and Subsequent Concentrate Stream Oxidation
Speaker(s): Katie Walker

11:30 AM CDT
Acid and Base Recovery from Desalination Brine in Innovative Zero-liquid Discharge Process with Bipolar Membrane Electrodialysis
Speaker(s): Abdiel Lugo Montes

MON03 - Challenges with Quantification & Disinfection of Internalized Legionella

Moderator(s): Sherry Bell-Parker
Event Type: Educational Session
Event Track: Micro Focus
10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: The ability of Legionella pneumophila (Lp) to live and replicate within amoeba hosts proves challenging with respect to detection, quantification, and disinfection. Underestimation of Legionella pneumophila concentrations in building and distribution systems can potentially mask the issue and delay remedial actions. This session will review and compare (i) the accuracy of detection methods, (ii) the efficacy of disinfectants, and (iii) Lp proliferation under different conditions.

PRESENTATIONS:

10:30 AM CDT
Systematic Review of Detection and Disinfection of Amoeba-Internalized Legionella Pneumophila
Speaker(s): Ayella Maile-Moskowitz, *Southern Nevada Water Authority*

11:00 AM CDT
Understanding the Impact of Free-living Amoeba Hosts on Quantification of Legionella Pneumophila in Water
Speaker(s): Ariel Atkinson

11:30 AM CDT
Replication of Lab and Environmental Legionella Pneumophila Isolates within Acanthamoeba Polyphaga Under Varying Conditions

MON04 - Impacts for Hot Water Heaters and Pipe Materials on Premise Plumbing Contamination

Moderator(s): Christina Devine

Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: "This session will explore volatile organic compounds in plastic drinking water pipes, alongside an analysis of chemical and microbial contaminants in polypropylene systems. Additionally, there will be a focus on residential hot water heaters and their implications for premise plumbing operation practices. "

PRESENTATIONS:

10:00 AM CDT
Vertical Stratification of the Water Microbiome in an Electric Water Heater Tank: implications for premise plumbing opportunistic
Speaker(s): Vicente Gomez-Alvarez

10:30 AM CDT
Temperature Effects on Diffusion and Partitioning of Volatile Organic Compounds in Plastic Drinking Water Pipes
Speaker(s): Levi Haupert, *US EPA*

11:30 AM CDT
Effect of Premise Plumbing and Water Utility on Drinking Water Quality in Marginalized Communities
Speaker(s): Evan Williams, *University of Texas At Austin*

MON05 - The Microplastics Maelstrom. Part 1: In the Laboratory

Moderator(s): Sydney Samples

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: Although microplastics are unregulated, and both occurrence and health effects pertaining to drinking water are not well-understood, the topic continues to garner significant interest from utilities and their customers. This second installment of the two-part series profiles advances in analytical methods.

PRESENTATIONS:

10:30 AM CDT
Development of Optimal Methods to Isolate Microplastics for Analyses in Drinking Water
Speaker(s): Husein Almuhtaram, *University of Toronto*

11:00 AM CDT
Comprehensive Microplastics Identification and Quantification in Drinking Water using Raman Spectroscopy and Optical Microscopy
Speaker(s): Steve Barnett, *Soar Optics*

11:30 AM CDT
Direct Comparison of Raman Spectroscopy to Pyro-GC/MS for Microplastic Quantification in Source and Treated Drinking Waters
Speaker(s): Husein Almuhtaram, *University of Toronto*

MON06 - Lead Assessment Tools and Approaches

Moderator(s): Quirien Muylwyk

Event Type: Educational Session

Event Track: Lead, Copper & Corrosion Control

10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session will present experiences with assessing corrosion control.

PRESENTATIONS:

10:30 AM CDT
Redefining Protocols: Tucson Water's Distribution System and Site Assessment Approach
Speaker(s): ALEJANDRA FRAIJO, *HDR Engineering*

11:00 AM CDT
Trouble Shooting Flow-Through Pipe Loop Operations
Speaker(s): Joanna Cummings

11:30 AM CDT
The 'True' Cost of Orthophosphate: A Cost-Benefit Analysis of Orthophosphate Addition to Water and Wastewater Facilities
Speaker(s): Victoria Nystrom, *Hazen and Sawyer*

MON07 - PFAS Planet: Characterization and Tracking

Moderator(s): Lauren Weinrich
Event Type: Educational Session
Event Track: PFAS
10:30 AM - 12:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW: PFAS management in drinking water applications is not limited to treatment and associated residuals; a comprehensive response also includes understanding the vectors for water supply contamination. This session explores both identifying and characterizing PFAS contamination.

PRESENTATIONS:

10:30 AM CDT
Tools for the Characterization of PFAS in Wastewater

Speaker(s): Jonathan Thorn, *Eurofins Lancaster Laboratories Environmental*

11:00 AM CDT
Closing the Mass Balance of Targeted PFAS and Adsorbable Organic Fluorine throughout an Advanced Wastewater Treatment Plant
Speaker(s): Sarah Ortbal, *University of Alabama*

11:30 AM CDT
Applying a Vulnerability Assessment Tool to Track Down PFAS
Speaker(s): Alma Beciragic, *Arcadis*

MON08 - Unregulated Contaminants - the Next Frontier

Moderator(s): Sarah Page
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session will present research on contaminants of emerging concern, including unregulated disinfection byproducts, findings from UCMR5 on lithium occurrence and its potential as a new contaminant of concern, and a review of CECs in drinking water through the years.

PRESENTATIONS:

01:15 AM CDT
Co-occurrence of Unregulated DBPs with Regulated DBPs in DWDSs across the US – a Study under EPA's DBP/OP Consortium Project
Speaker(s): Yue (Sophie) Sun, *University of Massachusetts, Amherst*

01:45 PM CDT
Lithium Occurrence: What We Have Learned from UCMR5
Speaker(s): Yongtao (Bruce) Li

02:15 PM CDT
Lithium – Is It The Next NPDWR?
Speaker(s): Christine Owen, *Hazen and Sawyer*

02:45 PM CDT

Review of 15+ Years of Compounds of Emerging Concern Data in Colorado Source Waters
Speaker(s): Billy Raseman, *Hazen and Sawyer*

MON09 - Pathogen LRVs with RO

Moderator(s): Bradley Schmitz
Event Type: Educational Session
Event Track: Advances in Treatment
01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session explores strategies to assess and enhance pathogen removal efficiency and overall performance of RO systems, including innovative methods for managing RO concentrate, analyzing RO data, and responding to MBR breaches. The session aims to optimize RO processes for better regulatory compliance and system robustness.

PRESENTATIONS:

01:15 PM CDT
Strategies for Gaining Pathogen Removal Credits using Reverse Osmosis Membranes
Speaker(s): Hunter Adams, *City of Wichita Falls*

01:45 PM CDT
Layers of the Cake: Response of Pathogen LRVs and Downstream RO Fouling to MBR Breaches
Speaker(s): Michael Adelman

02:15 PM CDT
The Benefits of Thinking Abnormally: A New Way to Look at RO Data
Speaker(s): Kyle Thompson, *Carollo Engineers, Inc.*

02:45 PM CDT
Novel Biological Concentrate Management for Increased Reverse Osmosis Recovery
Speaker(s): Grace Scarim, *United States Bureau of Reclamation*

MON10 - Legionella Occurrence in Drinking Water Distribution Systems

Moderator(s): Bina Nayak
Event Type: Educational Session
Event Track: Micro Focus
01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session aims to address the knowledge gaps between occurrence/risk of Legionella in drinking water distribution systems and maintenance of disinfectant residuals. Studies from different parts of the country highlight the importance of monitoring distribution systems for Legionella. Actions taken in response to Legionella detection include flushing mains, increased sampling, boosting disinfectant residual and public communication.

PRESENTATIONS:

01:15 PM CDT
Risk Assessment of Legionella pneumophila in Drinking Water Distribution Systems
Speaker(s): Mark LeChevallier, *Dr. Water Consulting, LLC*

01:45 PM CDT
National-Scale Legionella pneumophila Occurrence Survey
Speaker(s): Timothy Bartrand, *ESPRI*

02:15 PM CDT
Addressing Legionella Concerns in the Grand Rapids, MN Undisinfected Groundwater Supply System
Speaker(s): Chad Seidel, *Corona Environmental Consulting*

02:45 PM CDT
Addressing Legionella in a NJ Water System through Spatiotemporal Data Analysis and Improvements in Disinfection and Water Age.
Speaker(s): Matthew Jones

MON11 - Distribution Management Impacts on Biofilms

Moderator(s): Meg Roberts
Event Type: Educational Session
Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session will explore the impact of small-amplitude transients on biofilm formation in water distribution pipes, alongside an examination of biofilm structure under varying flow conditions. Additionally, this session will cover the diverse management approaches affecting biofilm dynamics in chloraminated distribution systems and discuss the importance of ATP monitoring for comprehensive risk assessment and asset management strategies.

