

2023 Western Washington Short School

Event Schedule

Tue, Jun 06, 2023

7:00 AM

Morning Coffee & Registration

🕒 7:00 AM - 7:30 AM, Jun 6

General

7:30 AM

Understanding the Lead and Copper Rule Revisions

🕒 7:30 AM - 8:30 AM, Jun 6

📍 1A - Regulations

Track 1

The USEPA has updated the Lead and Copper Rule with a number of key revisions. This presentation provides information on these revisions and how drinking water utilities need to be prepared for these mandatory changes.

🗣️ Speaker



Pierre Kwan

Water Treatment Technical Director
HDR

Performance-Based Specifications for Sewer Cleaning & Inspection Leveraging AI & Cloud Technologies: Case Studies & Lessons Learned

🕒 7:30 AM - 8:30 AM, Jun 6

📍 1B - Data Management

Track 2

As Artificial Intelligence (AI) computer vision technologies continue to emerge in the sewer inspection and condition assessment space, these Automated Defect Recognition (ADR) tools have started to influence how contractors approach internal costs and estimating for competitive public works sewer CCTV and cleaning bids. The paper will summarize historical trends in CCTV inspection, including legacy technologies and workflows, and provide a summary of case studies that offer a comparison to workflows and tools now available due to emerging AI and cloud technologies for sewer assessment and collaboration for capital planning and selecting optimal methods for trenchless infrastructure renewal. Beneficial aspects of these new technologies will be shared, as well as limitations and lessons learned from real-world implementations of AI/ADR tools and cloud-based means for storing, sharing, and reviewing sewer inspection data.

🗣️ Speaker



Eric Sullivan

Director of Business Development
SewerAI

OpCert Program Updates

🕒 7:30 AM - 8:30 AM, Jun 6

📍 1C - Wastewater Certification

Track 3

I will introduce the OpCert program staff and discuss what we do, introduce the technical operators and discuss what they do, talk about the operator in training certification for all Group levels, and discuss the requirements to be an operator.

🗣️ Speaker



Poppy Carre

Wastewater Operator Certification State Coordinator
WA Dept of Ecology

Rate Setting Fundamentals

🕒 7:30 AM - 8:30 AM, Jun 6

📍 2A - Utility Management / Leadership

Track 4

This session will review the key steps of a utility rate study from understanding your community's sensitivities and priorities to aligning your rate structures with your goals and objectives. Key to long-term sustainability is understanding the total costs of your systems including system reinvestment. This session will provide a framework to help you build a multi-year financial plan and assess what your rates can support today and where they may need to go in the future to keep your systems in good repair and continue to provide safe and reliable utility services.

🗣️ Speaker



Sergey Tarasov

Principal
FCS GROUP

Wastewater

🕒 7:30 AM - 8:30 AM, Jun 6

📍 2B - Treatment

Track 5

2 Subsessions

● **Using Augmented Dry Weather Flows for Performance Testing of a new Satellite Wet Weather Treatment Station**

🕒 7:30 AM - 8:00 AM, Jun 6

● **Washington Wastewater-Based Epidemiology Program: What is it?**

🕒 8:00 AM - 8:30 AM, Jun 6

8:30 AM

Break

🕒 8:30 AM - 8:40 AM, Jun 6

General

8:40 AM

LCRR - Are you ready?

🕒 8:40 AM - 9:40 AM, Jun 6

📍 1A - Regulations

Track 1

With the Environmental Protection Agency's (EPA's) recent publishing of Lead and Copper Rule Revision (LCRR), utilities now need to understand what material their system's service lines are made of, including both the public and private sides. Many utilities do not have sufficient service line information in their digital system. This presentation will explain the digital strategies from using GIS data and a meter replacement programs to machine learning to inventory their services lines and tackle the unknowns. We will include examples how others are tackling this challenge. The audience will leave with knowledge of innovative ways to conduct materials inventories and achieve LCRR compliance.

 Speaker



Steven Drangsholt

Account Executive
Trinnex

Treatment Plant Data Management and Visualization

🕒 8:40 AM - 9:40 AM, Jun 6

📍 1B - Data Management

Track 2

Data visualization and advanced data analytics, machine learning, and AI are rapidly developing tools. Yet most facilities lack the basic infrastructure to easily view available data let alone making the leap to employ these emerging analytical tools. Many treatment plants lack some of the most basic data management capabilities like plotting SCADA originated data against lab or operations data. This presentation discusses the data management infrastructure necessary to assess unit process and equipment performance as well as how this data can be visualized such that it can aid day to day operation, provide decision support, generate DMRs, keep tabs on assets as well as compliance, and how to make all this information accessible to anybody within a utility as well as external stake holders without raising IT security concerns.

 Speaker



Mario Benisch

Process Engineer
HDR

Basic wastewater math

🕒 8:40 AM - 9:40 AM, Jun 6

📍 1C - Wastewater Certification

Track 3

I have compiled slides to help teach operators the basics of math. starting with unit conversions and surface areas. I teach attendees how to work with standard formulas and the Davidson pie wheel. The presentation gradually works into more complex math problems helping prepare operators for certification test. The class is geared toward wastewater operators but has pump, tank volume, and chemical dosing that water operators will find useful.

