2023 Western Washington Short School

Date 6/6/2023

Start Time 10:10 AM

End Time 11:10 AM

Track 1B - Data Management

Drinking Water and/or Wastewater Water

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **AMI Options and Water Intelligence Platforms**

Abstract

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.

Relevance

Water Metering is one of the most critical pieces of the financial, customer service, and distribution network of a water system. We will discuss new technologies that increase customer service, decrease labor hours, and increase operational efficiencies of a water utility.

Speaker **Matt Zellers**

Speaker's Job Title Territory Manager

Organization Mueller

Primary Job Duties Sales

Registrations or Certifications None

E-mail mzellers@muellerwp.com

Phone 5033105993

2023 Western Washington Short School

Date 6/6/2023

Start Time 8:40 AM

End Time 9:10 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Water

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Baffled by tracer testing? How to achieve success for your next tracer test.**

Abstract

Baffled by tracer testing? Despite the simple concept of a tracer test, they are often difficult to execute. The City of Anacortes, Washington recently completed tracer tests to understand the performance of recently installed baffles in their 2.1 million-gallon clearwells. The presentation discusses the outcomes of this case study. The audience will learn how to successfully implement a tracer study including planning and organizing for a tracer test, important design and operational considerations impacting study design, resources for executing a tracer study, quality assurance and control methods during the test, and analysis of test results.

Relevance

According to the EPA's Surface Water Treatment Rule (SWTR), all public water systems which use a surface water source must achieve a minimum of 99.9% (3-log) removal and/or inactivation of Giardia lamblia cysts and a minimum of 99.99% (4-log) removal and/or inactivation of viruses. The CT method was developed to determine the level of inactivation of Giardia lamblia cysts and viruses based on water treatment plant operational data and disinfection conditions.

Speaker **Tara E Randall**

E-mail tara.randall@hdrinc.com

Speaker's Job Title Water/Wastewater EIT

Phone 5309061791

Organization HDR

Primary Job Duties Current role is primarily concerned with drinking water and wastewater treatment facility design, bench/pilot-scale studies, and providing UV-related technical support to clients.

Registrations or Certifications Engineer in Training, 171256 California

2023 Western Washington Short School

Date 6/6/2023

Start Time 8:40 AM

End Time 9:40 AM

Track 1C - Wastewater Certification

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Basic wastewater math**

Abstract

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.

Relevance

The presentation is useful because it helps operators in the industry have an understanding of math needed in the industry

Speaker **Joseph Carter**

E-mail jcarter@awwd.com

Speaker's Job Title Wastewater Facility Manager

Phone 4254785968

Organization Alderwood Water and Wastewater District

Primary Job Duties Manager of the Picnic Point Wastewater Plant for Alderwood Water and Wastewater

Registrations or Certifications Washington State Wastewater Operator

2023 Western Washington Short School

Date	6/7/2023	**Track**	2A - Asset Management
Start Time	12:10 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	1:10 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

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

Abstract

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

Relevance

Water and wastewater services are asset intensive and depend on infrastructure. Asset management will help organizations to improve how they manage assets and deliver value. Through asset management practices water and wastewater organizations can enhance how they identify, plan, implement, and sustain improvements to meet their required levels of service. Improvement in management of assets will deliver value, and help organizations to fully understand challenges, plan for desired outcomes, access the right capability, manage ambiguity, and continually apply data and insights to transition from uncertain and reactive to informed and proactive decision-making. Asset management supports alignment across organizational objectives, business processes, information and data requirements to achieve enhanced decision making and better value and outcomes for stakeholders and the delivery of water and wastewater services.

Speaker	**Tammy Whipple**	**E-mail**	tammy.whipple@amcl.com
Speaker's Job Title	Principal Consultant	**Phone**	2066834337
Organization	AMCL		
Primary Job Duties	Support water, wastewater and municipalities with strategic asset management		
Registrations or Certifications	IAM Asset Management Professional		

2023 Western Washington Short School

Date 6/7/2023

Start Time 1:40 PM

End Time 2:40 PM

Track 1A - Treatment

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Blower Technology Selection and Maintenance**

Abstract

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.