PRESENTATIONS:

01:15 PM CDT
Examining the Effect of Small-Amplitude Transients on Biofilm Development in Water Distribution Pipes
Speaker(s): Yves Filion, *Queen's University*

01:45 PM CDT
Biofilm Structure and Composition under Varied Flow Conditions: Implications for Drinking Water Distribution
Speaker(s): VINILA VASAM, *West Virginia Univ. Dept. of Civil & Env. Eng.*

02:15 PM CDT
The Impact of Different Management Approaches on Biofilms in Chloraminated DWDS
Speaker(s): Jade Rogers

02:45 PM CDT
Monitoring Adenosine Triphosphate (ATP) in a Chloraminated Drinking Water Distribution System for Risk and Asset Management
Speaker(s): Rasha Maal-Bared, *Maal-Bared,Rasha*

MON12 - The Microplastics Maelstrom, Part 2: At the Utility

Moderator(s): Helene Baribeau

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: Although microplastics are unregulated, and both occurrence and health effects pertaining to drinking water are not well-understood, the topic continues to garner significant interest from utilities and their customers. The first installment of the two-part series focuses on practical considerations for utilities, including regulatory updates, sampling challenges, and treatment considerations.

PRESENTATIONS:

01:15 PM CDT
Drinking Water in the Plasticene Era: What Utilities Need to Know About Microplastics
Speaker(s): Brent Alspach, *Arcadis*

01:45 PM CDT
Microplastics Sampling: Addressing Unique Challenges for an Unprecedented Contaminant
Speaker(s): Alma Beciragic, *Arcadis*

02:15 PM CDT
Occurrence and Removal of Microplastics by Advanced and Conventional Drinking Water Treatment Facilities
Speaker(s): Husein Almuhtaram, *University of Toronto*

02:45 PM CDT
Impacts of microplastics accumulation on ultrafiltration membranes
Speaker(s): Tyler Malkoske, *University of Toronto*

MON13 - Lead and Copper: Measurements and Monitoring

Moderator(s): Darren Lytle
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: This session will explore methods used to monitor and assess lead in water.

PRESENTATIONS:

01:15 PM CDT
Chicago's Lead Consumer Lead Testing Program, Using Behavioral Insights to Improve Kit Return Rates
Speaker(s): Patrick Schwer

01:45 PM CDT
Improved Orthophosphate Lead Corrosion Control informed by Advanced Diagnostics
Speaker(s): Claire Boronski, *University of Colorado Boulder Environmental Eng.*

02:15 PM CDT
Lead in Water: Learning from Field Versus Laboratory Analysis
Speaker(s): Simoni Triantafyllidou, *US EPA*

02:45 PM CDT
Real-Time Monitoring of Lead and Copper in Drinking Water Systems
Speaker(s): Abigail Cantor, *Process Research Solutions, LLC*

MON14 - PFAS Planet: Residuals Management

Moderator(s): Kate Hughes Keenan
Event Type: Educational Session
Event Track: PFAS
01:15 PM - 03:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW: Although residuals management is often overshadowed by occurrence and MCL compliance concerns in drinking water applications, this issue will have a substantial influence on the operating costs of PFAS treatment facilities. From the management of exhausted sorptive media to the discharge of reverse osmosis concentrate, the residuals from these best available technologies (BATs) may prove as problematic as MCL compliance itself. This session addresses both treatment and media regeneration options.

PRESENTATIONS:

01:15 PM CDT

Evaluation of Conventional and Novel Treatment Technologies for RO Reject
Speaker(s): Scott Grieco, *Jacobs*

01:45 PM CDT
PFAS Removal in Drinking Water: Exploring Effective Residual Treatment for High Pressure Membrane Systems
Speaker(s): Tae Lee, *US EPA*

02:15 PM CDT
Treatment of PFAS and 1,4-Dioxane in Pilot-Scale Membrane Concentrate Using Foam Fractionation and Destruction Technologies
Speaker(s): Samantha Black

02:45 PM CDT
Pilot-Scale Regeneration of 'Single-Use' IX Resins for PFAS Removal
Speaker(s): Alexander Gorzalski

PST02 Monday Afternoon Poster Sessions

Moderator(s):
Event Type: Poster Session
Event Track:
03:15 PM - 04:15 PM CDT | MonDetails

Add to Calendar

OVERVIEW:

PRESENTATIONS:

03:15 PM CDT
A Balancing Act: How CT Calculation Methods for Crypto Inactivation with Ozone Impact System Design, Operation, and DBP Formation
Speaker(s): Christine Ngan, *CDM Smith*

03:15 PM CDT
Balancing Act: Achieving Pre and Post Lead Service Line Replacement Compliance in Programs
Speaker(s): Neeraj Nair

03:15 PM CDT
Biofilm Ecology Modeling Methodology for Legionella pneumophila in Drinking Water
Speaker(s): Mark Weir, *Ohio State University*

03:15 PM CDT
Demonstrating Treatment of Waterborne Protozoa: New Methods and New Insights Increase Confidence
Speaker(s): Kalani De Silva

03:15 PM CDT
Development of Method 562 for the Analysis of Select Pesticides in Drinking Water by Solid Phase Extraction and LC/MS/MS
Speaker(s): Daniel Tettenhorst, *US EPA*

03:15 PM CDT
Dual-Role Electrically Conductive Membranes: Enhanced Water Recovery and Self-Cleaning Efficiency through Optimized Design
Speaker(s): Soobin Cho, *Rice University*

03:15 PM CDT
Effect of Premise Plumbing Systems on Drinking Water Quality: Disinfectant Residuals and Microbial Communities.
Speaker(s): Mila Otegui

03:15 PM CDT
Enhanced Removal of Algal Cells and Algal Organic Matter through Optimized Coagulation in Dissolved Air Flotation Process
Speaker(s): Haniehsadat Barikbin, *University of Toledo*

03:15 PM CDT
Evaluation of Algaecide Effectiveness for Cyanobacteria Inactivation and Toxin Reduction in Cyanobacteria-Laden Waste Stream
Speaker(s): Taruna Alam Tresha, *University of Toledo*

03:15 PM CDT
Evaluation of Fluence in a Flow-through UV-LED Tubular Reactor with UV-reflecting Material Using Actinometry
Speaker(s): Yoontaek Oh, *Pegasus Technical Services, Inc.*

03:15 PM CDT
Life After Completing the Service Line Inventory: Tackling the Rest of the LCRR and LCRI
Speaker(s): Emily Owens-Bennett, *Trussell Technologies, Inc.*

03:15 PM CDT
Methods and Uncertainty in Predicting Arsenic Exposure and Health Outcomes for Private Well Users in Massachusetts
Speaker(s): Liam Amery, *University of Massachusetts*

03:15 PM CDT
Microplastics and Nitrogenous DBPs in Drinking Water: A Complex Interaction Beyond Adsorption

Speaker(s): Yi Li, *University of Toronto*

03:15 PM CDT
Monitoring Natural-Organic Matter in Drinking Water Treatment with Photoelectrochemical Oxygen Demand
Speaker(s): Isobel Demont

03:15 PM CDT
Raising the Dead: Bringing a Mothballed Ozone System to Life
Speaker(s): Maxime Beaulieu, *Stantec*

03:15 PM CDT
Revolutionizing Water Treatment, Conservation, and Management: Harnessing the Power of AI-driven ChatGPT Solutions
Speaker(s): Abel Egbemhenghe, *Texas Tech University*

03:15 PM CDT
St. Charles, MO - Emergency GAC Implementation to Remove Volatile Organic Compounds from the Drinking Water Supply System.
Speaker(s): Ryan Saffels, *HDR*

03:15 PM CDT
The Fast and The Furiously Floatable: A Pilot Plant Adventure for Optimized Coagulation, DAF and Filtration
Speaker(s): Nicole McLellan

03:15 PM CDT
Two birds, One stone: Solving a Manganese & Arsenic Treatment Challenge in Lincoln, NE
Speaker(s): Ashton Rohrich, *Black & Veatch*

03:15 PM CDT
Use of a Novel Nucleic Acid Crosslinking Reagent for PCR Detection and Quantification of Viable Legionella in Water Samples
Speaker(s): Timothy Deschaines, *Promega Corp*

03:15 PM CDT
Water Quality in Quarry Lakes: Utility Perspectives and Research Directions
Speaker(s): Billy Raseman, *Hazen and Sawyer*

AEESP - AEESP Emerging Investigator

Moderator(s): Chad Seidel
Event Type: Educational Session
Event Track: Plenary Session
04:00 PM - 05:00 PM CDT | MonDetails

Add to Calendar

OVERVIEW:

PRESENTATIONS:

Tuesday, November 19, 2024

TUEEB - Demystifying Peer Review: Guidance for Researchers and Reviewers

Moderator(s):

Event Type: Educational Session

Event Track: Plenary Session

07:15 AM - 08:00 AM CDT | TueDetails

Add to Calendar

OVERVIEW:

PRESENTATIONS:

TUE01 - Improving Our Understanding of Manganese Management

Moderator(s): Helene Baribeau

Event Type: Educational Session

Event Track: Emerging Contaminants & Issues

08:15 AM - 09:45 AM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will explore issues surrounding Mn treatment including, the impact of DOC/Mn interactions on treatment, advances in treatment technologies and controlling Mn by management of Mn sources.

