

WORKSHOPS

SATURDAY, SEPTEMBER 27, 2025

W01 Wastewater Microbiology

Workshop Chair: R. Stover

Agenda:

- 8:30 AM **Introduction**
R. Weigand
- 8:45 AM **Biochemistry and Microbiology Basics**
R. Stover
- 9:30 AM **Microscope Basics**
R. Weigand
- 10:00 AM **Networking Break**
- 10:30 AM **Protozoa and Metazoa**
S. Leach
- 11:10 AM **Micro Exam Practice**
S. Leach; L. Swain
- 12:00 PM **Lunch Break**
- 1:30 PM **Filament Identification & Oil Immersion**
E. Stover; R. Stover
- 2:00 PM **Staining Demonstration**
R. Stover; L. Swain
- 2:15 PM **Filament ID Practice w/ Staining**
- 3:00 PM **Networking Break**
- 3:30 PM **Molecular Testing**
S. Leach
- 3:45 PM **Filament Causes and Control**
S. Scuras
- 4:00 PM **Final Sample Evaluation**
- 4:35 PM **Final Reports**
R. Weigand
- 4:50 PM **Wrap-up**
R. Stover
- 4:55 PM **Complete Evaluations**

W02 Exploring Disinfection Validation in Water Reuse Scenarios

Workshop Chair Bryan Kimbell, bNovate Technologies SA

Workshop Vice Chair Gary Hunter, Black & Veatch

Workshop Facilitator(s) Fredrick Gerringer, Brown & Caldwell; Keisuke Ikehata, Texas State University; Amos Branch, Carollo; Jenny Reina, Jacobs; Uwe Hubner, Xylem; Claire Johnson, Orange County Water District; Karthik Kumarasamy, CDM Smith

Description:

This full-day interactive workshop will dive into the core processes of disinfection validation for water reuse applications. Expert speakers will guide groups of participants to concentrate on understanding and critically evaluating various aspects of the disinfection process, with hands-on exercises centered around the scientific and operational aspects; regulatory considerations; and validation tests result reporting. The workshop will also cover broader topics, such as general water reuse scenarios and regulations, incorporating only key elements that directly influence disinfection validation. The focus will be on real-time application, data collection, and decision-making processes for effective validation.

Agenda:

- 8:30 AM **Agenda Review & Introduction to Disinfection Validation in Water Reuse**
B. Kimbell; G. Hunter; F. Gerringer
- 9:00 AM **Regulations & Expectations**
C. Johnson
- 9:15 AM **Technology Deep Dive: Disinfection Methods**
- 10:00 AM **Networking Break**
- 10:30 AM **Technology Deep Dive con't**
- 11:00 AM **Data Collection & Monitoring for Disinfection**
- 12:00 PM **Lunch Break**
- 1:30 PM **Integrating Validation into Facility Operation**
- 2:30 PM **Validation Process & Case Studies**
- 3:00 PM **Networking Break**
- 3:30 PM **Scenario Deconstruction & Group Presentations**
- 4:30 PM **Closing Discussion**

W03 Integrated Flood Planning: Managing the Storms of the Future

Workshop Chair Caroline Burger, Carollo

Workshop Vice Chair Alireza Parhami, DC Water & Sewer Authority

Workshop Facilitator(s) Simon Newton, Bentley Systems; Francisco Haces-Garcia, University of Houston; Christine Estes, AECOM; Daniel Christian, Tetra Tech; Laurens Van Der Tak, Jacobs; Christina Hughes, Ramboll; Ataul Hannan, Harris County Flood Control District

Description:

As the impacts of climate change continue to lead to oftentimes devastating storms that result in flooding, it is becoming increasingly important for utility managers to plan ahead and be prepared to respond, rather than react, to these events. This workshop equips utility managers with the tools to

bridge advanced flood modeling and actionable policies, enabling communities to prepare for and mitigate future flood risks.