Relevance

Low pressure air supply is relevant to water and wastewater, whether it's part of a biological process or simply mixing. The energy cost to run aeration blowers is 50-60% of the electric bill for a wastewater utility. However, energy costs aren't the only factor in deciding on the right technology.

Speaker **Tom McCurdy**

E-mail tom.mccurdy@aerzen.com

Speaker's Job Title Regional Manager - Water and Wastewater

Phone 6106561683

Organization Aerzen USA

Primary Job Duties New Machinery Sales - Municipal Wastewater Facilities

Registrations or Certifications None

2023 Western Washington Short School

Date	6/6/2023	**Track**	1B - Water Reuse
Start Time	2:30 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	3:30 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Brightwater Sodium Hypochlorite and Chloramination Considerations**

Abstract

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.

Relevance

Chloramination is used to provide a persistent chlorine residual in both water and reclaimed water distribution systems. Sodium hypochlorite can be a difficult chemical to handle with a number of issues that operators need to consider.

Speaker	**Milt Larsen**	**E-mail**	miltlarsen@kennedyjenks.com
Speaker's Job Title	Senior Engineer	**Phone**	
Organization	Kennedy Jenks		
Primary Job Duties	Project Manager, water quality and treatment process engineer		
Registrations or Certifications	Washington State Professional Engineer;PE in Oregon & Hawaii		

2023 Western Washington Short School

Date 6/6/2023

Start Time 12:10 PM

End Time 1:10 PM

Track 1B - Water Reuse

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **CCC Considerations for Reclaimed Water**

Abstract

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 œreal-world examples demonstrate relevancy to the audience.

Relevance

The presentation will provide drinking water, wastewater, and reclaimed water operators and decision makers with an understanding of the importance of Cross connection control and how each can help the other comply with regulations and protect their customers.

Speaker **Bill Bernier**

E-mail william.bernier@doh.wa.gov

Speaker's Job Title Operator Certification and Training Section Manager

Phone

Organization Washington State Department of Health

Primary Job Duties Manage the Drinking Water Certified Operator and Training Program

Registrations or Certifications Washington State Water Operator

2023 Western Washington Short School

Date	6/6/2023	**Track**	1C - Wastewater Treatment
Start Time	10:10 AM	**Drinking Water and/or Wastewater**	Wastewater
End Time	10:40 AM	**Length of Session**	Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Chlorine ring for secondary clarifier algae control**

Abstract

The presentation provides examples of different methods for automatically cleaning secondary clarifier weirs as well as expands on the use of the chlorine ring as one such cleaning process. The presentation also speaks to the advantages of moving disinfection back into the treatment process. The attendees will take away the benefits of these types of systems over manually cleaning the weirs.

Relevance

Safety concerns and labor expenditure are two issues municipalities deal with to keep their clarifiers clean. The presentation is one method to minimize those burdens.

Speaker	**Ed Griffenberg**	**E-mail**	egriffen@hdrinc.com
Speaker's Job Title	Senior Operations Specialist	**Phone**	
Organization	HDR		
Primary Job Duties	O&M Manual development and startup services		
Registrations or Certifications	Washington State Wastewater Operator		

2023 Western Washington Short School

Date 6/7/2023

Start Time 2:50 PM

End Time 3:50 PM

Track 1C - Collection Systems

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Composites in manhole vaults can save time and money**

Abstract

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.

Relevance

Gives instructions on how to identify leaks in your collection system, repair circular vaults. How to maintain aging systems.

Speaker **Ken Navidi**

E-mail knavidi@bainbridgeassoc.com

Speaker's Job Title Sales Representative

Phone

Organization Bainbridge Associates

Primary Job Duties Sales

Registrations or Certifications BS Natural Resources from Humboldt State University

2023 Western Washington Short School

Date 6/6/2023

Start Time 9:10 AM

End Time 9:40 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Water

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Considerations in Large Reservoir Planning & Design**

Abstract

- Review of the materials, sizes and configuration for large potable water storage reservoirs- Planning considerations - Common large reservoir problems and fixes

Relevance

Presentation provides highlights of considerations made in locating a large reservoir which are keys to making good decisions in siting new infrastructure.