PRESENTATIONS:

08:15 AM CDT
Potential DOC Impacts on the Speciation of Manganese in Water Treatment Plants
Speaker(s): William Knocke, *Virginia Tech*, Olivia Fontaine, *American Water Works Association*

08:45 AM CDT
Advanced Approaches to Manganese Treatment
Speaker(s): Joseph Goodwill, *University of Rhode Island*

09:15 AM CDT
Management of Manganese Through Better Source Control
Speaker(s): Philip Brandhuber, *Brandhuber Wtr. Quality/Trtmnt LLC*

TUE02 - Microfiltration & Ultrafiltration

Moderator(s): Judith Herschell Cole
Event Type: Educational Session
Event Track: Advances in Treatment
08:15 AM - 09:45 AM CDT | TueDetails

Add to Calendar

OVERVIEW: This session covers optimization techniques to enhance membrane filtration performance. Topics include optimizing coagulation to reduce ultrafiltration fouling, integrating ozonation with ceramic microfiltration for advanced treatment, exploring the microbial ecology of gravity-driven membrane filtration systems, and using electrically conductive membranes for improved water recovery and self-cleaning efficiency.

PRESENTATIONS:

08:15 AM CDT
Optimization of Coagulation as Pre-treatment to Reduce Ultrafiltration Fouling and Increase Organic Matter Removal
Speaker(s): Tyler Malkoske, *University of Toronto*

08:45 AM CDT
Ozonation and Ceramic Microfiltration in an Integrated Treatment Approach for Surface Water and Advanced WWTP Effluent Treatment
Speaker(s): Martin Spruijt, *PWNT*

09:15 AM CDT
Microbial Ecology of Gravity-driven Membrane Filtration (GDMFs) Systems for Water and Wastewater Treatment
Speaker(s): Leili Abkar, *University of British Columbia*

TUE03 - Risk Assessment and Management of Antibiotic Resistance in Water and Water Reuse Systems

Moderator(s): Ishi Keenum
Event Type: Educational Session
Event Track: Micro Focus
08:15 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Wastewater, water reuse and drinking water systems are important barriers to the spread of antibiotic resistance, but also harbor ecological niches that contribute to proliferation of antibiotic resistant bacteria (ARB) and antibiotic resistance genes (ARGs). This session will highlight options for water utilities to engage in monitoring, management, and risk assessment of antibiotic resistance.

PRESENTATIONS:

08:15 AM CDT
Antibiotic Resistance in Water Systems: Methods, Challenges, and Emerging Research
Speaker(s): Emily Garner

08:45 AM CDT
Quantifying AMR Risks and Source Apportionment for Wastewater Management
Speaker(s): Kerry Hamilton

09:15 AM CDT
Advancements in AMR Risk Assessment using Metagenomics
Speaker(s): Benjamin Davis, *Environmental Protection Agency*

10:30 AM CDT
Does the Disinfection of Drinking Water Select for Antibiotic Resistance?
Speaker(s): Timothy LaPara

11:00 AM CDT

Tracking Antibiotic Resistance Genes through the Urban Water Cycle – A Case Study
Speaker(s): Emilie Bedard, *Polytechnique Montreal*

11:30 AM CDT
Resistant Bacteria Persistence in Water Reuse Systems
Speaker(s): Norman Nueman, *University of Alberta*

TUE04 - Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability

Moderator(s): Donald Ryan

Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

08:15 AM - 09:45 AM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will cover the critical importance of distribution system water age targets, the impact of cured-in-place pipes on drinking water quality, and unidirectional flushing methods for mobilizing iron oxide particles in municipal drinking water pipes.

PRESENTATIONS:

08:15 AM CDT
Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability by PAC Across a Burned Watershed
Speaker(s): Kyle Shimabuku

08:45 AM CDT
Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability by Coagulation Across a Burned Watershed
Speaker(s): W. S.M. Samanthi K. Wijerathna, *Montana State University Bozeman*

09:15 AM CDT
Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability by UF Membrane Across a Burned Watershed
Speaker(s): XUE JIN, *Oregon State University*

TUE05 - AI/ML - State of the Arts. Implementation & Ethics

Moderator(s): Billy Raseman

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

08:15 AM - 09:45 AM CDT | TueDetails

Add to Calendar

OVERVIEW: This session features talks on the current state and case studies of machine learning and advanced data solutions in the water industry, preparedness for data system integration, the laws and ethics of using AI in utility operations, and the digitization of the Chicago Department of Water with minimal operational impact.

PRESENTATIONS:

08:15 AM CDT
WRF 5189 - State of Machine Learning and Advanced Data Solutions in the Water Industry and Case Studies
Speaker(s): Prabhushankar Chandrasekeran, *Arcadis*

08:45 AM CDT
You're Ready for the Data but is Your System
Speaker(s): Robert Ivanovic, *CDM Smith Inc*

09:15 AM CDT
Laws and Ethics of Using AI in Utility Operations and Management
Speaker(s): James Cooper, *Arcadis*

TUE06 - Lead Corrosion Control Strategies I

Moderator(s): Alex Mofidi

Event Type: Educational Session

Event Track: Lead, Copper & Corrosion Control

08:15 AM - 09:45 AM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will be the first of two sessions to examine methods to address lead corrosion control methods

and related factors.

PRESENTATIONS:

08:15 AM CDT
Lead Corrosion Control in a Water System with Unique Magnesium Silicate Scale
Speaker(s): Jerry Yan, *Carollo Engineers*

08:45 AM CDT
The Effects of Free Chlorine, Orthophosphate, and Sodium Silicate on Galvanic Tin-Lead Solder Corrosion in Premises Plumbing
Speaker(s): Naomi Lewis, *Dalhousie University*

09:15 AM CDT
Conversion from Blended Phosphate to Orthophosphate for Corrosion Control Optimization on the Great Lakes
Speaker(s): Amrou Atassi, *CDM Smith Inc.*

TUE07 - PFAS Updates: Occurrence, methods, and regulations.

Moderator(s): Ruth Marfil-Vega
Event Type: Educational Session
Event Track: PFAS
08:15 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session is designed to educate and update the audience about the current state of knowledge about the occurrence of PFAS in drinking water, current regulatory landscape, the latest advancements in monitoring methods, and how these three topics are connected and their impact on utilities.

PRESENTATIONS:

08:15 AM CDT
Setting the Stage – Regulatory Drivers for PFAS
Speaker(s): Chris Moody, *AWWA*

09:15 AM CDT
PFAS: A utility perspective from UCMR3 until now
Speaker(s): Christiane Hoppe-Jones, *American Water*

09:45 AM CDT
PFAS Occurrence: What We have Learnt in UCMR5
Speaker(s): Yongtao (Bruce) Li

10:30 AM CDT
EPA Drinking Water Targeted PFAS Analytical Method Development
Speaker(s): William Adams, *U.S. EPA*

11:00 AM CDT
Development of SM 6910B for PFAS Analysis in Waters
Speaker(s): Lily Sanchez, *Orange County Water District*

11:30 AM CDT
Are There Other PFAS to Worry About in Drinking Water: A Look at Volatile PFAS
Speaker(s): Ruth Marfil-Vega, *Shimadzu*

PST03 - Tuesday Poster Session

Moderator(s):
Event Type: Poster Session
Event Track:
09:45 AM - 10:45 AM CDT | TueDetails

Add to Calendar

OVERVIEW:

PRESENTATIONS:

09:45 AM CDT
Advanced Oxidation and Granular Activated Carbon Treatment for 1,4-Dioxane and PFAS: A Cross-Sector Collaborative Pilot Study
Speaker(s): Seth Sandoval-Skeet, *University of Michigan*

09:45 AM CDT
Bench and Pilot Testing Concurrent with Design – Investigating Ozone and Membranes to Achieve Multiple Drinking Water Goals
Speaker(s): Denise Funk, *Brown and Caldwell*

09:45 AM CDT
Bye-bye By-products: Transforming Disinfection Strategies at the Warren Water Filtration Plant
Speaker(s): Bernardo Vazquez-Bravo, *Stantec*

09:45 AM CDT
Climate Event Driven Increases in Natural Organic Matter: Implications for the Sustainability of Drinking Water Treatment
Speaker(s): Lindsay Anderson, *Dalhousie University*

09:45 AM CDT
Composition of the Microbial Communities within Sediment and Water in Chlorinated Drinking Water Distribution System Storage Tanks
Speaker(s): Eva Bridges, *West Virginia University*

09:45 AM CDT
From Paper to Digital: Digitizing Chicago Department of Water Less Impact to Operations
Speaker(s): Kiran Udayakumar, *AECOM*

09:45 AM CDT
Fuzzy Random Variable Analysis of Chlorine Residuals in Distribution Systems
Speaker(s): Biniam Abrha Tsegay

09:45 AM CDT
Hexavalent Chromium Removal Alternatives Process Comparisons and Lifecycle Costs
Speaker(s): Sifang Shan, *HDR*

09:45 AM CDT
Inclined to Change? Piloting Inclined Plate Settlers to replace Solid Contact Clarifiers at a Surface Water Treatment Plant
Speaker(s): Pei-Shin Wu, *Brown and Caldwell*

09:45 AM CDT
Investigating Quaternary Ammonium Surfactants as Disinfection Byproduct Precursors
Speaker(s): GABSON BAGUMA, *University of Nevada Las Vegas*