Agenda:

- 8:30 AM **Introductions**
- 9:00 AM **Flooding Types and Dangers**
- 9:30 AM **How Changing Precipitation Patterns are Impacting Flooding**
- 10:00 AM **Networking Break**
- 10:30 AM **Types of Flood Models**
- 11:00 AM **Integrated Flood Models**
A.Parhami; M. Papadacos
- 12:00 PM **Lunch Break**
- 1:30 PM **Alternatives to Integrated Flood Models**
- 2:00 PM **Making Results Actionable**
A.Parhami; M. Papadacos
- 2:30 PM **Stormwater Technologies**
- 3:00 PM **Networking Break**
- 3:30 PM **Funding Sources**
- 4:00 PM **Layout Your Integrated Model Framework**
- 4:50 PM **Wrap up**

W04 Strategies for Measuring and Mitigating Fugitive Methane Emissions

Workshop Chair Trung Le, Brown and Caldwell

Workshop Vice Chair Adrian Romero, Black & Veatch

Workshop Facilitator Zhiyong Ren, Princeton University; Sahar El Abbadi, Lawrence Berkeley National Lab; Geoffrey Schweinfurth, Columbus Water and Power; Tom Nangle, Brown and Caldwell; David Ponder; John Leitel, Konica Minolta; Luca Ledermann, Explicit

Description:

This interactive workshop will focus on providing participants with a foundation on fugitive methane concepts, monitoring methods, and mitigation strategies through applied theory, and will include interactive equipment demonstrations and case studies analysis. Workshop participants will engage with regulators, technology providers, utilities, consultants, the Department of Energy, and universities to better understand different points of views on this highly relevant topic. Interactive demonstrations will provide hands-on engagement with technology providers and data platforms to better understand applications of fugitive methane measurement.

Agenda:

- 8:30 AM **Welcome/Introduction**
A.Romero; T. Le
- 8:45 AM **Emerging and Available Quantification Technologies**
Z.Ren
- 9:10 AM **Fugitive Methane Technology Performance**
S. El-Abbadi
- 9:35 AM **Leak Detection and Repair and Mitigation**

	T. Le
10:00 AM	Networking Break
10:30 AM	Technology Showcase
12:00 PM	Lunch Break
1:30 PM	Metro Vancouver's Approach to Fugitive Methane J. Carmichael
1:55 PM	Approach to Meeting Climate Action Plan T. Schweinfurth; S.Eckenwiler
2:20 PM	New Design Standards for Digestion Systems T. Nangle
2:45 PM	Facilitated Discussion
3:00 PM	Network Break
3:30 PM	Tools Interactive Session
4:30 PM	Panel (Regulators, Utilities, Consultants) D. Ponder
4:55 PM	Closing Remarks A.Romero; T. Le

W05 Thickening Optimization: Process Improvements and Plant Benefits

Workshop Vice Chair Christine Hengel-Prom, Black & Veatch; Edward Fritz, Jacobs

Workshop Facilitator(s) Rashi Gupta, Carollo; Dan Fronhofer, BDP Industries, Inc; Mario Benisch, HDR Engineering; Elaine Leonard, HDR Engineering; Chris Maher, Clean Water Services; David Oerke, Jacobs

Description:

This workshop will focus on practical solutions to improve thickening performance for primary and waste activated sludge, including achieving thicker solids, better solids capture, reduced polymer consumption, reduced operation and maintenance costs, enhanced biological phosphorus removal, and smaller or more efficient downstream solids handling processes. The workshop will be of primary interest to plant managers, superintendents, operators, and maintenance staff from municipalities. This topic is critical and timely to the industry, as municipalities are feeling more pressure to reduce their budgets or to 'do more for less,' in addition to addressing the challenges of increasing polymer and solids processing costs.

Agenda:

8:30 AM	Introduction and Review of Workshop Agenda and Goals E. Fritz
8:35 AM	Interactive Sessions: Survey Questions E. Fritz
8:45 AM	Thickening 101: Why Thicken? R. Gupta
9:15 AM	Thickening Equipment Basics Overview: How Does It Work? D. Fronhofer
9:35 AM	Interactive Session E. Fritz; C. Hengel-Prom

- 10:00 AM **Networking Break**
- 10:30 AM **Chemistry of Thickening**
B. Offerman
- 10:50 AM **Polymer Evaluation for WAS Thickening**
M. Benisch
- 11:10 AM **Polymer Languages & Operator Resources**
E. Fritz
- 11:20 AM **Polymer Dosing Demonstration**
B. Offerman; M. Benisch; E. Fritz
- 12:00 PM **Lunch Break**
- 1:30 PM **Case Study: GBTs vs RDTs for Multiple Sludge Configurations**
C. Hengel-Prom
- 1:50 PM **Case Study: Industrial Thickening**
E. Fritz
- 2:10 PM **Research: Rheology of Thickened Sludge**
L. Thompson; E. Leonard
- 2:30 PM **Interactive Session: Thickening Applications**
E. Fritz; C. Hengel-Prom
- 3:00 PM **Networking Break**
- 3:30 PM **Case Study: Fermentation/Bio-P**
C. Maher
- 3:50 PM **Case Study: Co-Thickening or Recuperative Thickening**
D. Oerke