Speaker **Jeff Lundt**

E-mail jeff.lundt@kingcounty.gov

Speaker's Job Title Principle Engineer

Phone 2064775582

Organization KCWTD

Primary Job Duties Mechanical Engineering Lead

Registrations or Certifications Washington State Professional Engineer

2023 Western Washington Short School

Date 6/7/2023

Start Time 9:10 AM

End Time 9:40 AM

Track 1C - Distribution Systems

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Corrosion Control for Ductile Iron Pipe**

Abstract

Explains the basic corrosion process and how it affects buried iron pipelines. Then it explain 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.

Relevance

This presentation is relevant because ductile iron pipe is one of the most commonly used pipe materials and it is important that corrosion control is utilized where needed to ensure that the ductile iron pipe provides the long service life that owners and operators expect from it.

Speaker **Josh Blount**

E-mail jblount@dipra.org

Speaker's Job Title Regional Director

Phone 2055324267

Organization Ductile Iron Pipe Research Association

Primary Job Duties Provide technical information, assistance, and training regarding all aspects of iron pipe to water and wastewater industry members on behalf of the ductile iron pipe manufacturers.

Registrations or Certifications North Carolina Professional Engineer, AMPP Cathodic Protection Technician

2023 Western Washington Short School

Date 6/6/2023

Start Time 1:20 PM

End Time 2:20 PM

Track 2A - Utility Management / Leadership

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Creating a Culture of Preparedness**

Abstract

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.

Relevance

Research and experience show the probability of a hazard impacting critical infrastructure is rising, and the impact of the hazard is becoming more consequential. This presentation will help water operators to identify and implement strategies for increasing preparedness for and resilience to emergency events.

Speaker **Shawn Corrigan**

E-mail scorrigan@carollo.com

Speaker's Job Title Vice President

Phone

Organization Carollo Engineers

Primary Job Duties Risk and Resilience Principal

Registrations or Certifications Certified Emergency Manager (IAEM), ENV SP (Envision)

2023 Western Washington Short School

Date	6/6/2023	**Track**	1A - Regulations
Start Time	10:10 AM	**Drinking Water and/or Wastewater**	Wastewater
End Time	10:40 AM	**Length of Session**	Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Ecology's Permit Development Process**

Abstract

The Department of Ecology is making a concerted effort to decrease the permitting backlog. This presentation will discuss both the internal and external processes used to reissue an administratively extended NPDES or SWDP permit. Information shared will include details about the permit application requirements, effluent limit development, special condition development, the applicability of compliance schedules, and the public process that Ecology must follow.

Relevance

Ecology issues the majority of wastewater discharge permits in the state. Each operator in responsible charge of a facility will undergo permit reissuance at one time or another. This presentation will help operators understand what to expect from reissuance kick off through the new permit's effective date.

Speaker	**Eleanor Ott**	**E-mail**	eleanor.ott@ecy.wa.gov
Speaker's Job Title	Regional Engineer/Permit Manager	**Phone**	
Organization	Dept of Ecology		
Primary Job Duties	Development and implementation of NPDES permits, CWSRF Funding Program implementation		
Registrations or Certifications	Washington State Professional Engineer		

2023 Western Washington Short School

Date 6/7/2023

Start Time 1:40 PM

End Time 2:40 PM

Track 1B - Odor Control

Drinking Water and/or Wastewater Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **H2S Odor and Corrosion Control in Sewer Drop Structures**

Abstract

Vortex Flowâ„¢ 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.

Relevance

Vortex Flow Inserts provide an effective solution to a significant problem in wastewater collection systems.