09:45 AM CDT
Ozone and BAC Pretreatment for the Removal of PFAS from Wastewater Effluent by GAC
Speaker(s): Charlie Liu, *Kennedy Jenks*

09:45 AM CDT
Predicting Fluidized Bed Clarifier Performance Using Filtration Theory
Speaker(s): Andrew Pennock, *New Jersey Institute of Technology*

09:45 AM CDT
Removal of Cyanotoxins with Powdered Activated Carbon in a Wildfire-degraded Water Quality Matrix
Speaker(s): John Heneghan

09:45 AM CDT
Securely Harnessing Cloud Solutions for Enhanced Water Data Analytics, Case Study, Loudoun Water, VA
Speaker(s): Javad Roostaei, *Hazen and Sawyer*

09:45 AM CDT
Solar Light-driven Eco-friendly Photodegradation of MC-LR using Platinum Ditelluride (PtTe2) Nanofilms
Speaker(s): Jong-Hyun Baik, *University of Central Florida*

09:45 AM CDT
Toxicity and Treatment Implications of Wildland-Urban Interface (WUI) Wildfire Ash in Surface Waters Using In Vitro Bioassays
Speaker(s): Mackenzie Bowden, *University of Colorado Boulder*

09:45 AM CDT
Upflow Slow Sand Filtration – Turning Filtration On Its Head!
Speaker(s): Steve Hubbs

09:45 AM CDT
Water Main Likelihood of Failure (LoF) Analysis Using Machine Learning Model Case Study: City of Virginia Beach
Speaker(s): Reid Cagir, *Hazen and Sawyer*

TUE08 - Iron, Manganese, and So Many More

Moderator(s): Daniel Haddock
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
10:30 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Metals play a critical role in our industry. This session will discuss metal treatment and removal from various points of view.

PRESENTATIONS:

10:30 AM CDT
A Mechanistic Study of Iron Sequestration by Phosphates
Speaker(s): Christian Lytle, *Virginia Tech*

11:00 AM CDT

Park City's 3Kings WTP Conquers Removal of Eight Heavy Metals and Tackles Pathogen Log Reduction Credit with MnO2 Media
Speaker(s): Michelle De Haan, *Park City Municipal Corporation*, Iwona Goodley

11:30 AM CDT
Reuse of Fe and Mn Precipitates for Heavy Metal Removal
Speaker(s): Cameron Oden, *University of New Haven*

TUE09 - Evolution in UV Technologies

Moderator(s): Christine Cotton
Event Type: Educational Session
Event Track: Advances in Treatment
10:30 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Mercury based UV technology has been an effective tool in the water treatment toolbox. As the industry evolves, krypton chloride excimer lamps and LED based UV are being researched and evaluated. This session will discuss UV technology and the evolution of the sector.

PRESENTATIONS:

10:30 AM CDT
Balancing Rewards and Risks with Low Wavelength UV Applications in Water Treatment
Speaker(s): Karl Linden, *University of Colorado Boulder-Envir. Eng.*

11:00 AM CDT
UV LEDs vs Mercury UV for Reuse Disinfection and 1,4-Dioxane Destruction
Speaker(s): Tara Randall, *HDR*

11:30 AM CDT
Are UV LED Reactors Ready to Replace Conventional UV Reactors? Performance Comparisons with Bioassay Data
Speaker(s): Brian Petri, *Trojan Technologies Group ULC*

TUE11 - Legionella 7 Premise Plumbing

Moderator(s): Chad Seidel

Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

10:30 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will explore the presence and implications of sulfate-reducing bacteria in stagnant plumbing and evaluate the effectiveness of flushing in pilot-scale systems affected by stagnation. Additionally, this session will address the characterization of microbial water quality in home plumbing systems, assessing the efficacy of filtration, heat treatment, and residual disinfectants to ensure safe water quality.

PRESENTATIONS:

10:30 AM CDT
Disinfectant Decay Kinetics in Building Plumbing and Effects on Microbial and Legionella Control
Speaker(s): Tolulope Odimayomi, *Virginia Tech University*

11:00 AM CDT
Quantitative Microbial Risk Assessment Framework for Integrating Water Ages with Legionella pneumophila Growth Rates
Speaker(s): Katherine Crank, *Southern Nevada Water Authority*

11:30 AM CDT
Novel Control of Legionella Pneumophila in Premise Plumbing through Probiotics and Nutrient Limitation
Speaker(s): Madeline Deck, *Virginia Tech*

TUE12 - Oh No? Ozone!

Moderator(s): Brock Emerson

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

10:30 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Ozone is a powerful reagent used in water and wastewater treatment facilities worldwide. This session will cover such aspects of ozone treatment as novel approaches in ozone disinfection with NBs, to system configurations in ozone biofiltration, ozone quenching in DWTPs, and design consideration fot ozone treatment of Cryptosporidium

PRESENTATIONS:

10:30 AM CDT
Enhanced Ozonation Efficiency and Novel Treatment Approaches using Ozone Nanobubble
Speaker(s): Meryem SOYLUOGLU, *Clemson University*

11:00 AM CDT
Microbial Community Adaptation to Changing Ozone-biofiltration Operations
Speaker(s): Kara Cunningham, *West Virginia University*

11:30 AM CDT
Dissolved Ozone Residual Quenching Efficiency with Varying Reagents and Water Quality Conditions
Speaker(s): Hannah Ray, *Southern Nevada Water Authority*

TUE13 - Lead Corrosion Control Strategies II

Moderator(s): Simoni Triantafyllidou
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
10:30 AM - 12:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will be the second of two sessions to examine methods to address lead corrosion control methods and related factors.

PRESENTATIONS:

10:30 AM CDT
Preparing for the LCRI - A Corrosion Inhibitor Evaluation Framework
Speaker(s): Baljit Sidhu, *Hazen and Sawyer*

11:00 AM CDT

Blended to Orthophosphate Corrosion Control: Impacts on Consumer Lead Exposure, Pipe Scale Mineralogy, and Microbial Ecology
Speaker(s): Jennifer Liggett, *Jacobs*

11:30 AM CDT
Assessing Distribution System Impacts in Advance of Treatment Changes to Address Source Scarcity &Emerging Contaminants of Concern
Speaker(s): Richard Giani, *CDM Smith*

TUE15 - After the Smoke Clears- A Treatment Paradigm

Moderator(s): Monica B. Emelko
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
01:30 PM - 03:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will focus on the impact of wildfires on the waterworks. Specifically, it will explore the characterization and treatibity of source waters impacted by wildfires, the vulnerability of drinking water treatment plansts against such threats, and their implications for utilities and water professionals.

PRESENTATIONS:

01:30 PM CDT
Experiences Responding to Wildfire Events and Utilization of Advanced Organics Characterization Methods to Understand Treatability
Speaker(s): Lynn Stephens, *Brown and Caldwell*

02:00 PM CDT
Assessing the Vulnerability of Drinking Water Treatment Plants to Wildfire in the Pacific Northwest
Speaker(s): Caroline Martin, *Montana State University Bozeman*

02:30 PM CDT
Lessons from Wildfires Attacking Water Utilities: Implications for Engineering, Operations, and Water Quality Professionals
Speaker(s): Andrew Whelton, *Purdue University, Environmental Engr.*

TUE16 - Characterization and Challenges of Source Water for Reuse Applications

Moderator(s): Eric Wert
Event Type: Educational Session
Event Track: Advances in Treatment
01:30 PM - 03:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will present the challenges faced and specific considerations required when treating wastewater for reuse. Methods for the elimination of pathogenic and indicator organisms in feed waters will be discussed and unique hurdles faced by Reuse operations will be highlighted.

PRESENTATIONS:

01:30 PM CDT
When the Source Water is not as it Seems: The Unique and Challenging Moments of Water Reuse Piloting

02:00 PM CDT
Identifying High Impact Chemicals for Mitigation of Human Health Risk in Potable Reuse
Speaker(s): Jessica Steigerwald, *SNWA*

02:30 PM CDT
Pathogen and Indicator Abundance and Trends in Wastewater from Southern Nevada for Informing de facto Reuse
Speaker(s): Katherine Crank, *Southern Nevada Water Authority*

TUE17 - HAB Monitoring and Management of Treatment Residuals

Moderator(s): Tracy Kump
Event Type: Educational Session
Event Track: Micro Focus
01:30 PM - 03:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Rising temperatures and eutrophication promote harmful algal blooms dominated by cyanobacteria (cHABs) resulting in water quality and health concerns. This session covers different aspects of cHAB management including the latest in monitoring technology, and best management practices for dealing with an HAB event as well as safe disposal of cyanotoxin laden drinking water treatment residuals.

PRESENTATIONS:

01:30 PM CDT
Long-term Study on the Fate of Cyanotoxins in Drinking Water Treatment Residuals across Three Drinking Water Treatment Plants
Speaker(s): Mudit Bhatia, *The University of Toledo*

02:00 PM CDT
Early Warning of Cyanobacterial Harmful Algal Bloom: Validation of Fluorescence Sensor Measurements with Microbial Signatures
Speaker(s): Mashuk Siddiquee

02:30 PM CDT
Considerations of a Surface Water Treatment Facility Proactively Preparing against Harmful Algal Blooms
Speaker(s): Daniel Whalen, *Hazen and Sawyer*

TUE18 - Controlling Disinfection By-Products

Moderator(s): Alice Fulmer

Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

01:30 PM - 03:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This sesssion will focus on innovative approaches to manage DBPs in drinking water systems. BAC treatment for controlling HAA5 levels in consecutive systems, efficacy of GAC and BAC treatments in reducing brominated DBPs in distribution systems, and pilot testing for DBP reduction in groundwater sources will be discussed.