W06 Using Process Simulators for Operator Training and Decision-Making

Workshop Chair Elizabeth Schrandt, Metropolitan Council

Workshop Vice Chair Yanjin Liu, AM Water

Workshop Facilitator(s) Christopher Bye, EnviroSim Associates; Jose Rubalcaba, Salt Lake City Dept. of Public Utilities; Sidney Innerebner, Indigo Water Group; Paul Dombrowski, Woodard & Curran; Alexandra Greenfield, Woodard & Curran; Spencer Snowling, Hatch Ltd.; Jason Fick, City of Roseville; Gillian Burger, EnviroSim Associates; Evangelia Belia, Primodal Inc

Description:

Process simulators are a valuable teaching tool because they allow water professionals to explore the consequences of operational decisions across a resource recovery facility in an interactive, risk-free way. This workshop will demonstrate the strength of simulators to illustrate fundamental resource recovery concepts to water professionals by offering simulator-based training on: use of steady-state and dynamic modeling to assess the impacts of secondary clarifier operation on process performance and use of steady-state and dynamic modeling to operate a nitrifying activated sludge system to achieve year-round nitrification.

Agenda:

- 8:30 AM **Welcome and Introductions**
E. Schrandt; Y. Liu
- 8:40 AM **Overview and Goals of Workshop**

E. Schrandt
9:00 AM **Conceptual Introduction**
C. Bye

9:15 AM **Tour of BioWin**

9:30 AM **Steady-state Training Exercise Introduction**

9:40 AM **Hands-on Simulations**

10:00 AM **Networking Break**

10:30 AM **Hands-on Simulations**

10:50 AM **Dynamic Training Exercise Introduction**

11:00 AM **Hands-on Simulations**

11:40 AM **Experience with Simulator-based Training at a Utility**
J. Rubalcaba

11:50 AM **Discussion: How Effective Was the Training Exercise?**
C. Bye

12:00 PM **Lunch Break**

1:30 PM **Discussion: How Can Simulator-based Training Exercises Complement
Traditional Operator Training Approaches?**
S. Innerebner

2:00 PM **Conceptual Introduction**
P. Dombrowski; A. Greenwood

2:15 PM **Tour of Simuworks**
S. Snowling

2:30 PM **Steady-state Training Exercise Introduction**
P. Dombrowski

2:40 PM **Hands-on Simulations**

3:00 PM **Networking Break**

3:30 PM **Experience with Simulator-based Training at a Utility**
J. Fick

3:40 PM **Hands-on Simulations**
P. Dombrowski

4:00 PM **Dynamic Training Exercise Introduction**
S. Snowling

4:10 PM **Hands-on Simulations**

4:50 PM **Discussion: How Effective Was the Teaching Exercise?**
P. Dombrowski; S. Snowling

5:00 PM **Conclusion**
E. Schrandt

SATURDAY, SEPTEMBER 28, 2025

W07 Activated Sludge and Biological Nutrient Removal Process Control

Workshop Chair

Workshop Vice Chair

Workshop Facilitator(s)

Description:

Agenda:

W08 Wastewater Microbiology

Workshop Chair

Workshop Vice Chair

Workshop Facilitator(s)

Description:

Agenda:

- | | |
|----------|--|
| 8:30 AM | Introduction
R. Weigand |
| 8:45 AM | Biochemistry and Microbiology Basics
R. Stover |
| 9:30 AM | Microscope Basics
R. Weigand |
| 10:00 AM | Networking Break |
| 10:30 AM | Protozoa and Metazoa
S. Leach |
| 11:10 AM | Micro Exam Practice
S. Leach; L. Swain |
| 12:00 PM | Lunch Break |
| 1:30 PM | Filament Identification & Oil Immersion
E. Stover; R. Stover |
| 2:00 PM | Staining Demonstration
R. Stover; L. Swain |
| 2:15 PM | Filament ID Practice w/ Staining |
| 3:00 PM | Networking Break |
| 3:30 PM | Molecular Testing
S. Leach |
| 3:45 PM | Filament Causes and Control
S. Scuras |
| 4:00 PM | Final Sample Evaluation |
| 4:35 PM | Final Reports |

R. Weigand
4:50 PM **Wrap-up**
R. Stover
4:55 PM **Complete Evaluations**

W09 WEF and WRF: Practical Application of Instrumentation and Controls for Aeration and Nutrient Removal

Workshop Chair Susan Guswa, Woodard & Curran

Workshop Vice Chair Jennifer Murphy, Parametrix

Workshop Facilitator(s) Spencer Snowling, Hatch Ltd.; Nicholas Tooker, University of Massachusetts Amherst; Amy Mueller, Northeastern University; Ian Myers, Metro Water Recovery; Michael Andrus, Upper Blackstone Clean Water; Alexandria Gagnon, Hampton Roads Sanitation District; Maureen Neville, CDM Smith; Jeffrey Semigran, HDR Engineering Inc.