Speaker **Brad Eberspecher**

E-mail Brad.Eberspecher@ipexamerica.com

Speaker's Job Title Technical Sales Manager

Phone

Organization IPEX

Primary Job Duties Design support and sales of sewer drop structures and aeration equipment

Registrations or Certifications EI

2023 Western Washington Short School

Date 6/7/2023

Start Time 8:40 AM

End Time 9:40 AM

Track 2A - Asset Management

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **How to Build Your Asset Management Team:**

Abstract

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

Relevance

Water and wastewater services are asset intensive and depend on infrastructure. Asset management will help organizations to improve how they manage assets and deliver value. Through asset management practices water and wastewater organizations can enhance how they identify, plan, implement, and sustain improvements to meet their required levels of service. Improvement in management of assets will deliver value, and help organizations to fully understand challenges, plan for desired outcomes, access the right capability, manage ambiguity, and continually apply data and insights to transition from uncertain and reactive to informed and proactive decision-making. Asset management supports alignment across organizational objectives, business processes, information and data requirements to achieve enhanced decision making and better value and outcomes for stakeholders and the delivery of water and wastewater services.

Speaker **Tammy Whipple**

E-mail tammy.whipple@amcl.com

Speaker's Job Title Principal Consultant

Phone 2066834337

Organization AMCL

Primary Job Duties Support water, wastewater and municipalities with strategic asset management

Registrations or Certifications IAM Asset Management Professional

2023 Western Washington Short School

Date 6/7/2023

Start Time 8:40 AM

End Time 9:10 AM

Track 1C - Distribution Systems

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **How to Differentiate Between Cast and Ductile Iron Pipe**

Abstract

While cast iron and ductile iron pipes are similar there are significant differences in physical properties and failure modes that differentiate the two. For proper asset management, it is important that the iron pipe in a system be correctly identified. If performance data are incorrectly attributed to the wrong pipe material, it will result in inaccurate analyses leading to potentially flawed planning decisions. This presentation provides information that will be useful in the effort to correctly identify cast and ductile iron pipes in service.

Relevance

Many utilities have both cast iron and ductile iron pipe in their system and it can be hard to tell them apart in the field during maintenance operations. Since cast and ductile iron have different physical properties it is essential that utilities know what type of iron pipe it is for condition assessment and asset management purposes.

Speaker **Josh Blount**

E-mail jblount@dipra.org

Speaker's Job Title Regional Director

Phone 2055324267

Organization Ductile Iron Pipe Research Association

Primary Job Duties Provide technical information, assistance, and training regarding all aspects of iron pipe to water and wastewater industry members on behalf of the ductile iron pipe manufacturers.

Registrations or Certifications North Carolina State Professional Engineer, AMPP Cathodic Protection Technician

2023 Western Washington Short School

Date 6/7/2023

Start Time 1:40 PM

End Time 2:40 PM

Track 1C - Distrubtion/Collection Systems

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **If Check Valves Were Cars**

Abstract

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.

Relevance

After attending this presentation, our goal is for attendees to have a better understanding of how check valves work in our water/wastewater systems and when to use or not use the different styles available.

Speaker **Erin Sealy**

E-mail erin@cimcopnw.com

Speaker's Job Title Technical Sales

Phone 2532250066

Organization Cimco-GC Systems

Primary Job Duties Every day, I visit with third-party engineers, municipal engineers, and water/wastewater operators throughout Western Washington. I teach classes to engineers and water/wastewater operators about different elements in water systems, these training sessions can last anywhere from an hour to a full day. I also work closely with local distribution partners to help supply municipalities and contractors with products and support from our manufacturers.

Registrations or Certifications CPSC

2023 Western Washington Short School

Date 6/7/2023

Start Time 12:10 PM

End Time 1:10 PM

Track 1C - Distrubtion/Collection Systems

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Impact of the Marine Environment on HDPE Pipe (and visa-versa)**

Abstract

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.

Relevance

This area of had not been studied previously. The results help answer questions on materials and marine habitat that had been subject of speculation, conjecture and personal prejudice.