 Speaker



Joseph Carter

Wastewater Facility Manager
Alderwood Water and Wastewater District

Leadership

🕒 8:40 AM - 9:40 AM, Jun 6

📍 2A - Utility Management / Leadership

Track 4

2 Subsessions

● **Lessons in Leadership**

🕒 8:40 AM - 9:10 AM, Jun 6

● **Using Reliability Principles To Discover Design Blind Spots**

🕒 9:10 AM - 9:40 AM, Jun 6

Water Treatment and Storage

🕒 8:40 AM - 9:40 AM, Jun 6

📍 2B - Treatment

Track 5

2 Subsessions

● **Baffled by tracer testing? How to achieve success for your next tracer test.**

🕒 8:40 AM - 9:10 AM, Jun 6

● **Considerations in Large Reservoir Planning & Design**

🕒 9:10 AM - 9:40 AM, Jun 6

9:40 AM

Networking Break / Trivia

🕒 9:40 AM - 10:10 AM, Jun 6

General

10:10 AM

Regulations

🕒 10:10 AM - 11:10 AM, Jun 6

📍 1A - Regulations

Track 1

2 Subsessions

● **Ecology's Permit Development Process**

🕒 10:10 AM - 10:40 AM, Jun 6

● **Navigating Laboratory Accreditation: Renewals, PTs, and SOP's**

🕒 10:40 AM - 11:10 AM, Jun 6

AMI Options and Water Intelligence Platforms

🕒 10:10 AM - 11:10 AM, Jun 6

📍 1B - Data Management

Track 2

The technology to read water meters is changing rapidly. New Technologies like LoraWAN and Cellular AMI may now allow even small systems to afford AMI technology. In addition, new battery powered technologies that can turn an AMI system into a Water Intelligence Platform, which leverage AMI consumption data to help reduce water loss, improve capital plans, and reduce costs.

🗣️ **Speaker**



Matt Zellers

Territory Manager
Mueller

Wastewater Treatment

🕒 10:10 AM - 11:10 AM, Jun 6

📍 1C - Wastewater Treatment

Track 3

2 Subsessions

● **Chlorine ring for secondary clarifier algae control**

🕒 10:10 AM - 10:40 AM, Jun 6

● **Solving Chlorination Problems Through Operator Innovation. Chlorine Ring & Chloramine System Solves Disinfection & Algae Problems.**

🕒 10:40 AM - 11:10 AM, Jun 6

King County Operator Training Program

🕒 10:10 AM - 11:10 AM, Jun 6

📍 2A - Utility Management / Leadership

Track 4

The King County Operator in Training (OIT) Program participants learn the basics of wastewater treatment for the first three months of the program. At the end of the 3 months the OIT's enter into the rotational phase of the program where they rotate to shift work, Day Operations, Maintenance and Lab. The OIT's must obtain within 6 months their OIT license.

At the end of one year of operating experience and becoming an Operator, they will compete for operation positions in one of King County facilities.

This presentation will discuss the King County hiring and training process.

🗣️ Speaker



Jim Pitts

Wastewater Supervisor - Training
King County WTD

Wastewater Treatment Aeration Applications and Blower Technologies

🕒 10:10 AM - 11:10 AM, Jun 6

📍 2B - Treatment

Track 5

2 Subsessions

● Is Polymer Your Problem? New Selection Criteria for Sludge Thickening

🕒 10:10 AM - 10:40 AM, Jun 6

● Nutrient Recovery and Struvite Mitigation in Pima County, AZ, with NuReSys Technology

🕒 10:40 AM - 11:10 AM, Jun 6

11:10 AM

Lunch Break

🕒 11:10 AM - 12:10 PM, Jun 6

General

12:10 PM

Mechanical Seal Fundamentals; Basic Components, 5 Key Features of a Reliable Seal Design, Application Best Practices & Innovations in Water Savings

🕒 12:10 PM - 1:10 PM, Jun 6

📍 1A - Pump Stations

Track 1

The course will cover the basic components of a mechanical seal and provide understanding of the 5 Key Features of a Reliable Seal Design. Application Best Practices will be reviewed to support increased knowledge and assist with improved seal performance. Presentation also includes a brief overview of latest innovations and technologies that support water savings.

🗣️ Speaker



Eric Costner

Area Manager - Pacific Northwest
A. W. Chesterton

CCC Considerations for Reclaimed Water

🕒 12:10 PM - 1:10 PM, Jun 6

📍 1B - Water Reuse

Track 2

This session will provide an overview of the relationship between regulator, water (drinking and wastewater) purveyors, and customers of reclaimed water. Cross connection control rules will be the basis for discussion while "real-world" examples demonstrate relevancy to the audience.

🗣️ Speaker



Bill Bernier

Operator Certification and Training Section Manager
Washington State Department of Health

What is new in the world of electronic O&M manuals

🕒 12:10 PM - 1:10 PM, Jun 6

📍 1C - Asset Management

Track 3

This presentation will look at some of the new advances in building and displaying new electronic O&M manuals for water and wastewater facilities.