Description:

This workshop provides training for operators, designers, and utility staff on aeration system components, as well as aeration and nutrient removal controls. The workshop will feature hands-on exercises to explore and reinforce different aeration concepts and control strategies through breakout discussions with posters, group problem-solving scenarios, an interactive app, and computer simulation. Additionally, utility leaders will share their experiences with instrument-based controls for nutrient removal, highlighting performance, operation and maintenance, and costs via a facilitated discussion.

Agenda:

8:30 AM **Welcome, Introductions, Objectives & Agenda**
S. Guswa; J. Murphy

8:40 AM **Aeration System Component Breakout Sessions**
J. Murphy; I. Myers; M. Neville; N. Tooker; S. Guswa; A. Gagnon

9:50 AM **Key Takeaways & Lessons Learned**
A. Mueller

10:00 AM **Networking Break**

10:30 AM **Introduction to Aeration System Tuning, Troubleshooting, and Optimization**
A. Gagnon

10:55 AM **Aeration System Troubleshooting/Optimization Breakout Activity**
A. Gagnon; J. Murphy; I. Myers; M. Neville; S. Guswa; A. Mueller

11:35 AM **Group Report Outs on the Scenarios**
N. Tooker

12:00 PM **Lunch Break**

1:30 PM **Overview & Key Outcomes of WRF Project 5807**
S. Guswa

1:45 PM **Introduction & Use of BNR Instrumentation & Controls Selection Adventure App**
M. Neville

2:15 PM **Utility Panel & Facilitated Discussion**
N. Tooker

- 3:00 PM **Networking Break**
- 3:30 PM **Computer Simulation Activity of Instrument-based Process Control Systems for BNR**
- S. Snowling
- 4:45 PM **Wrap Up**

W10 WEF and WRF: Planning Your Data and Analytics Roadmap

Workshop Chair Adrienne Menniti, Clean Water Services

Workshop Vice Chair Prabhushankar Chandrasekeran

Workshop Facilitator Tanja Rauch-Williams, Metro Water Recovery; Manoharan Chelladurai, WSSC Water; Kathryn Newhart, Oregon State University; Gary Wong, Aveva; Sydney Samples; Miriam Hacker; Chinmay Gaidhani, Black & Veatch

Description:

This workshop is designed to introduce attendees to the concepts of data architecture and governance, information technology/operational technology integration, advanced analytics and artificial intelligence/machine learning (AI/ML) applications and use cases, and workforce skills. The challenges and opportunities associated with advancing the use of automated analytics and artificial intelligence within water resource recovery utilities will be highlighted through hands-on exercises. Participants will develop a roadmap for a specific advanced analytic use case of interest by stepping through a series of guided prompts designed to encourage consideration of foundational digital concepts needed to support advanced analytics and AI/ML applications.

Agenda:

- 8:30 AM **Welcome, Overview and Introduction**
A.Menniti
- 8:40 AM **Concept Introduction**
K. Newhart; G. Wong; P. Chandrasekeran; A. Menniti
- 9:45 AM **Hands-on Exercise Introduction**
P. Chandrasekeran
- 10:00 AM **Networking Break**
- 10:30 AM **Activity 1: Defining the Opportunity**
- 11:10 AM **Solution Mapping**
- 12:00 PM **Lunch Break**
- 1:30 PM **Case Studies**
A.Menniti; T. Rauch-Williams; M.Chelladurai; P. Chandrasekeran
- 2:30 PM **Activity 3: Gaps, Action Items and Roadmap**
- 3:00 PM **Networking Break**
- 3:30 PM **Activity 4: Present You're A-ha Moments**
A. Menniti
- 4:30 PM **Closing Discussion**
P. Chandrasekeran; A. Menniti

W11 Breaking Barriers for Industrial Water Reuse: Industry and Utility Approach

Workshop Chair Kjrsten Bobb, Stanley Consultants

Workshop Vice Chair Frank Johns, Stanley Consultants

Workshop Facilitator Matt Griffin, General Motors; Brian Arntsen, Veolia WTS; Paul Bowen, GHD/Water 2.0; Jonathan McDonald, Boeing; William Bratt, Woodard & Curran; Eric Owens, West Basin Municipal Water District

Description:

Join industry leaders at the 'Breaking Barriers for Industrial Water Reuse' workshop to explore innovative solutions for industrial water challenges. This interactive session features case studies from four industries, offering insights into overcoming barriers and implementing effective water reuse strategies. Participants will engage in case study analysis exercises, collaborate on solutions, and learn from experts in the field. Ideal for engineers, facility managers, and water resource professionals seeking to enhance their knowledge and network with peers.