Speaker **Jeff Lundt**

E-mail jeff.lundt@kingcounty.gov

Speaker's Job Title Principle Engineer

Phone 2064775582

Organization KCWTD

Primary Job Duties Project engineer and designer

Registrations or Certifications Washington State Professional Engineer

2023 Western Washington Short School

Date	6/7/2023	**Track**	1C - Collection Systems
Start Time	10:10 AM	**Drinking Water and/or Wastewater**	Wastewater
End Time	11:10 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Implementing IU Surveys: Permit Compliance and Beyond**

Abstract

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.

Relevance

Industrial User Surveys are a key component of a Wastewater Utilities Pretreatment Program and are a requirement of their respective NPDES permits.

Speaker	**Ben McConkey**	**E-mail**	ben.mcconkey@hdrinc.com
Speaker's Job Title	Operations and Maintenance Specialist	**Phone**	13603393259
Organization	HDR Engineering, INC		
Primary Job Duties	Plant and process startups. Electronic O&M Manual development. Condition Assessment.		
Registrations or Certifications	Washington State Wastewater Operator		

2023 Western Washington Short School

Date 6/7/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 2A - Asset Management

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Introduction to Asset Management**

Abstract

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

Relevance

Water and wastewater services are asset intensive and depend on infrastructure. Asset management will help organizations to improve how they manage assets and deliver value. Through asset management practices water and wastewater organizations can enhance how they identify, plan, implement, and sustain improvements to meet their required levels of service. Improvement in management of assets will deliver value, and help organizations to fully understand challenges, plan for desired outcomes, access the right capability, manage ambiguity, and continually apply data and insights to transition from uncertain and reactive to informed and proactive decision-making. Asset management supports alignment across organizational objectives, business processes, information and data requirements to achieve enhanced decision making and better value and outcomes for stakeholders and the delivery of water and wastewater services.

Speaker **Tammy Whipple**

E-mail tammy.whipple@amcl.com

Speaker's Job Title Principal Consultant

Phone 2066834337

Organization AMCL

Primary Job Duties Support water, wastewater and municipalities with strategic asset management

Registrations or Certifications IAM Asset Management Professional

2023 Western Washington Short School

Date 6/6/2023

Start Time 10:10 AM

End Time 10:40 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Is Polymer Your Problem? New Selection Criteria for Sludge Thickening**

Abstract

Several equipment technologies on the market are used to thicken sludge including dissolved air flotation thickener (DAFT), gravity belt thickener (GBT), rotary drum thickener (RDT), modified dewatering centrifuges, or a centrifuge specifically developed for sludge thickening, such as Centrisys THK series. In the past, when comparing these technologies, there were two key determinants for selecting sludge thickening equipment " the sludge capture rate and the sludge concentration. Recently, new considerations have emerged that create additional challenges for plants when selecting the optimal sludge thickening equipment. These factors are: ¢equipment footprint¢equipment consolidation and minimalization¢resiliency against chemical supply chain disruption¢side stream flow minimalization¢process water savings¢process energy savingsUsing sludge thickening performance case studies, this presentation examines how the five thickening equipment options perform when emerging environmental considerations mentioned above are critical for a plant's optimal operation.

Relevance

This presentation discusses the cost and use of polymer in thickening sludge.

Speaker **Jerod Swanson**

E-mail jswanson@centrisys.us

Speaker's Job Title Western Regional Sales Manager

Phone 6124012006

Organization Centrisys

Primary Job Duties Technical Sales

Registrations or Certifications None

2023 Western Washington Short School

Date 6/6/2023

Start Time 10:10 AM

End Time 11:10 AM

Track 2A - Utility Management / Leadership

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **King county Operator Training Program**

Abstract

The King County Operator in Training (OIT) Program participants learn the basics of wastewater treatment for the first three month of the program. At the end of the 3 months the OIT's enter into the rotational phase of the program where the 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.

Relevance

With the large numbers of retirements, King County Wastewater faced a dilemma of how to replace Operators when the qualified operator candidate pool is very small.