🗣️ Speaker



Ed Griffenberg

Senior Operations Specialist
HDR

The Recruitment Crisis in the Water Environment Profession

🕒 12:10 PM - 1:10 PM, Jun 6

📍 2A - Utility Management / Leadership

Track 4

There is a great struggle in the water environment industry to attract facility operations staff. This includes operators, trades, laboratory, and all the staff needed to effectively run these facilities. The most common answer given by managers when asked where they look to recruit staff is other facilities. As an industry we need to find a way to rethink describing, marketing, and selling facility O&M as a profession and career in Environmental Science and Protection. This session proposes a series of presentations from facility management, community college representatives, and high school career counselors with a Q and A and panel discussion on how to appeal to various pools of potential recruits.

🗣️ Speaker



Chris Maher

Operations Analyst
Clean Water Services

Chlorine Residuals Testing Lab Skills Class - Part 1

🕒 12:10 PM - 1:10 PM, Jun 6

📍 2B - Distribution Systems

Track 5

Provide drinking water operators with a better understanding of good chlorine measurement techniques and why they matter. Provide operators with hands on lab skills to answer the question: How do I know my instrument is working?

 Speaker




Steve Deem

Distribution System Engineering Specialist
WSDOH

1:10 PM


Break

 1:10 PM - 1:20 PM, Jun 6

General

1:20 PM

Mechanical Seal Environmental Controls; Seal Support Systems, Seal Flush Plans and Water Conservation Best Practices

 1:20 PM - 2:20 PM, Jun 6

 1A - Pump Stations

Track 1

The course will cover the fundamental aspects and objectives of mechanical seal, environmental controls and provide understanding of the relative features. Application Best Practices will be reviewed to support increased knowledge and assist with improved seal performance through environmental controls. Presentation also includes an overview of how environmental control technologies support water savings.


 Speaker



Eric Costner

Area Manager - Pacific Northwest
A. W. Chesterton

Using Research to Inform Community Decisions about Reclaimed Water Use

 1:20 PM - 2:20 PM, Jun 6

 1B - Water Reuse

Track 2

Contaminants of Emerging Concern (CECs) is the term applied to a broad array of trace chemicals that come from consumer, commercial and industrial products that are measurable in the environment. CECs are generally unregulated. Wastewater effluent and recycled water has been identified as a potential source of CECs. This session will describe CEC research projects being done to examine CEC presence in recycled water and the risk of CEC exposure from uses of recycled water for food crop irrigation and groundwater recharge. The research study design will be presented along with preliminary research results. The session will describe how research is being shared within the community and informing community discussions about the future of reuse in the respective regions. These presentations will provide a research and communication framework for communities that can be applied in discussing CECs and risk.


 Speaker



Jacque Klug

Nutrient Management Coordinator
King County Wastewater Treatment Division

Recommissioning

 1:20 PM - 2:20 PM, Jun 6

 1C - Asset Management

Track 3

In this presentation, we will explore the concept of recommissioning water and wastewater facilities to enhance their energy efficiency and resilience. Water and wastewater treatment plants are energy-intensive facilities, which consume a significant amount of electricity and other resources to operate. Recommissioning is an approach to optimize existing infrastructure, improve efficiency and reliability, and reduce operational costs.

Overall, the presentation aims to provide attendees with a comprehensive understanding of the recommissioning process and the benefits it can bring to water and wastewater facilities, as well as inspire them to explore the potential of recommissioning in their own organizations.

🔊 Speaker



Angela Templin

Angela Dawn Templin
Angela Dawn Templin

Creating a Culture of Preparedness

🕒 1:20 PM - 2:20 PM, Jun 6

📍 2A - Utility Management / Leadership

Track 4

Water installations, and other critical infrastructure, enable society to maintain quality of life in our communities. This mission is becoming increasingly complex, and threats become more sophisticated. The need to create resilience plans which take into consideration a full array of inputs has never been clearer. To be prepared, today's critical infrastructure requires a multi-disciplined approach. This includes inputs from engineers, security professionals, emergency managers, climate scientists, and others. Limiting damage involves building codes that cover structural contingencies, and industrial regulations sufficient to mitigate known risk. Additionally, resilient systems design must consider security implications and include forward thinking emergency planning, leadership, and broad stakeholder engagement.

Drawing from real world examples, industry best practice, and academia, this presentation will discuss the key elements and considerations facility managers can use to mitigate, prepare, respond, and recover from crisis.

🔊 Speaker



Shawn Corrigan

Vice President
Carollo Engineers

Chlorine Residuals Testing Lab Skills Class - Part 1

🕒 1:20 PM - 2:20 PM, Jun 6

📍 2B - Distribution Systems

Track 5

Provide drinking water operators with a better understanding of good chlorine measurement techniques and why they matter. Provide operators with hands on lab skills to answer the question: How do I know my instrument is working?