Agenda:

- | | |
|----------|--|
| 8:30 AM | Welcome and Introductions
K. Bobb |
| 8:50 AM | Poll |
| 9:10 AM | IW Reuse Case Study Analysis: Breaking Barriers for Industrial Water Reuse
M. Griffin; B. Arntsen; P. Bowen; J. McDonald |
| 9:40 AM | IW Reuse Working Groups: Report Out |
| 10:00 AM | Networking Break |
| 10:30 AM | Review of Industrial Water Reuse Regulations
F. Johns |
| 10:55 AM | Treatment Technologies
B. Bratt |
| 11:20 AM | Utility Support
E. Owens |
| 11:45 AM | Developing a Decision-Making Flowchart
K. Bobb |
| 12:00 PM | Lunch Break |
| 1:30 PM | Afternoon Agenda
K. Bobb |
| 1:40 PM | IW Reuse Case Study Analysis: Breaking Barriers for Industrial Water Reuse
M. Griffin; B. Arntsen; P. Bowen; J. McDonald |
| 2:40 PM | IW Reuse Working Groups: Report Out |
| 3:00 PM | Networking Break |
| 3:30 PM | IW Reuse Working Groups: Report Out |
| 4:30 PM | Industrial and Municipal Panel |
| 4:50 PM | Closing Comments |

W12 Demystifying Nitrous Oxide (N₂O) Measurement and Quantification

Workshop Chair Jeremy Kraemer, GHD

Workshop Vice Chair Shannon Cavanaugh, Brown and Caldwell

Workshop Facilitator(s) Amanda Lake, Jacobs; Mikkel Andersen, Unisense Environment AS; Kartik Chandran; Mark Zondlo, Princeton University; Robert Swanson, MWRDGC; Chandra Baker, The Regional Municipality of Halton; Liu Ye, The University of Queensland

Description:

Nitrous oxide (N₂O) is a sign of stressed nitrification and biomass 'unhappiness' and is a potent greenhouse gas. N₂O in activated sludge and biological nutrient removal systems must be measured to understand how it relates to a facility's operating conditions. Hosted at the Stickney Water Reclamation Plant, participants will experience a practical introduction to N₂O measurement and mitigation. Participants will interact with N₂O measurement technology demonstrations focusing on operations, maintenance, and troubleshooting.

Agenda:

- 8:00 AM **Bus to Stickney WRP from Convention Center**
- 8:30 AM **Attendees to Auditorium**
- 8:45 AM **Welcome and Why Measure N₂O?**
J. Kraemer
- 9:00 AM **Icebreaker Activity**
J. Kraemer
- 9:20 AM **N₂O Measurement Campaigns**
S. Cavanaugh
- 9:40 AM **Networking Break**
- 10:00 AM **N₂O Measurement World Café**
J. Kraemer; M. Andersen; K. Chandran; M. Zondlo; L. Ledermann
- 12:00 PM **Lunch Break**
- 1:00 PM **Utility Case Studies**
S. Cavanaugh; R. Swanson; C. Baker; L. Ye
- 2:45 PM **Data Management & Visualization**
J. Kraemer
- 3:00 PM **Networking Break**
- 3:30 PM **Global N₂O Experiences**
A.Lake
- 3:50 PM **Closing Remarks**
J. Kraemer
- 4:00 PM **Board Bus back to Convention Center**
- 5:00 PM **Arrive at Convention Center**

W13 Game-Based Modeling of Water Resource Recovery Facilities

Workshop Chair Mark Miller, Brown and Caldwell

Workshop Vice Chair Heather Stewart, Jacobs

Workshop Facilitator(s) Christopher Bye, EnviroSim Associates; Tanush Wadhawan, Dynamita North America; Jacob Barclay, Hatch; Mirzaman Zamanzadeh, inCTRL Solutions; Enrico Remigi, DHI; Rajeev Goel, Hydromantis ESS, Inc.