Speaker **Jim Pitts**

E-mail jim.pitts@kingcounty.gov

Speaker's Job Title Wastewater Supervisor - Training

Phone

Organization King County WTD

Primary Job Duties King County Operator in Training program and Operator Training

Registrations or Certifications Washington State Wastewater Operator

2023 Western Washington Short School

Date	6/7/2023	**Track**	1A - Treatment
Start Time	2:50 PM	**Drinking Water and/or Wastewater**	Wastewater
End Time	3:50 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Lagoons From Mother Nature to Complete Treatment**

Abstract

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.

Relevance

It discuses how lagoons can be used to treat influent wastewater to meet todays stringent discharge requirements

Speaker	**Gregory Roppelt**	**E-mail**	greg.roppelt@wastewater.com
Speaker's Job Title	Western Regional Sales Manager	**Phone**	2395658873
Organization	Nexom/EDI		

Primary Job Duties Oversee technical sales of for the Western US for all product lines that EDI/Nexom offer. Therese products include both fixed grid and lagoon aeration systems, filtration systems both sand filters for tertiary removal of phosphorus and nitrogen. Also offer Mita cloth filter as well as Bioports MBBR

Registrations or Certifications Alberta Canada Professional Engeer

2023 Western Washington Short School

Date 6/6/2023

Start Time 8:40 AM

End Time 9:40 AM

Track 1A - Regulations

Drinking Water and/or Wastewater Water

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **LCRR - Are you ready?**

Abstract

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.

Relevance

The deadline for Service Line Inventory submission is Oct 2024. Utilities need to be working on this inventory now to complete with as few unknown materials as possible.

Speaker **Steven Drangsholt**

E-mail steven.drangsholt@trinnex.io

Speaker's Job Title Account Executive

Phone 4253515516

Organization Trinnex

Primary Job Duties Account Executive

Registrations or Certifications Washington State Professional Engineer

2023 Western Washington Short School

Date 6/6/2023

Start Time 8:40 AM

End Time 9:10 AM

Track 2A - Utility Management / Leadership

Drinking Water and/or Wastewater Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Lessons in Leadership**

Abstract

I will touch on my experience in moving from peer to supervisor, taking on a larger managerial role, managing change, labor negotiations, culture change, employee development and recognition, organizational development, and our role as leaders in this industry. I would hope that others will benefit from my experience, what went well, and what didn't - how to secure our legacy in the wastewater industry, succession planning, mentoring, and saying the things that nobody wants to hear, but need to be said.

Relevance

Our industry is constantly changing. Because we are continually losing the keepers of our institutional knowledge, we are often forced to step up and fill roles for which we feel unprepared. But - there's no one else who can do it! Don't talk yourself out of taking opportunities as they come to you - use the lessons I have learned to help you keep moving forward even in the face of fear.

Speaker **Laurie Pierce**

E-mail laurie.pierce@piercecountywa.gov

Speaker's Job Title Operations Manager

Phone 12537983019

Organization Pierce County Planning and Public Works

Primary Job Duties Management of Operations/Laboratory/Pretreatment programs for Chambers Creek Regional Wastewater Treatment Plant and Cascadia Wastewater Treatment Plant. All aspects of permit compliance, operation, monitoring, analysis, budgeting, biosolids management, support for capital improvements planning and projects, capacity planning, organizational development, personnel management, etc.

Registrations or Certifications Washington State Wastewater Operator

2023 Western Washington Short School

Date 6/7/2023

Start Time 2:50 PM

End Time 3:50 PM

Track 2B - Water Data

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Making the Invisible Visible: discovering equity insights in water data**

Abstract

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.

Relevance

The critical task in front of us in our data rich water sector is to improve our information specifically with respect to making visible the water access, benefit, and resilience disparities suffered disproportionately by socioeconomically vulnerable communities.