PRESENTATIONS:

01:30 PM CDT
Use of BAC to Treat Potable Water for Controlling HAA5 Levels in Consecutive Systems
Speaker(s): Meric Selbes, *Hazen and Sawyer*

02:00 PM CDT
Efficacy of GAC and BAC Treatments in Mitigating Brominated DBPs in a Drinking Water Distribution System
Speaker(s): George William Kajjumba, *Southern Nevada Water District*

02:30 PM CDT
Groundwaters can have DBPs too! DBP reduction pilot testing and full-scale trials
Speaker(s): Simon Horsley, *Stantec Consulting Ltd*

TUE19 - Real-Time Water Quality Monitoring in Source Waters to Detect Contamination and Optimize Treatment

Moderator(s): Matthew Umberg

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

01:30 PM - 03:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will share the latest information about real-time water quality monitoring capabilities that drinking water utilities have to monitor their source waters, as well as updates on the latest technologies that can be used for this type of monitoring.

PRESENTATIONS:

01:30 PM CDT
Tracking Turbidity Events and Potential Environmental Spills In and Around the Wachusett Reservoir
Speaker(s): Geoffrey Beyer, *Massachusetts Water Resources Authority*

01:48 PM CDT
Using Machine Learning to Detect Higher Levels of De Facto Reuse at a Drinking Water Intake
Speaker(s): Emily Clements, *Southern Nevada Water Authority*

02:06 PM CDT
Real-time Microbial Monitoring in Drinking Water
Speaker(s): Marisa Silva, *onCyt Microbiology AG*

02:24 PM CDT
Development of Infrared Sensor for Water Analysis
Speaker(s): Katy Roodenko, *Max-IR Labs*

02:42 PM CDT
Online Instrument for Raw-Water THM Precursor Analysis
Speaker(s): Rick Bacon, *Aqua Metrology Systems*

TUE20 - Service Line Inventories

Moderator(s): Kira Smith
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
01:30 PM - 03:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will focus on experiences with building service line inventories.

PRESENTATIONS:

01:30 PM CDT
Case Study - Development of a Lead Service Line Replacement Program for Both Private and Public Side
Speaker(s): Alicia Bannier, *Ville De Montreal*

02:00 PM CDT
Using a Continuously Improving Machine Learning Model to Target Lead Service Line Inspections and Replacements - Case Study
Speaker(s): Sandy Kutzing, *CDM*

02:30 PM CDT
10 Million Buildings and Counting: Evaluating Trends from the Largest Service Line Inventory Database in the United States
Speaker(s): Jonathan Cuppett, *120Water*

TUE21 - PFAS Planet Planning, Design, and Operational Considerations

Moderator(s): Carol Walczyk
Event Type: Educational Session
Event Track: PFAS
01:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Planning, design, and operations are the three fundamental pillars of treatment implementation, applicable to every utility taking active steps to address PFAS contamination. This session explores these project aspects in terms of regulations, risk, economics, and lessons learned from operational facilities. A special addition presentation discusses a prize competition for PFAS advancements sponsored by the US Bureau of Reclamation.

PRESENTATIONS:

01:30 PM CDT
PFAS Detection and Sampling: Prize Competition
Speaker(s): Anisha Lamsal, *Bureau of Reclamation*

02:00 PM CDT
PFAS Risk, Regulations, and Response
Speaker(s): Heather Lanza, *CDM Smith*

02:30 PM CDT
De-Risking Groundwater Supply Investments in the Age of PFAS
Speaker(s): Daniel Haddock, *INTERA*

03:30 PM CDT
The Impact of DOC on PFAS Treatment Feasibility and Economics—Who's in the Driver's Seat?
Speaker(s): Rosa Yu, *Carollo Engineers*

04:00 PM CDT
Moving the Chains: An Integrated PFAS Investigation for a Greenfield Water Plant in North Carolina
Speaker(s): Kara Degroote, *CDM Smith*

04:30 PM CDT
GAC: 10 Years of Full-Scale Lessons Learned at Two WTPs
Speaker(s): Brent Tippey, *HDR Engineering*

TUE22 - Bipartisan Infrastructure Law (BIL) Funded Technical Assistance Programs

Moderator(s): Sandhya Parshionikar
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
03:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will discuss EPA's efforts in providing technical assistance to communities under funding provided by the Bipartisan Infrastructure Law (BIL) for upgrading drinking water infrastructure. These efforts are related to lead service line identification and replacement as well as addressing PFAS contamination.

PRESENTATIONS:

03:30 PM CDT
Overview of WaterTA at EPA
Speaker(s): Karen Swetland-Johnson, *Office of Water*

03:48 PM CDT
ORD Emerging Contaminants Program
Speaker(s): Thomas Speth, *U.S. EPA*

04:06 PM CDT
ORD LSL Inventory Program
Speaker(s): Simoni Triantafyllidou, *US EPA*

04:24 PM CDT
Advancing the Quality of LSLR Technical Assistance through Field-Tested Tools and Templates
Speaker(s): Rachael Nielsen, *USEPA-OW*

04:42 PM CDT
Moving Towards the SRF: Technical Assistance and Engineering Support
Speaker(s): Rebecca Reilly-Lott, *USEPA-OW*

TUE23 - Advancing Treatment

Moderator(s): Jeff Swertfeger
Event Type: Educational Session
Event Track: Advances in Treatment
03:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Due to the evergrowing need for higher standards of treatment for drinking water, researchers are exploring pathways to scale up advanced treatment technologies. This session delves into bench and pilot scale testing of cutting edge advanced water treatment techniques

PRESENTATIONS:

03:30 PM CDT
Aligning Research Efforts with Operational Priorities: Enhanced Conventional Water Treatment for Removal of high Total Organic Car
Speaker(s): John Norton

04:00 PM CDT
Pilot Testing to Avoid Unintended Consequences when Converting 840 mgd to Biofiltration.
Speaker(s): Greg Pope, *Carollo Engineers*

04:30 PM CDT
Assessing the Current State of Knowledge and Research Gaps Related to Advances, Challenges, and Opportunities for Point-of-use and
Speaker(s): Emily Kumpel, *University of Massachusetts Amherst*

TUE24 - Under the (Microbial) Influence – Impact of Wastewater Discharges on Surface Water Quality

Moderator(s): Thomas Gaidish
Event Type: Educational Session
Event Track: Micro Focus
03:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: The importance of source water protection to prevent downstream costs of contaminant removal has received a lot of traction in recent years. Wastewater discharges upstream of the intake of drinking water treatment plants can introduce microbes including viruses and antibiotic resistant bacteria (ARB) into source water. Topics covered in

this session include the estimation of microbial concentrations in surface water using qPCR, antibiotic resistance gene (ARG) classification, and quantitative microbial risk assessment (QMRA) to determine the safety of drinking water.

PRESENTATIONS:

03:30 PM CDT
How Quantitative is PCR? New Insights on Describing the Concentration of Low-abundance Microbial Targets in Water Surveillance
Speaker(s): Philip Schmidt

04:00 PM CDT
Using QMRA to Improve Response Capacity: Lessons from a Raw Sewage Discharge Upstream of a Drinking Water Treatment Plant Intake
Speaker(s): Dafne Cruz, *University of Waterloo*

04:30 PM CDT
Dissemination of Antimicrobial Resistance Upstream and Downstream of a Wastewater Treatment Plant in Rural Southwest Virginia, USA
Speaker(s): IDOWU Okeshola, *Virginia Tech*

TUE25 - DBP Formation and Impacts of Pre-cursors

Moderator(s): Julian Fairey

Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

03:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: Understanding and managing precursors is crucial in minimizing DBP formation. This session will explore the impact of salinization, corrosion control products, and treatment by UV-LED on DBP formation and speciation.

PRESENTATIONS:

03:30 PM CDT
Influence of Corrosion Products and pH on DBP Formation in Conventional and Potable Reuse Drinking Waters

Speaker(s): Kylie Boenisch-Oakes, *University of Colorado, Boulder*

04:00 PM CDT
Disinfection By-product Formation and Treatment of Precursor Material in Natural Water Matrices by UV-LED/Chlorine
Speaker(s): Isobel Demont

04:30 PM CDT
Salinization of Source Waters, From Aquifers to Rivers: Impact on DBP Formation and Speciation
Speaker(s): Kylie Boenisch-Oakes, *University of Colorado, Boulder*

TUE26 - Optimization Filtration/Coag

Moderator(s): Rebecca Venot
Event Type: Educational Session
Event Track: Water Quality, Monitoring, and Next-Gen Applications
03:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will focus on process improvement and optimization of parameters pertaining to coagulation and filtration in drinking water treatment plants. Enhanced efficiency of flocculation using DAF, a comprehensive long term study of BAC filter performance, and a case study in polymer selection for coagulation and flocculation will be discussed.