Description:

The objective of this workshop is to provide a high-level understanding of the most widely used, commercially available modeling platforms including BioWin, SUMO, SIMBA#, GPS-X, and WEST for individuals who are interested in learning how models are used and applied for the design, operation, and optimization of water resource recovery facilities. The intent is not to teach the attendees how to use any one software package or build a specific plant model, but rather to demonstrate the capabilities and limitations of all the modeling platforms through an interactive game-based approach.

Agenda:

8:30 AM	Welcome and Introductions M. Miller
8:40 AM	Why Do We Use Process Models? H. Stewart
9:00 AM	Overview of Process Simulation Software and Description of Gaming Station
10:00 AM	Networking Break
10:30 AM	1st Gaming Station & 2nd Gaming Station
12:00 PM	Lunch Break
1:30 PM	3rd Gaming Station
2:15 PM	4th Gaming Station
3:00 PM	Networking Break
3:30 PM	5th Gaming Station
4:15 PM	Wrap-up and Announce Winners H. Steward

W14 Leveraging Algae to Provide Cost-Effective Treatment Solutions for Your Community

Workshop Chair Timothy Gualandri, Fox River Water Reclamation District

Workshop Vice Chair Kevin McGraw, Algaewheel

Workshop Facilitator(s) Daniel Johnson, Algaewheel; Jens Dancer, Gross-Wen Technologies; Anthony Theodorou, Benesch; Phil Gates, Gross-Wen Technologies; Steve Wirtel, Gross-Wen Technologies; Franklin Jakubow, Fox River Water Reclamation District; Lance Schideman; Lucas Elsbernd, Fehr Graham

Description:

Come learn how to design an algae-based wastewater system to meet strict carbonaceous biochemical oxygen demand and nutrient limits, while decreasing energy use, operation and maintenance costs, and greenhouse gas emissions. Algae-based systems have been operating in the

United States for more than 15 years and meeting U.S. EPA NPDES standards. This workshop will offer interactive opportunities with consulting engineers, owners, and manufacturers who will help participants design and implement algae-based wastewater treatment systems.

Agenda:

- 8:30 AM **Introduction to Workshop and Open Interactive with Small Groups**
T. Gualandri; K. McGraw
- 9:00 AM **Primary Principles of Algae Based Systems**
D. Johnson
- 9:30 AM **Go-Fish for Algae Based FACTS**
- 10:00 AM **Networking Break**
- 10:30 AM **Case Study: One Water**
A.Theodorou; L. Elsebernd
- 11:15 AM **Case Study: GWT**
J. Dancer
- 12:00 PM **Lunch Break**
- 1:30 PM **Technology Providers Demonstration Booths: OneWater & GWT**
- 2:30 PM **Case Study: Pilot Program at Fox River WRD for Sidestream Nutrient Removal**
F. Jakubow
- 3:00 PM **Networking Break**
- 3:30 PM **Build Your Own Algae Based System**
- 4:00 PM **Groups Explain their System**
- 4:30 PM **A Look Into the Future Benefits of Using Algae Based Treatment**

W15 Controlling PFAS by Membrane Technologies

Workshop Chair Val Frenkel, TYLin

Workshop Vice Chair John Peichel, Veolia

Workshop Facilitator(s) Christopher Bryan; Eva Steinle-Darling, Carollo; Justin Mattingly, WEF; Elaine Towe, Veolia Water Technologies; Christian Scott

Description:

Join our 'Controlling PFAS by Membrane Technologies' workshop to explore the role of membrane technologies in addressing PFAS contaminated waters. This workshop covers membrane functionality, application scenarios, and PFAS disposal strategies. By focusing on some real-world water chemistries, attendees will learn and work collaboratively to select solutions to challenges involving the use of membranes to treat PFAS.

Agenda:

- 8:30 AM **Introduction**
V. Frenkel
- 9:00 AM **PFAS Removal by High Pressure Membranes: RO and NF – Basics**
Y. Cohen
- 10:00 AM **Networking Break**
- 10:30 AM **PFAS Removal by High Pressure Membranes: RO and NF – Fact Sheets**
E. Steinle-Darling

- 11:00 AM **Applications and Operation of High-Pressure Membranes to Address PFAS**
Y. Cohen; E. Steinle-Darling; E. Towe
- 12:00 PM **Lunch Break**
- 1:30 PM **PFAS Disposal: How Do We Deal with RO Concentrate (and destruction of PFAS)**
J. Peichel
- 2:00 PM **Hot Topic 1: PFAS Regulations**
J. Mattingly
- 3:00 PM **Networking Break**
- 3:30 PM **Hot Topic 2: Addressing PFAS – Industry Perspectives**
C. Bryan
- 4:20 PM **What the Future Holds: Expert Roundtable**
V. Frenkel; C. Scott
- 4:50 PM **Wrap-up**
V. Frenkel