🔊 Speaker



Steve Deem

Distribution System Engineering Specialist
WSDOH

2:20 PM

Break

🕒 2:20 PM - 2:30 PM, Jun 6

General

2:30 PM

Pump Vibration Causes and Remedies

🕒 2:30 PM - 3:30 PM, Jun 6

📍 1A - Pump Stations

Track 1

Excessive pump vibration can be determinantal to the reliability of waste and drinking water pumps. Identifying pump vibration issues and correcting the issues will reduce maintenance cost and increase the reliability of pumps. This presentation will identify the typically causes of excessive vibration, how vibration issues are identified, and how to correct vibration issues with pumps.

🗣️ Speaker



Noel Frederick

Engineer
AVS Engineering, LLC

Brightwater Sodium Hypochlorite and Chloramination Considerations

🕒 2:30 PM - 3:30 PM, Jun 6

📍 1B - Water Reuse

Track 2

Brightwater Reclaimed Water System has experienced difficulties in maintaining a chlorine residual in the distribution system and is planning to switch to chloramination of the reclaimed water. This presentation cover chloramination chemistry, sodium hypochlorite properties, hypochlorite feed options, fire and building code considerations and analyzers.

🗣️ Speaker



Milt Larsen

Senior Engineer
Kennedy Jenks

Pipe Defect Evaluation and Trenchless Repairs

🕒 2:30 PM - 3:30 PM, Jun 6

📍 1C - Asset Management

Track 3

Over the past two years, the City of Bellevue Utilities Department (City) has requested the assistance of the Jacobs Engineering Group (Jacobs) and David Evans and Associates (DEA) to address the City's backlog of sewer and storm drain pipe (asset) defects. To address this backlog, Jacobs and DEA developed separate "dig and repair" and "trenchless" construction contract packages.

The scope of these projects is broken down into the following tasks:

• Prioritization of assets in City's database (Jacobs)

• Evaluation of City-selected assets (DEA)

• Design of repairs (trenchless - DEA and dig and repair - Jacobs)

• Construction management of repairs (trenchless - DEA and dig and repair - Jacobs)

This presentation will focus on evaluation and trenchless repairs.

After the City identifies the assets to be included in the project, DEA was tasked with leading the evaluation phase. The first and most important evaluation step was to setup a large master spreadsheet and file folders to track all information for each asset. The second step was to review each asset's closed circuit television (CCTV) video inspection from the City's records. These reviews were done prior to looking at any of the City's review comments or design recommendations so that a fresh perspective could be had. While watching each CCTV, first the asset location, diameter, material, and length were noted and then very detailed notes were taken on the type and location of any pipe defects. If additional CCTV was needed, that was requested from the City.

Either at a later date or concurrently to the CCTV review, a site visit was completed for each asset that included a topographic survey, structure measurements, and photos. All of the evaluation information was then used to determine if a trenchless repair or dig and repair was the most suitable approach.

For design of the asset's defects using trenchless repairs, the evaluation information was then used to determine which method of repair(s) were recommended: cured-in-place pipe (CIPP) full length liner, CIPP spot repair liner, CIPP tee/lateral liner, or pipebursting. Once a method was selected, construction plans and specifications were prepared for City review and approval.

Speaker



Craig Christensen

Project Manager
David Evans and Associates, Inc.

Overcoming the Challenges of Staff Scheduling

🕒 2:30 PM - 3:30 PM, Jun 6

📍 2A - Utility Management / Leadership

Track 4

Pierce County has a fairly common situation of required 24/7 staffing for operators. The schedule, which evolved over many years, allowed for lots of overtime but resulted in exhausted operators with an unsatisfactory work/life balance. Although this schedule gained operators more overtime, it had significant impacts to their health and made it difficult to attract and retain new employees.

Join us as we detail the path to optimize plant staffing and scheduling, with good labor relations, and balanced decision making.

Speaker



Jeremy Carnahan

Operations Supervisor
Pierce County

Chlorine Residuals Testing Lab Skills Class - Part 1

🕒 2:30 PM - 3:30 PM, Jun 6

📍 2B - Distribution Systems

Track 5

Provide drinking water operators with a better understanding of good chlorine measurement techniques and why they matter. Provide operators with hands on lab skills to answer the question: How do I know my instrument is working?

 **Speaker**




Steve Deem

Distribution System Engineering Specialist
WSDOH

Wed, Jun 07, 2023

7:00 AM


Morning Coffee & Registration

 7:00 AM - 7:30 AM, Jun 7

General

7:30 AM

Wastewater Chemistry: 101

 7:30 AM - 8:30 AM, Jun 7

 1A - Treatment

Track 1

This presentation will cover the basics of wastewater chemistry, including pretreatment, odor in collection systems, polymeric flocculation of suspended solids, and chemical phosphorous removal.


 **Speaker**



Doug Kelley

President
Inland Environmental Resources

The Hitchhiker's™ Guide to Control Systems and the Quest for Intelligent Systems

 7:30 AM - 8:30 AM, Jun 7

 1B - Instrumentation and Controls

Track 2

Control systems are woven into the fabric of our society. We have become accustomed to their benefits, and typically don't recognize them until they are inactive. In industry, control systems connect processes to form a hierarchical structure serving as the foundation for the modern supervisory control and data acquisition (SCADA) system, giving us the ability to control these processes remotely and autonomously. As the size and complexity of SCADA systems grow to meet our societal and capital demands, our ability to process data and make decisions at speeds to keep up with these demands safely and securely decreases. This results in our quest to build systems with intelligence capable of learning and advising us or adapting in a predictive manner to make autonomous decisions on our behalf. In this session, we will review the framework and approach required to retool existing control systems and to build new control systems to achieve an intelligence capable structure.