Speaker **Christine Boyle**

E-mail boyle.christine@gmail.com

Speaker's Job Title Vice President

Phone

Organization Xylem, Inc

Primary Job Duties Building Water / Wastewater Technologies

Registrations or Certifications PhD

2023 Western Washington Short School

Date	6/6/2023	**Track**	1A - Pump Stations
Start Time	1:20 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	2:20 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Mechanical Seal Environmental Controls; Seal Support Systems, Seal Flush Plans and Water Conservation Best Practices**

Abstract

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.

Relevance

Every water/wastewater plant has rotating equipment, specifically centrifugal pumps. The leading cause of pump failure, or decreased MTBR is associated with Mechanical Seals. Increased knowledge of Mechanical Seal Environmental Controls will enable operators to better understand the improvements to reliability when the pump system, proper seal selection and environmental controls are used to support Mechanical Seal health.

Speaker	**Eric Costner**	**E-mail**	eric.costner@chesterton.com
Speaker's Job Title	Area Manager - Pacific Northwest	**Phone**	3605182324
Organization	A.W. Chesterton		
Primary Job Duties	Area Manager responsible for sales and technical support for A. W. Chesterton products to distributors and end users in the Pacific Northwest states.		
Registrations or Certifications	Mechanical Seal SME		

2023 Western Washington Short School

Date	6/6/2023	**Track**	1A - Pump Stations
Start Time	12:10 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	1:10 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

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

Abstract

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.

Relevance

Every water/wastewater plant has rotating equipment, specifically centrifugal pumps. The leading cause of pump failure, or decreased MTBR is associated with Mechanical Seals. Increased knowledge of Mechanical Seals will enable operators to better understand the improvements to reliability when the pump system, proper seal selection and best practices are used to support Mechanical Seal health.

Speaker	**Eric Costner**	**E-mail**	eric.costner@chesterton.com
Speaker's Job Title	Area Manager - Pacific Northwest	**Phone**	3605182324
Organization	A. W. Chesterton		
Primary Job Duties	Area Sales Manager providing product & technical support to distributors and end users for A. W. Chesterton Products in the Pacific Northwest States.		
Registrations or Certifications	Mechanical Seal SME		

2023 Western Washington Short School

Date 6/6/2023

Start Time 10:40 AM

End Time 11:10 AM

Track 1A - Regulations

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

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

Abstract

The Washington State Department of Ecology's Laboratory Accreditation Unit works with wastewater treatment plants and their staff throughout the state. This is to achieve our shared goal of clean water in our state. The laboratory accreditation process can often seem daunting and difficult to navigate. The LAU has developed some focus sheets with the goal of simplifying the accreditation process for laboratory staff working at wastewater facilities by focusing on three of the most critical pieces of accreditation; Renewals, PTs, and SOPs.

Relevance

Most wastewater Laboratories are required to be accredited by the Washington State Department of Ecology. Our presentations goal to is to help streamline and

Speaker **Ryan Zboralski**

E-mail rzbo461@ecy.wa.gov

Speaker's Job Title Laboratory Auditor

Phone

Organization Washington State Department of Ecology

Primary Job Duties Laboratory Auditor

Registrations or Certifications Laboratory Auditor with the Washington State Department of Ecology

2023 Western Washington Short School

Date 6/6/2023

Start Time 10:40 AM

End Time 11:10 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Nutrient Recovery and Struvite Mitigation in Pima County, AZ, with NuReSys Technology**

Abstract

ABSTRACTStruvite (magnesium-ammonium-phosphate) forms as a 1:1:1 molar ratio of solubilized magnesium, ammonia, and orthophosphate in wastewater with an elevated pH. Struvite builds up in digesters, pipes, and mechanical equipment wreaking havoc for wastewater plant operations. At Pima County Tres Rios WRRF, as in many utilities, dosing Ferric Chloride (FeCl3) and/or adding dilution water have been costly methods to mitigate these build-ups.Pima County Tres Rios WRRF, a 50 MGD facility with anaerobic digestion, installed the first North American NuReSys system in 2019. Prior to installation, the facility used ferric dosing and dilution water to mitigate Struvite formation. The NuReSys system was installed post digestion, to eliminate ferric use and to attain a drier Cake. Since coming online, ferric addition and dilution water have been discontinued. While NuReSys requires MgCl2 dosing, the annual savings on ferric and managing a drier Cake compensate for the MgCl2. The NuReSys system reduces the return of phosphorus and ammonia to the headworks, and orthophosphate levels in the digesters have thus far dropped. Dewatered cake gained 2.5% solids, leading to operational and hauling cost savings. The mechanical maintenance issues that existed with struvite scaling prior to implementation have been alleviated.