W16 A Climate Adaptation Workshop: Building a Resilient Future

Workshop Chair Nitin Katiyar, HDR Inc

Workshop Vice Chair Bianca Pinto, WEF

Workshop Facilitator(s) Janel Hanrahan, RTI International; Anouk Savineau, LimnoTech

Description:

Communities nationwide are already experiencing the impacts of climate change, which is increasingly straining the resilience of utility systems. This workshop will equip participants with a methodology to assess the potential impacts of climate change, even those beyond their direct experience. By visualizing 'what-if' scenarios, participants can explore and evaluate viable adaptation options to address both current and future climate challenges. The workshop will also showcase successful examples of climate adaptation measures.

Agenda:

- 8:30 AM **Climate Resilience Basics**
N. Katiyar
- 8:45 AM **NOAA Atlas 15**
J. Hanrahan
- 9:15 AM **Work Session: Applying Increased Rainfall Patterns/Curves**
- 10:00 AM **Networking Break**
- 10:30 AM **Nature Based Solutions**
B.C. Suedel
- 11:00 AM **Work Session: Applying Nature-based Solutions**
- 12:00 PM **Lunch Break**
- 1:30 PM **Fluvial and Pluvial Resilience**
American Society of Adaptation Professionals
- 2:00 PM **Work Session: Applying Resilience on Non-coastal/Inland Cities**
- 3:00 PM **Networking Break**
- 3:30 PM **Compound Impact on Coastal Cities and Resilience**
Miami-Dade County

4:00 PM **Work Session: Applying Resilience on Coastal Cities**

4:50 PM **Wrap-up**

W17 Thermal Drying: State of the Practice, Advancements, and Future Applications

Workshop Chair John Ross, Brown and Caldwell

Workshop Vice Chair Jody Barksdale, Carollo; Chip Pless, WM

Workshop Facilitator(s) Natalie Sierra, MMSD; Webster Hoener, Black & Veatch; Sean Murnan, NEFCO; Adrian Romero, Jacobs; Greg Hyde, JMS; Vincent Apa, CDM Smith; Patrick Mcnamara, Marquette University

Description:

Given rising disposal costs and regulations, many utilities are considering biosolids drying to create sustainable solutions. This workshop will unite operators, technologists, and engineers to explore drying technologies, considerations for dryer implementation, and future areas of collaboration. Focus will be given to how dryers can be successfully integrated into existing utility programs and water resource recovery facilities and future considerations for drying technology advancement, including compatibility with PFAS treatment.

Agenda:

8:30 AM **Introduction and Workshop Objectives**

J. Ross

8:35 AM **First Interactive Session: Live Poll**

J. Ross

8:45 AM **Thermal Dryers 101: Technology Overview**

C. Pless

9:15 AM **Interactive Session Preparation: What Questions Do You Have About Drying?**

C. Pless

9:25 AM **Second Interactive Session: Dryer Technology Shark Tank**

C. Pless

10:00 AM **Networking Break**

10:30 AM **Case Study Panel Discussion: Dried Product Management Program Implementation**

N.Sierra

11:10 AM **Third Interactive Session: Breakout Problem Solving – Where Do Thermal Dryers Make Sense?**

J. Ross

11:50 AM **Problem Solving Report Out**

J. Ross

12:00 PM **Lunch Break**

1:00 PM **Case Study: Life Safety and DHAs**

W. Hoener

1:20 PM **Case Study: Integrating Dryers with Upstream Processes**

S.Muman

- 1:40 PM **Case Study: Dryer Energy System Planning and Integration**
A.Romero
- 2:00 PM **Case Stud(ies): Cake and Dried Product Handling**
G. Hyde
- 2:20 PM **Fourth Interactive Session: Case Study Analysis – Integration with Existing WRRFs**
J. Barksdale
- 2:50 PM **Case Study Analysis Report Out**
- 3:00 PM **Networking Break**
- 3:30 PM **Dryer Integration with High Temperature Processes**
V. Apa
- 3:50 PM **Case Study: Post-Dryer High Temperature Process Implementation**
- 4:10 PM **Fate of PFAS through Biosolids Dryers and Implications**
P. McNamara
- 4:30 PM **Fifth Interactive Session: Future Areas of Study and Industry Advancement**
- 4:45 PM **Interactive Session Report Out**
- 5:00 PM **Workshop Closing**
J. Ross