 **Speaker**



Bruce M. Johnston

Sr Controls Engineer
HDR Inc

Water Loss Reduction - Practical Approaches

 7:30 AM - 8:30 AM, Jun 7

 1C - Distribution Systems

Track 3

We will begin the presentation by defining some of the terms in the water industry today, such as non-revenue water, transients, background leakage, district metering areas, and asset management. We will then introduce the M36 Manual from AWWA and dive into tactics for reducing annual real losses in a distribution system. The first will be a discussion on the speed and quality of repairing existing leaks. We will review current best practices for repairing leaks that are reported along with innovations in the repair industry. The next section will focus on pressure zones and creating district metered areas. Hydraulic control valve operation and maintenance will be highlighted in this section, along with techniques for using pressure to reduce economic real losses. The next section will be on active leakage control. We will look at current methods available for locating un-reported existing leaks in a distribution system using non-acoustic methods. We will then look at acoustic methods and compare tactical field equipment versus fixed systems. The last section will be on creating and updating pipeline replacement programs. We will review different pipe condition assessment methods that are available today. We will conclude with the asset management inverted pyramid approach to long-term planning.


 **Speaker**



Mike Uthe

Northwest Manager; Technology
Mueller Water Products

Introduction to Asset Management

 7:30 AM - 8:30 AM, Jun 7

 2A - Asset Management

Track 4

What is AM, really, and how to take the next step in your journey to excellence.


 **Speaker**




Tammy Whipple

Principal Consultant
AMCL

Production Well Installation and Testing from A to Z Presentation Duration (hour blocks) 1 hour

 7:30 AM - 8:30 AM, Jun 7

 2B - Wells

Track 5

The presentation will focus on what the water system operator needs to know to successfully complete the process of installing and testing a new public water supply production well. The presentation will discuss: (1) well drilling specifications and bid documents, (2) Department of Health and Ecology interaction, (3) site access and well sitting issues, (4) site disruption and repair issues associated with drilling the well, and (5) pump testing of the well and discharge water disposal issues.

 **Speaker**




Jay Chennault

Principal Hydrogeologist
Associated Earth Sciences, Inc.

8:30 AM


Break

 8:30 AM - 8:40 AM, Jun 7

General

8:40 AM

Optimizing Polymer Mixing and Activation: Following the Science

 8:40 AM - 9:40 AM, Jun 7

 1A - Treatment

Track 1

Despite the wide-spread use of polymers in water and wastewater treatment and their associated high recurring expense, understanding exactly how to optimize polymer use in water and wastewater treatment is not well understood. With many equipment options available to operators, it makes sense to start with the basics of polymer chemistry and then apply those principles to polymer activation equipment options. This discussion will review the basics of polymer chemistry, goals of activation, the development of polymer mixing equipment and equipment configuration basics.

Speaker



Ethan Brooke
Regional Manager
UGSI Solutions

Our Role in the Massive Energy Transition Now Underway

8:40 AM - 9:40 AM, Jun 7

1B - Climate and Energy

Track 2

For over 400 years, our energy use and infrastructure has centered mainly on burning the remains of living things that died a few hundred million years ago. In the course of the next 50 years, there will be a profound shift towards energy derived from sources that don't involve combustion. This presentation will briefly explain the big picture of the energy transition and the magnitude of the issue, both regionally and nationally. We will then discuss how water and wastewater facilities and organizations can play an active role in helping this massive transformation take place. It starts with low- and no-cost changes that we can implement in our facilities to reduce our use of energy. This helps the grid deploy renewables more rapidly (and I'll explain how) while lowering our monthly costs. We can also be active players in the load-shifting and load-shedding space, and I'll share some ideas and practices from facilities that have participated in programs. Again, this helps the grid by reducing localized congestion, and it usually provides revenue, too. On a more capital intensive note, facilities that utilize anaerobic digestion have a window in time now where renewable gas projects can be incredibly cost-effective and may be one of the last places where we will see combustion continue. I will share some of the interesting projects that have recently been completed and describe some of the pros and cons of various procurement methods. Finally, we will discuss some "emerging attractions" in the energy space that may have a profound impact on biosolids drying and disposal.

Speaker



Layne McWilliams
Principal Consultant, Climate Change & Resiliency
Parametrix

Ductile Iron Pipe

8:40 AM - 9:40 AM, Jun 7

1C - Distribution Systems

Track 3

2 Subsessions

● How to Differentiate Between Cast and Ductile Iron Pipe

8:40 AM - 9:10 AM, Jun 7

● Corrosion Control for Ductile Iron Pipe

9:10 AM - 9:40 AM, Jun 7

Explains the basic corrosion process and how it affects buried iron pipelines. Then it explains how the commonly used corrosion protection methods work to mitigate corrosion on ductile iron pipelines. Lastly it will cover to how to determine and select the appropriate corrosion control method for a given installation based on project specific data.