PRESENTATIONS:

03:30 PM CDT
Incorporation of Dissolved Air Flotation (DAF) into a Flocculation Process to Improve Filter Performance at Pilot-Scale
Speaker(s): Bilal Abada

04:00 PM CDT
Ensuring Water Quality: A 30-Year Filter Surveillance Program on Biologically Active Carbon Filters for Potable Water Treatment
Speaker(s): Melissa Olenick, *Central Lake Cnty. Joint Action Water Agency*

04:30 PM CDT
The Dos and Don'ts of Polymer Use in Water Treatment: Lessons from a Comprehensive Case Study
Speaker(s): Seulki Yeo, *Hazen and Sawyer*

TUE27 - Lead Services Line Identification Methods and Considerations

Moderator(s): Jian Zhang
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
03:30 PM - 05:00 PM CDT | TueDetails

Add to Calendar

OVERVIEW: This session will explore methods and approaches to identifying lead service lines.

PRESENTATIONS:

03:30 PM CDT
Identifying Unknown Service Lines can be a Disturbing Task
Speaker(s): Colin White, *US EPA Office of Research and Development*

04:00 PM CDT
Leveraging an Aggressive Inspection Program and Predictive Modeling to Develop an LSL Inventory for Jackson, Mississippi
Speaker(s): Katie Chamberlain

04:30 PM CDT
Comparative Analysis of Acoustic Technologies for Lead Detection in Water Service Connections
Speaker(s): Marshal Kafle, *MUELLER*

Wednesday, November 20, 2024

WED01 - Wildfire Impacts to Drinking-water Source Quality

Moderator(s): David Hanigan
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
08:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: "Wildfires are expected to increase in frequency and intensity, and will affect forested areas that serve as sources of drinking water. Wildfires are complex events in which varying fuel types, heat transfer conditions, and wind conditions can influence the burn regime of soil organic matter. This includes combustion (heating in the presence of oxygen) and pyrolysis (heating in the absence of oxygen) and combustion (heating in the presence of oxygen) as soil oxygen is depleted by combustion. The influence of many characteristics of wildfire on drinking water source quality are poorly understood. This session will inform scientists and utilities of the potential impacts to source water quality after wildfire."

PRESENTATIONS:

08:30 AM CDT
Evaluation of the Mobilization of Organic Compounds from Wildland and Wildland-Urban Interface Fires: Impact to Source Waters and
Speaker(s): Fernando Rosario-Ortiz

09:00 AM CDT
Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability by Coagulation Across a Burned Watershed
Speaker(s): W. S.M. Samanthi K. Wijerathna, *Montana State University Bozeman*

09:30 AM CDT
Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability by Ultrafiltration Membrane Across a Burned Watersh
Speaker(s): XUE JIN, *Oregon State University*

10:30 AM CDT
Spatial Variability in Dissolved Organic Matter and DBP Precursor Treatability by PAC Across a Burned Watershed
Speaker(s): Kyle Shimabuku

11:00 AM CDT
Water Quality Impacts of A Wildland-Urban Interface Fire- a Two Year Monitoring Study After the Marshall Fire
Speaker(s): Julie Korak, *University of Colorado Boulder*

11:30 AM CDT
Dissolved Organic Carbon after Severe Wildfire: Different Sources, Different Threats

Speaker(s): Monica B. Emelko

WED02 - Reuse Treatment

Moderator(s): Greta Zornes
Event Type: Educational Session
Event Track: Advances in Treatment
08:30 AM - 10:00 AM CDT | WedDetails

Add to Calendar

OVERVIEW: This session explores key aspects in wastewater treatment and reuse including UV irridation of organic matter, optical sensor monitoring for the prediction of coagulation performance, and evalution of chemical risks in water reuse.

PRESENTATIONS:

08:30 AM CDT
Effluent Organic Matter Transformation Following UV Irradiation at 222 nm Emission from KrCl* Excimer Lamps
Speaker(s): Blair Hanson, *Corona Environmantal Consulting, LLC.*

09:00 AM CDT
Developing Optical Sensors to Monitor and Predict Coagulation Performance for Water Reuse
Speaker(s): Emma Wilder, *University of Colorado, Boulder*

09:30 AM CDT
Risk Amidst Uncertainty: Evaluating Complex Chemical Risks for Water Reuse/recycling and Other Drinking Water Challenges
Speaker(s): Riley Mulhern, *Brown and Caldwell*

WED03 - UV Efficiency Impacts on Microbial Community

Moderator(s): Sandhya Parshionikar
Event Type: Educational Session
Event Track: Micro Focus
08:30 AM - 10:00 AM CDT | WedDetails

Add to Calendar

OVERVIEW: Microbial inactivation using UV irradiation is dependent on several factors including exposure time, UV dose, depth and turbidity of water, etc. Other considerations such as location of treatment (building versus full-scale drinking water treatment facility) and target organisms (bacteria, viruses, protozoa, biofilm communities) are also important when validating the use of UV for disinfection. This session includes topics such as the creation of bacterial log reduction credit (LRC) tables for on-site systems, bench-scale tests evaluating the effectiveness of UV inactivation of nontuberculosis mycobacteria, and the impact of low-dose UV treatment on microbial communities in distribution systems.

PRESENTATIONS:

08:30 AM CDT
Development of Bacteria Log-reduction Credit Tables Indicate Higher Required CT Values Compared to Virus and Protozoa
Speaker(s): Alex Mofidi, *Confluence Engineering Group LLC*

09:00 AM CDT
Assessing Viability of Nontuberculous Mycobacteria Following UV Treatment of Drinking Water by Monitoring Precursor-Ribosomal RNA
Speaker(s): Nuha Alfahham, *University of Michigan*

09:30 AM CDT
Impact of Low-dose UV Treatment on Microbial Communities in a Full-scale Drinking Water Distribution System
Speaker(s): Sarah Potgieter, *University of Michigan*

WED04 - DBPs: M/DBPR and Beyond

Moderator(s): Alice Jariz

Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

08:30 AM - 10:00 AM CDT | WedDetails

Add to Calendar

OVERVIEW: EPA anticipates proposing revisions to the Microbial and Disinection Byproducts Rules in Summer 2025. This session will discuss utility challenges in meeting current DBP regulations and potential new requirements, integrated monitoring plans for wholesellers and consecutive systems, and going beyond regulations to improve public health.

PRESENTATIONS:

08:30 AM CDT
Characterizing Challenges in Meeting Current and Potential Future DBP Precursor Removal Requirements to Inform MDBP Rule Revisions
Speaker(s): Carleigh Samson, *Corona Environmental*

09:00 AM CDT
Upcoming Microbial and Disinfection Byproducts Rule Revisions: Integrated Monitoring Plans and Wholeseller's responsibility
Speaker(s): Vishakha Kaushik, *Arcadis U.S., Inc.*

09:30 AM CDT
DBP Mitigation Pilot Study for Small Water Systems – Going Beyond Regulations to Achieve Public Health Improvements
Speaker(s): Stephen Deem, *Washington Department of Health*

WED05 - AI/ML – Applications in Distribution Systems Optimization

Moderator(s): Prabhushankar Chandrasekeran

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

08:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This technical session will cover AI and machine learning applications in water distribution, including digital twins, water quality optimization, leak detection, nonrevenue water reduction, LCRR compliance, and water main failure analysis.

PRESENTATIONS:

08:30 AM CDT
Is It a Model or Is It a Digital Twin? Results of the 2024 AWWA Survey on Water Distribution Technology
Speaker(s): James Cooper, *Arcadis*

09:00 AM CDT
Decreasing Nonrevenue Water and Protecting Water Quality with Machine Learning
Speaker(s): Jane Arrington, *Greenville Water*

09:30 AM CDT
Water Quality Modeling to Optimize Future Water Storage and Sampling Locations
Speaker(s): Ben Chenevey, *Arcadis*

10:30 AM CDT
Experimental Machine Learning-Based Leak Detection for Improving Chemical Tank Safety
Speaker(s): Francisco Alcala, *CDM Smith*

11:00 AM CDT
AI-Driven Multi-Scale Modeling and Optimization of Water Quality in Drinking Water Distribution Systems
Speaker(s): Ahmed Abokifa, *University of Illinois Chicago*

11:30 AM CDT
AI as an Ally in LCRR Compliance
Speaker(s): Carlee Chaffin, *HDR Engineering, Inc.*

WED06 - Post LSL Removal and Other Lead Sources

Moderator(s): Colin White
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
08:30 AM - 10:00 AM CDT | WedDetails

Add to Calendar

OVERVIEW: This session will examine lead release from lead sources other than LSLs and post LSL removal considerations.

PRESENTATIONS:

08:30 AM CDT
To Replace or Not to Replace: Understanding the Galvanized Service Line Conundrum

Speaker(s): Quirien Muylwyk

09:00 AM CDT
Impact of Lead Components on Household Lead Levels at the Tap
Speaker(s): Alan Wong, *San Francisco Public Utilities Comm.*

09:30 AM CDT
Chicago Department of Water Management Post-LSLR Results
Speaker(s): Patrick Schwer

WED07 - PFAS Planet: Modeling and Optimization

Moderator(s): Mary Smith
Event Type: Educational Session
Event Track: PFAS
08:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: While the implementation of designated BATs for PFAS treatment are well-understood, modeling and optimization of these technologies remains critically important for both maintaining compliance scheduling and reducing both capital and operating costs. This session addresses these key aspects of PFAS treatment at multiple scales (bench, pilot, and full), technologies (IX and GAC), and applications (groundwater, surface water, and wastewater).