W18 Transform Your Leadership: A Growth Plan for Everyone

Workshop Chair Lisa Melton

Workshop Vice Chair Michael Martin, Milwaukee Metropolitan Sewerage District

Workshop Facilitator(s) Michele Farmer, WSP; Grant Zebold, Lamp Rynearson; Nicole Brown, GFT; Tracy Ekola, Brown and Caldwell; Andrew Kricun, Moonshot Missions; Tim Runde, City of Des Moines Metro WRA-WRF

Description:

Effective leadership starts with identifying and refining your innate strengths. In this workshop, we'll guide you in developing a personalized Leadership Development Plan that aligns with your career and personal goals. Through self-assessments, career mapping, and leadership coaching, you'll gain the insight and tools to progress as a leader. Whether you are new to the wastewater industry or have extensive experience, this workshop is designed to help chart your unique leadership journey.

Agenda:

- 8:30 AM **Welcome/Overview**
L. Melton
- 8:35 AM **Introductory Activity**
M. Martin
- 8:50 AM **Setting the Framework**
M. Martin; L. Melton
- 9:00 AM **Myers Briggs (Session 1)**
M. Farmer
- 10:00 AM **Networking Break**
- 10:30 AM **Myer Briggs (Session 2)**
M. Farmer

- 12:00 PM **Lunch Break**
- 1:30 PM **Career Mapping Introduction (Session 3)**
G. Zebold
- 2:30 PM **Individual Leadership Plan Development**
- 3:00 PM **Networking Break**
- 3:30 PM **Leadership Coaching (Session 4)**
- 4:45 PM **Wrap-up/Feedback**
L. Melton
- 5:00 PM **Conclude**

W19 Biogas to Renewable Natural Gas: System Startups and Safety Protocols

Workshop Chair Jeff Prevatt, Pima County Regional

Workshop Vice Chair Silvia Fuentes, Washington Suburban Sanitation Commission-Laboratory

Workshop Facilitator(s) Erika Bailey, City of Raleigh; Kristen Wisdom, Hazen and Sawyer

Description:

This workshop will highlight the challenges encountered during the startup and commissioning of two biogas upgrading technologies and lessons learned, with an emphasis on the establishment of safety practices associated with the generation of biogas and upgrading to renewable natural gas. Interactive activities will include a discussion of strategies and equipment used for leak detection and exercises for purging systems out of service for maintenance and service purge training protocols, all with active roles for participants.

Agenda:

- 1:30 PM **Welcome and Introductions**
A. Fuentes; J. Prevatt
- 1:40 PM **Startup and Commissioning of Biogas to RNG Systems**
E. Bailey; A. Fuentes
- 2:30 PM **Biogas and RNG Safety Protocols**
J. Prevatt; A. Fuentes; E. Bailey
- 3:00 PM **Networking Break**
- 3:30 PM **System Maintenance & Purge Procedures**
A. Fuentes; J. Prevatt
- 4:30 PM **Lesson Learned Group Interaction**
A. Fuentes; E. Bailey

W20 Facility Tours: Communicating with Public Officials (Off-site)

Workshop Chair Kimberly Worsham, Facilitated Learning for Universal Sanitation and Hygiene LLC

Workshop Vice Chair Shea Dunifon, JEA

Workshop Facilitator(s) Adam Gronski; Joseph Cummings; Julianne LaRock

Description:

Negative headlines shouldn't be the reason the public wonders where their wastewater goes. Facility tours provide good publicity and empower your community. What's more people want to see the

magic of water resource recovery facilities! This workshop focuses on exchanging practical information from seasoned experts (an operator, an engineer, and an educator) to participants new to giving facility tours and/or those who already give tours but desire to make lasting connections with their communities.

Agenda:

- 8:30 AM **Travel from Convention Center**
- 9:00 AM **Introductions & Safety Briefing**
A. Gronski; J. Cummings
- 9:10 AM **Reading the Room: The Basics of Community Engagement**
S. Dunifon
- 9:30 AM **Breakout Activity 1**
- 9:45 AM **Understanding Your Environment**
A. Gronski; J. Cummings
- 10:45 AM **“Making Wastewater” Demonstration**
S. Dunifon
- 11:00 AM **Make it Stick: Impactful Storytelling that Keeps People Happy**
K. Worsham
- 11:20 AM **Questions for the Experts**
- 11:30 AM **Return to Convention Center**