How to Build Your Asset Management Team:

8:40 AM - 9:40 AM, Jun 7

2A - Asset Management

Track 4

What is AM, really, and how to take the next step in your journey to excellence.

Speaker



Tammy Whipple

Principal Consultant
AMCL

Understanding and Addressing Well Performance Issues

🕒 8:40 AM - 9:40 AM, Jun 7

📍 2B - Wells

Track 5

Problems with well performance are usually preventable, often start with well construction and development, and are then exacerbated by water quality conditions, well operation, and maintenance/rehabilitation efforts. This presentation will briefly discuss the key factors affecting well performance including well design, initial screen development, and biological and mechanical plugging followed by an in-depth discussion of well rehabilitation methods. Case studies will be provided that discuss a variety of well rehabilitation projects including methods used and their results.

Speaker



Chris Allen

Associate Hydrogeologist
Associated Earth Sciences, Inc.

9:40 AM

Vendor Show

🕒 9:40 AM - 10:10 AM, Jun 7

General

10:10 AM

On-Site Sodium Hypochlorite Generation: A Safe and Reliable Disinfection Alternative to Bulk Sodium Hypochlorite and Gas Chlorine

🕒 10:10 AM - 11:10 AM, Jun 7

📍 1A - Treatment

Track 1

On-site hypochlorite generation (OSHG) systems for disinfection have seen an increased adoption rate in the last decade as water and wastewater utilities continue to grapple with the onerous complexity of risk management plans (RMPs) in the case of gas chlorine disinfection and the operational or cost challenges of using bulk 12.5% sodium hypochlorite for disinfection. OSHG systems which have been utilized in North America since the early 1990s use electricity to convert simple table salt (sodium chloride) into 0.8% (8,000 ppm) bleach or sodium hypochlorite.

Speaker



Ethan Brooke

Regional Manager
UGSI Solutions

WHEN IT RAINS, IT POURS: Organizational Learning in the Face of More Extreme Precipitation

🕒 10:10 AM - 11:10 AM, Jun 7

📍 1B - Climate and Energy

Track 2

Preparing for more heavy rain is difficult, even when rain is your claim to fame. Utilities in Western Washington and Oregon are responsible for a considerable amount of stormwater, wastewater, and flood infrastructure that protects human health and the environment. Understanding climate change impacts on that infrastructure and the differing agency missions driving infrastructure investment is essential to ensuring effective service delivery now and in the future.

While the presentation in this session is based in the Northwest, all utilities face common challenges: potentially large increases in heavy rain events, aging and undersized infrastructure, impacts to overburden communities, limited funding, and the expectation that "business as usual" will not work in a changing climate.

Since 2016 the University of Washington Climate Impacts Group continues to develop precipitation scenarios to guide long-term decisions related to stormwater management, wastewater conveyance, and flood risk reduction. Also, equally important, is the uncertainty associated with long-term climate projections and modeling. Most infrastructure is typically intended to last several decades-if not "indefinitely" if well maintained. Equally important is acknowledging the amount of uncertainty in the projections when it comes to design and management of infrastructure.

Confronting heavy precipitation is one example of how different programs to reduce climate change vulnerabilities will help to discover ways to "institutionalize" climate preparedness within the decision-making processes. Utilities are faced with having to make near-term policy and decisions while balancing costs and long-term uncertainty. With pressure from the public and decisions makers utilities are often put in a position to make hasty decisions and policy that may be costly and lead to unnecessary use of limited resources (money, land, etc.).

Utilities will need to use a variety of available regulatory tools, such as integrated planning, to help shape long-term investments in grey and green infrastructure, and how those initial assessments should be led by the development of an adaptive decision-making framework designed to help manage uncertainty.

This presentation demonstrates through case studies how integrated planning can be used to address the implications of projected changes in precipitation on infrastructure design and performance.

Integrated planning allows utilities to evaluate the tradeoffs between different approaches to wet weather management and balancing performance needs, costs, and uncertainty. The effectiveness of these choices will be evaluated using established criteria and metrics, including the ability to meet water quality targets, minimize or avoid combined sewer overflows, and minimize or avoid damaging flood flows. Along with an understanding of the impacts of affordability and addressing historical inequities in land use and infrastructure investment.

 **Speaker**



John Phillips

Director of Integrated Watershed Management
Paramatrix

Implementing IU Surveys: Permit Compliance and Beyond

🕒 10:10 AM - 11:10 AM, Jun 7

📍 1C - Collection Systems

Track 3

Implementing Industrial User (IU) Surveys is an important and potentially beneficial process that can help understand what is being discharged to the collection system. There are three overarching reasons for implementing an IU Survey, including 1) Compliance with the requirements of the NPDES permit, 2) Protecting the POTW, its workers, and the environment, and 3) Support specific needs of the POTW and planning for the future. The presentation will provide a brief overview of the IU Survey requirement and its importance for the industrial pretreatment program. It will also provide a case report of the IU Survey effort for AWWD. This will include objectives, survey approach, challenges, novel solutions, and lessons learned.