PRESENTATIONS:

08:30 AM CDT
Open-source Treatment Performance Modeling Tools for PFAS Removal Using GAC and IX Media
Speaker(s): Jonathan Burkhardt, *US EPA*

09:00 AM CDT
Minimize PFAS Pilot Duration and Cost through Modeling to Achieve Compliance Deadlines
Speaker(s): Amanda Canida

09:30 AM CDT
Optimizing GAC Design for PFAS Removal using Bench, Pilot and Full-Scale Studies
Speaker(s): Ramola Vaidya, *HDR*

10:30 AM CDT
Scaling of RSSCT to Pilot Results for PFAS Removal in Groundwater, Surface Water, and Wastewater
Speaker(s): Nick Chew

11:00 AM CDT
Assessing Impacts of Competing Co-Constituents on Commercial Ion Exchange Resin Performance
Speaker(s): Graham Parker, *University of North Carolina-Chapel Hill*

11:30 AM CDT
PFAS Intraparticle Diffusion Coefficient Determination for Single-Use Strong Base Anion Exchange Resins
Speaker(s): Brooke Gray, *ORISE/EPA*

WED09 - Reuse Development

Moderator(s): Carrie Del Boccio
Event Type: Educational Session
Event Track: Advances in Treatment
10:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This session highlights case studies in implementation of water reuse for varied source waters and water demands. Direct and indirect potable reuse cases in Mumbai India, Palm Beach County, and Inland Southwestern United States are discussed, with a focus on supplementing water supply in these communities.

PRESENTATIONS:

10:30 AM CDT
First Direct Potable Reuse Project in India
Speaker(s): Viraj deSilva, *Freese & Nichols, Inc.*

11:00 AM CDT
Green Cay Phase II - Palm Beach County Advances Water Reuse in the Sunshine State
Speaker(s): Hayden Tse, *CDM Smith*

11:30 AM CDT
Agua Pura - Framework for Technology Decisions in Water Reuse for Resilient Inland Communities

Speaker(s): Heather Tugaoen, *Stantec Consulting Services Inc.*

WED10 - Early Detection and Monitoring of Algal Blooms and Cyanotoxins

Moderator(s): Hunter Adams
Event Type: Educational Session
Event Track: Micro Focus
10:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: Early detection and monitoring of harmful algal blooms (HABs) is essential for proactive management and protection of public health and the environment. It can provide insight into the causes, dynamics, and trends of HABs as well as strategies for bloom prevention, prediction, and management. This session will highlight and present cutting edge monitoring techniques for HABs.

PRESENTATIONS:

10:30 AM CDT
Determining the Role of Spectral Imaging as an Early Warning System for Presence/significance of Algal Blooms
Speaker(s): Zia Bukhari, *American Water*

11:00 AM CDT
Defining Quality Control Criteria for Flow Imaging Microscopy.
Speaker(s): Eric Johnson, *Greater Cincinnati Water Works*

11:30 AM CDT
Advancing Rapid Microcystin-LR Detection using Antibody-based Biosensors with a Simplified Calibration Curve for Early Action
Speaker(s): Samuel Adjei-Nimoh, *University of Central Florida*

WED11 - Harnessing Distribution System Physical Attributes to Improve Water Quality

Moderator(s): Alice Fulmer
Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs
10:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This session will cover the critical importance of distribution system water age targets, the impact of cured-in-place pipes on drinking water quality, and unidirectional flushing methods for mobilizing iron oxide particles in municipal drinking water pipes.

PRESENTATIONS:

10:30 AM CDT
How Old is Too Old? Distribution System Water Age Targets and Why They Matter
Speaker(s): Simon Horsley, *Stantec Consulting Ltd*

11:00 AM CDT
Cured-In-Place-Pipes are Being Used for Drinking Water Pipe Repairs: How Do They Impact Drinking Water Quality?
Speaker(s): Andrew Whelton, *Purdue University, Environmental Engr.*

11:30 AM CDT
Reverse Unidirectional Flushing (R-UDF) to Mobilize Iron Oxide Particles from Municipal Drinking Water Pipes
Speaker(s): Yves Filion, *Queen's University*

WED13 - Lead in Schools and Daycares

Moderator(s): Christina Devine
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
10:30 AM - 12:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This session will present lead testing, monitoring, and mitigation strategies in schools.

PRESENTATIONS:

10:30 AM CDT
Water Quality Testing & Mitigation Strategies - Chicago Public Schools
Speaker(s): Robert Christlieb, *Chicago Public Schools*

11:00 AM CDT
Ensuring a Healthy Future for America: Texas Water Company's Proactive LCRR Compliance Approach for School & Childcare Monitoring
Speaker(s): Vishakha Kaushik, *Arcadis U.S., Inc.*

11:30 AM CDT
Navigating Compliance and Community Engagement: Lessons from PWD's School and Childcare Pilot Study
Speaker(s): Karen Casteloes, *Arcadis*

WED15 - Opportunistic Pathogens

Moderator(s): Grace Jang
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
01:30 PM - 03:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: To mitigate the risk of opportunistic pathogens in premise plumbing, regular maintenance and monitoring of water quality are essential. This session will explore the dynamics, monitoring, and inactivation of opportunistic pathogens in distribution systems.

PRESENTATIONS:

01:30 PM CDT
Establishing an Opportunistic Pathogen Monitoring Program for A Large Drinking Water Utility
Speaker(s): Monica Lee-Masi, *WSSC*

02:00 PM CDT
Understanding the Dynamics of OPs in U.S. Drinking Water Distribution Systems – a Study under the EPA CODOWN Project
Speaker(s): Nowrina Rahim, *University of Texas At Austin*

02:30 PM CDT
Inactivation of Biofilm-bound Opportunistic Pathogens in Water Supply Systems with UVC LEDs

Speaker(s): Madison Ferrebee

WED16 - Bridging the Gap: Innovative Frameworks for Safe and Sustainable Direct Potable Reuse

Moderator(s): Joe Hernandez
Event Type: Educational Session
Event Track: Advances in Treatment
01:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: Traditional water sources are strained, and we need innovative solutions. Direct potable reuse (DPR) offers a sustainable approach by recycling treated wastewater to drinking water standards. However, public perception, regulations, and ensuring long-term safety remain hurdles to widespread implementation. This STS aims to provide practical alternatives to current pathogen crediting frameworks.

PRESENTATIONS:

01:30 PM CDT
Bacteriophages as Indicators of Enteric Virus Removal for Potable Reuse Applications
Speaker(s): Joe Hernandez, *City of Scottsdale*

02:00 PM CDT
Demonstrating Pathogen Removal by Secondary Membrane Bioreactor (sMBR) Treatment for Potable Reuse
Speaker(s): George D. Di Giovanni, *The Metropolitan Water District of Southern California*

02:30 PM CDT
Viral Surrogates for Reverse Osmosis Integrity Monitoring in California Reuse Applications
Speaker(s): Eileen Idica, *Trussell Technologies*

03:30 PM CDT
Developing a Surrogate-Based Virus Crediting Framework for Coag/Floc/Sed
Speaker(s): Brian Pecson, *Trussel Technologies*

04:00 PM CDT
Fit-for-Purpose QMRA Framework for Water Reuse Applications

Speaker(s): Michael Jahne, *U.S. EPA Office of Research and Development*

04:30 PM CDT
Developing a Surrogate-Based Crediting Framework for Secondary Biological Treatment Processes in Potable Reuse Applications
Speaker(s): Daniel Gerrity, *Southern Nevada Water Authority*

WED17 - Predictive Modeling for Microbial Water Quality Investigations

Moderator(s): Melina Bautista
Event Type: Educational Session
Event Track: Micro Focus
01:30 PM - 03:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This special session will focus on the use of predictive models for microbiological investigations. Fundamentals of predictive modelling and examples/cases studies will be discussed.

PRESENTATIONS:

01:30 PM CDT
Introduction to Modeling for Microbial Water Quality Investigations
Speaker(s): Kerry Hamilton

02:00 PM CDT
Modeling Near Real-time Chlorophyll and Other Parameters within Cincinnati's Miller Plant
Speaker(s): Patricia Klonicki

02:30 PM CDT
Use of Computational Intelligence (CI) Tools for Drinking Water Safety
Speaker(s): Vicente Gomez-Alvarez

WED18 - Stagnant Plumbing and Mitigation Efforts

Moderator(s): Alex Mofidi
Event Type: Educational Session

Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs

01:30 PM - 03:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This session will explore the presence and implications of sulfate-reducing bacteria in stagnant plumbing and evaluate the effectiveness of flushing in pilot-scale systems affected by stagnation. Additionally, this session will address the characterization of microbial water quality in home plumbing systems, assessing the efficacy of filtration, heat treatment, and residual disinfectants to ensure safe water quality.