 **Speaker**



Ben McConkey

Operations and Maintenance Specialist
HDR Engineering, INC

Taming the Beast: Making your EAM system work for you:

 10:10 AM - 11:10 AM, Jun 7

 2A - Asset Management

Track 4

Examines some of the common pitfalls and lessons learned when planning, configuring and deploying EAM systems, and offers practical guidance on improving EAM systems and asset information.


 **Speaker**



Tammy Whipple

Principal Consultant
AMCL

Water Supply Well Evaluation Case Studies

 10:10 AM - 11:10 AM, Jun 7

 2B - Wells

Track 5

Case studies will be presented demonstrating typical municipal water supply well conditions and issues that have informed water system operators about whether to rehabilitate or replace the well in question. These assessments are triggered by reduced production capacity and/or water quality issues. The approach used in these assessments integrates performance monitoring, biogeochemical profiling, and physical inspection. This work provides the information needed to support decisions ranging from simple disinfection to reconstruction and replacement.

 **Speaker**




Kevin A Lindsey

Principle Hydrogeologist
GeoEngineers, Inc.

11:10 AM


Lunch Break


 11:10 AM - 12:10 PM, Jun 7

General

12:10 PM

Wastewater Treatment Aeration Applications and Blower Technologies

 12:10 PM - 1:10 PM, Jun 7

 1A - Treatment

Track 1

- 1) Purpose of Aeration
 - 2) Methods of Aeration
 - a. Packed Tower Aeration
 - b. Surface/Splash Aeration
 - c. Bottom Aeration
 - d. Coarse Bubble Aeration
 - e. Fine Bubble Aeration
 - 3) Wastewater Treatment Aeration Applications
 - a. Equalization Basins
 - b. Aerated Grit Chambers
 - c. Channel Aeration
 - d. Aeration Basins
 - e. Secondary Clarifiers
 - f. Aerobic Digesters
 - g. Sludge Holding Tanks
 - h. Filter Air Scouring
 - i. Post Aeration
 - 4) Waste Treatment Energy Consumption
 - 5) Blower Technologies
 - a. Positive Displacement
 - b. Helical Screw
 - c. Centrifugal
 - d. Integrally Geared Turbo
 - e. High-Speed Turbo
 - 6) Design Considerations
-

 **Speaker**



Richard Barile

Western Regional Manager, Municipal Wastewater
Sulzer Flow Solutions, Inc.

Wastewater Odor Generation and Controls

🕒 12:10 PM - 1:10 PM, Jun 7

📍 1B - Odor Control

Track 2

Wastewater utilities must anticipate and control odors generated in conveyance systems and treatment processes. To effectively prevent odor problems, it is necessary for utility staff to understand how odorous compounds are formed, how they can be prevented, and how to prevent their emissions. This presentation will provide information about the formation and emission of hydrogen sulfide, other odorous compounds emitted from wastewater, how to prevent odor generation and how various technologies can prevent odor emissions and impacts on neighbors of wastewater facilities. Technologies will include liquid phase chemical treatments and gas phase foul air scrubbers.

🗣️ Speaker



Diederik Apgar
Engineering Supervisor
King County Wastewater Treatment Division

Impact of the Marine Environment on HDPE Pipe (and visa-versa)

🕒 12:10 PM - 1:10 PM, Jun 7
📍 1C - Distrubtion/Collection Systems

Track 3

HDPE pipe is being used more as intake and outfall piping for a variety of reasons. KCWTD deployed twin 63" outfall pipes in 2008 and between 2012 and 2022 HDPE samples were deployed and retrieved for inspection at three intervals. The purpose was to see if the marine environment affected HDPE strength or other characteristics and to see what impact the pipeline had on marine habitat.

🗣️ Speaker



Jeff Lundt
Principle Engineer
KCWTD

Benefits of Reliability Maintenance and AWWA Opportunities to Learn From Others:

🕒 12:10 PM - 1:10 PM, Jun 7
📍 2A - Asset Management

Track 4

Examines common reasons for implementing reliability maintenance practices, initial outcomes from a water/wastewater utilities RCM journey and current AWWA Asset Management Committees Reliability Maintenance Subcommittees work

🗣️ Speaker



Tammy Whipple
Principal Consultant
AMCL

Solutions for Pump Plugging

🕒 12:10 PM - 1:10 PM, Jun 7
📍 2B - Pump Stations

Track 5

What types of items are debris is found in wastewater collections, and what types of pumps and other equipment are available to prevent collections plugs. Minimize your downtime and personnel requirements in the field.

🗣️ Speaker



Rich Owens
President
Owens Pump & Equipment

Vendor Show

🕒 1:10 PM - 1:40 PM, Jun 7

1:10 PM

1:40 PM

Blower Technology Selection and Maintenance

🕒 1:40 PM - 2:40 PM, Jun 7

📍 1A - Treatment

Track 1

There are many types of blowers available, but they fall into 2 basic categories: positive displacement and centrifugal. Depending on the process where the air is to be used, each technology has its advantages and challenges in terms of operation, location, footprint, energy use, heat generation, and maintenance. This presentation will review the available technologies and provide some insights into proper application.