PRESENTATIONS:

01:30 PM CDT
Sulfide, pH, and Sulfate-Reducing Bacteria Dynamics in Stagnant Plumbing
Speaker(s): Stephanie Heffner, *Purdue University*

02:00 PM CDT
Effectiveness of Flushing on Controlled Pilot-Scale Systems Impacted by Stagnation
Speaker(s): Aliya Ehde, *Purdue University*

02:30 PM CDT
Characterizing Microbial Water Quality in A Model Home Plumbing System: Assessing the Efficacy of Filtration and Heat Treatment
Speaker(s): Morgan McNeely, *USEPA AWBERC*

WED19 - AI/ML – Applications in Treatment Optimization

Moderator(s): Javad Roostaei

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

01:30 PM - 03:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This technical session will address interoperability in water treatment modeling, deploying data

analytics and machine learning, PFAS modeling for GAC optimization, and secure cloud solutions for water data analytics, featuring a case study from Loudoun Water, VA.

PRESENTATIONS:

01:30 PM CDT
Addressing the Interoperability Crisis in Water Treatment Modeling
Speaker(s): Sierra Johnson

02:00 PM CDT
Data Analytics and Machine Learning Tools—Navigating Development to Deployment
Speaker(s): YOKO KOYAMA, *Carollo Engineers*

02:30 PM CDT
Adaptive PFAS Modeling to Optimize GAC Changeout and Operational Complexities
Speaker(s): Eric Peterson, *Hazen and Sawyer*

WED20 - Source Changes and Lead: Concerns and Considerations

Moderator(s): Darren Lytle
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
01:30 PM - 03:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This session will raise lead considerations and issues associated with making source water changes.

PRESENTATIONS:

01:30 PM CDT
Conducting a Representative Comprehensive Corrosion Control Study for a Complex System – Part 3: Optimizing Corrosion Control
Speaker(s): Nichole Sajdak, *Great Lakes Water Authority*

02:00 PM CDT
Back to the Future: The Dangers of "New" Lead Solder in Old Homes Following Source Water Changes
Speaker(s): Frank Mazzola, *Virginia Tech*

02:30 PM CDT
WSTP in Illinois for Members of the New Grand Prairie Water Commission: Moving from Well Water to Lake Michigan Water
Speaker(s): Dave Cornwell

WED21 - PFAS Planet: Novel Treatment and Destructive Technologies

Moderator(s): Brent Alspach
Event Type: Educational Session
Event Track: PFAS
01:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: Despite the numerous challenges for implementing destructive technologies for PFAS treatment at municipal scale, research and practical advancements remain a critical part of the PFAS landscape for drinking water applications. This session profiles innovative work in both destructive treatment, as well as novel separation technologies that may complement the array of best available technologies (BATs) designated by USEPA.

PRESENTATIONS:

01:30 PM CDT
Effect of Water Quality on the Removal of Per- and Poly-fluoroalkyl Substances (PFAS) using Foam Fractionation (FF)
Speaker(s): Stephanie Stoll, *USEPA AWBERC*

02:00 PM CDT
The Beginning of the End; Piloting Electrochemical Oxidation for PFAS Destruction in New Mexico
Speaker(s): Conner Murray, *Hazen and Sawyer*

02:30 PM CDT
Defoamer Assisted Electrochemical Destruction of PFAS Laden Foam in Wastewater
Speaker(s): Mohamed Ali, *University of North Dakota*

03:30 PM CDT
Evaluation of KrCl* 222 nm Irradiation for the Reductive Defluorination of Per-and Polyfluoroalkyl Substances

Speaker(s): Garrett McKay, *Zachry Dept. of Civil and Environ. Engineering*

04:00 PM CDT
Case Study Using Photo-activated Reductive Defluorination to Destroy PFAS in Groundwater Concentrate
Speaker(s): SarahF Meyer, *Enspired Solutions*

04:30 PM CDT
Destruction of PFAS with a Closed Loop Microwave Plasma System
Speaker(s): JP Majcher, *6K Inc*

WED22 - Taste and Odor Testing

Moderator(s): Trevor Voegele
Event Type: Educational Session
Event Track: Emerging Contaminants & Issues
03:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: Taste and odor are important aesthetic water quality parameters. This session will highlight advancements in testing and identifying taste and odor components. Topics will include cutting edge sensory and analytical methods to detect T&O compunds, investigating sources of taste and odor in regions like Bow River in Calgary and practical experieces from Portland on integrating taste and odor testing to assess wildfire impacts.

PRESENTATIONS:

03:30 PM CDT
Identification of Uncommon T&O Compounds in Water Treatment Processes Using Recent Advances in Sensory and Analytical Techniques
Speaker(s): Hunter Adams, *City of Wichita Falls*

04:00 PM CDT
Investigating the Source of Taste and Odour Episodes in the Bow River, Calgary, Alberta
Speaker(s): Jian Fu Deng, *The City of Calgary - WQ & Regulatory Assurance*

04:30 PM CDT
Portland's Experience Incorporating Taste and Odor Testing to Assess Wildfire Impacts and Inform Treatment Changes

Speaker(s): Anna Vosa, *Portland Water Bureau*

WED24 - Assessment and Mitigation of HABs

Moderator(s): Christine Owen
Event Type: Educational Session
Event Track: Micro Focus
03:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: Harmful algal blooms (HABs) damage aquatic ecosystems, threaten water supplies, and are increasing in frequency and intensity due to climate change. Effective monitoring of HABs is important for developing approaches to minimize the occurrence, severity and impact of HABs. This session will focus on HABs assessment and mitigation strategies.

PRESENTATIONS:

03:30 PM CDT
Assessing Harmful Algal Blooms and Water Quality Trends in the Maumee River and Reservoir: Insights from Five Years of Study
Speaker(s): Shadman Sakib Sayem

04:00 PM CDT
Combined Algicide-Activated Carbon Use For Mitigation of Harmful Algae Blooms
Speaker(s): DOMENIC Contrino, *C12 Environmental Services*

WED25 - Practical Considerations for Water Managers

Moderator(s): Mary Smith
Event Type: Educational Session
Event Track: Comprehensive Conveyance Concerns: Distribution Systems, Premise Plumbing, and DBPs
03:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: Water managers are confronted with a barrage of decisions. From the selection of water source to their chemical supplier, these decisions have short and long term tradeoffs. Come and learn how others have approached these decisions

PRESENTATIONS:

03:30 PM CDT
Applying Robustness Framework Analyses to Water Treatment Plants Subject to Highly Variable Source Water Quality
Speaker(s): Wendell James, *EPCOR Water Services, Inc.*

04:00 PM CDT
The Price is Not Right – The Rise in Chemical Costs and Methods to Optimize
Speaker(s): John Civardi, *Mott MacDonald*

04:30 PM CDT
Reservoir Risk Assessment Framework for Tailored Source Water Monitoring
Speaker(s): Alex Gerling, *Hazen and Sawyer*, Abigail Wright, *Denver Water*

WED26 - AI/ML – Applications in Source Water Monitoring

Moderator(s): James Cooper

Event Type: Educational Session

Event Track: Water Quality, Monitoring, and Next-Gen Applications

03:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: This technical session will cover using machine learning for detecting de facto reuse at drinking water intakes, an interactive tool for WWTP discharge impacts, phycocyanin fluorescence probes for predicting cyanobacteria blooms, and forecasting adverse source water quality as a step towards climate adaptation.

PRESENTATIONS:

03:30 PM CDT

Interactive Tool for WWTP Discharge Impact on Downstream Source Water Intakes
Speaker(s): Reed Palmer, *Hazen and Sawyer*

04:00 PM CDT
Exploring the Potential of Phycocyanin Fluorescence Probes in Predicting Cyanobacteria Blooms: A Machine Learning Approach
Speaker(s): Mennatallah Alnahas

04:30 PM CDT
Forecasting Adverse Source Water Quality Using Machine Learning - One Step Towards Climate Adaptation
Speaker(s): Edison Xiang Li, *UBC*

WED27 - Lessons Learned from Environmental Protection Agency's (EPA) Voluntary School and Child Care Lead Testing and Reduction Grant

Moderator(s): Ying Tan
Event Type: Educational Session
Event Track: Lead, Copper & Corrosion Control
03:30 PM - 05:00 PM CDT | WedDetails

Add to Calendar

OVERVIEW: "This study will illustrate leading best management practices (BMPs) factors learned from U.S. EPA's Voluntary School and Child Care Lead Testing and Reduction Grant Program to successfully implement lead testing and reduction programs to reduce lead in drinking water at schools and child care facilities. The EPA will demonstrate the common BMPs of state programs in conducting lead testing and remediation (e.g., focused marketing and communication strategies, thorough mitigation technical supports, legislation assistances, and strong collaboration efforts). In addition, the presentation will showcase state program implementation data and lessons learned on program implementation (e.g., developing communication plans to build trust)."

PRESENTATIONS:

03:30 PM CDT
Reducing Lead with U.S. EPA Funding Opportunities and Resources
Speaker(s): Ying Tan, *Environmental Protection Agency*

04:00 PM CDT
Tackling Emerging Contaminants with U.S. EPA Funding Opportunities and Resources
Speaker(s): Lida Daly, *EPA*