🗣️ Speaker



Tom McCurdy

Regional Manager - Water and Wastewater
Aerzen USA

H2S Odor and Corrosion Control in Sewer Drop Structures

🕒 1:40 PM - 2:40 PM, Jun 7

📍 1B - Odor Control

Track 2

Vortex Flowâ„„ç Inserts (VFIs) control odor and corrosion at sewer drop structures, and can eliminate the need for both chemical systems and mechanical systems, while safely dissipating the energy associated with hydraulic drops. VFIs have a small footprint and are typically installed within manholes and vaults used for drop structures in sanitary sewer systems, combined sewer overflow (CSO) systems. The unique hydraulics cover a wide range of flows and have a proven track record.

🗣️ Speaker



Brad Eberspecher

Technical Sales Manager
IPEX

If Check Valves Were Cars

🕒 1:40 PM - 2:40 PM, Jun 7

📍 1C - Distribution/Collection Systems

Track 3

This presentation walks through the purpose of a check valve in our water or wastewater system. We will take a look at different styles of check valves and compare them to features we look for when car shopping. We will cover the features of different kinds of check valves and why someone would pick one over another. Bringing it all together, we will walk through choosing the right check valve for your application.

🗣️ Speaker



Erin Sealy

Technical Sales
Cimco-GC Systems

Risk and uncertainty workshop - Part 1

🕒 1:40 PM - 2:40 PM, Jun 7

📍 2A - Asset Management

Track 4

You know more than you think – getting comfortable with uncertainty:


Join us in this session to explore how to measure something that you might think to be unmeasurable and then how to use that information to lead you to make a better decision. This workshop will focus on methods to help understand what you do not know and how to identify what you need to know, to make better decisions, the methods can be extrapolated into any decision-making process where you want to compare value and performance in the face of uncertainty to ensure you are spending resources effectively.

 **Speaker**



Todd Shepherd
Principal Consultant
AMCL

VFD Hands on Programming Experience

 1:40 PM - 2:40 PM, Jun 7

 2B - Pump Stations

Track 5

Learn to perform a basic start up on a VFD using live demo equipment


 **Speaker**



Robert Hansen
Drives Applications Engineer
Carmody Company

2:40 PM


Break

 2:40 PM - 2:50 PM, Jun 7

General

2:50 PM

Lagoons From Mother Nature to Complete Treatment

 2:50 PM - 3:50 PM, Jun 7

 1A - Treatment

Track 1


Small to medium-sized communities continue to struggle to find affordable solutions that will allow them to keep their lagoon infrastructure while complying with nutrient criteria – specifically ammonia. The presentation will discuss the basics of nutrients and their removal through biological means, as well as some common pitfalls in basic lagoon process and aeration design. The discussion of fundamentals will be followed by a candid review of approaches and technologies to remove nutrients. My presentation will be on the partial/complete mix systems, in basin SBR system as well as tertiary Submerged Media Aerated systems. The discussion will cover the operational aspect of each system and the advantages/disadvantages of each system.

 **Speaker**



Gregory Roppelt
Western Regional Sales Manager
Nexom/EDI

Solving Infiltration & Corrosion Problems in Sanitary Sewer Structures

 2:50 PM - 3:50 PM, Jun 7

 1B - Collection Systems

Track 2

Infiltration & Inflow with Solutions, H₂S Corrosion with Solutions. Presenting options for sanitary sewer for all shapes and sizes of structures.

 Speaker



Jim Swain
PRESIDENT
CIP CONSTRUCTION TECHNOLOGIES, INC.

Composites in manhole vaults can save time and money

🕒 2:50 PM - 3:50 PM, Jun 7

📍 1C - Collection Systems

Track 3

We will briefly go over the factors degrading and aging circular vaults and then present composite manhole rings, lids and frames, how they are installed and maintained. We will also go over composite repair bands, chimney and joint wraps for mitigating I&I.

 Speaker



Ken Navidi
Sales Representative
Bainbridge Associates

Risk and uncertainty workshop - Part 2

🕒 2:50 PM - 3:50 PM, Jun 7

📍 2A - Asset Management

Track 4

You know more than you think – getting comfortable with uncertainty:

Join us in this session to explore how to measure something that you might think to be unmeasurable and then how to use that information to lead you to make a better decision. This workshop will focus on methods to help understand what you do not know and how to identify what you need to know, to make better decisions, the methods can be extrapolated into any decision-making process where you want to compare value and performance in the face of uncertainty to ensure you are spending resources effectively.

 Speaker



Todd Shepherd
Principal Consultant
AMCL

Making the Invisible Visible: discovering equity insights in water data

🕒 2:50 PM - 3:50 PM, Jun 7

📍 2B - Water Data

Track 5

This session will share the learnings from the recent development and deployment of the Water Equity Lens, a spatially-explicit analytics tool that brings new visibility into the impact of a water utility's programs and investments across socioeconomic disparities. In this session we will also explore early results from application of the tool with a beta cohort of water and wastewater utilities in the U.S.

 Speaker



Christine Boyle
Vice President
Xylem, Inc