Relevance

The NuReSys technology is focused on solving customer-specific phosphorus issues, as such, the technology is flexible in its configuration and can be applied in a number of combinations to solve the plant's specific needs. The process can be applied on digested sludge streams, post dewatering centrate, or a combination of both. The produced struvite can be either sequestered in the biosolids matrix or recovered for marketing as fertilizer.

Speaker **Joshua DiValentino**

E-mail jdivalentino@schwingbioset.com

Speaker's Job Title Senior Sales Manager - Western Regions

Phone

Organization Schwing Bioset, Inc.

Primary Job Duties Senior Sales Manager - Western Regions (for water and wastewater solids handling, treatment, and process equipment)

Registrations or Certifications MS, MBA

2023 Western Washington Short School

Date 6/7/2023

Start Time 10:10 AM

End Time 11:10 AM

Track 1A - Treatment

Drinking Water and/or Wastewater Water

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

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

Abstract

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 1990's use electricity to convert simple table salt (sodium chloride) into 0.8% (8,000 ppm) bleach or sodium hypochlorite.

Relevance

This presentation will discuss the relative advantages of OSHG, the design features of the modern OSHG systems and will present a number of case studies that include systems that generate from 10 pounds per day (PPD) of chlorine equivalent to over 14,000 PPD.

Speaker **Ethan Brooke**

E-mail grock@ugsicorp.com

Speaker's Job Title Regional Manager

Phone

Organization UGSI Solutions

Primary Job Duties Regional Sales Manager & Senior Product Manager, THM Removal System

Registrations or Certifications AWWA, CA-NV AWWA Distribution System Water Quality Committee Chair

2023 Western Washington Short School

Date 6/6/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 1C - Wastewater Certification

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **OpCert Program Updates**

Abstract

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.

Relevance

Operators need to know the rules required to get their certification and this presentation will help them decipher their education and experience.

Speaker **Poppy Carre**

E-mail poca461@ecy.wa.gov

Speaker's Job Title Wastewater Operator Certification State Coordinator

Phone 13604858906

Organization WA Dept of Ecology

Primary Job Duties Administer the wastewater operator certification program for the state of Washington.

Registrations or Certifications Regulator

2023 Western Washington Short School

Date	6/7/2023	**Track**	1A - Treatment
Start Time	8:40 AM	**Drinking Water and/or Wastewater**	Wastewater
End Time	9:40 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Optimizing Polymer Mixing and Activation: Following the Science**

Abstract

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.¯

Relevance

Included in this discussion are equipment features and the latest improvements that help ensure efficiency and reliability for utilities and treatment plant operators.¯

Speaker	**Ethan Brooke**	**E-mail**	grock@ugsicorp.com
Speaker's Job Title	Regional Manager	**Phone**	
Organization	UGSI Solutions		
Primary Job Duties	Regional Sales Manager & Senior Product Manager, THM Removal System		
Registrations or Certifications	AWWA, CA-NV AWWA Distribution System Water Quality Committee Chair		

2023 Western Washington Short School

Date 6/7/2023

Start Time 8:40 AM

End Time 9:40 AM

Track 1B - Climate and Energy

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Our Role in the Massive Energy Transition Now Underway**

Abstract

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.

Relevance

O&M personnel at water & wastewater facilities have the ability to influence energy use on a scale that dwarfs any individual home and many businesses that are served. By the same token, water professionals are stewards of their public funding, and managing the costs of operations is part and parcel of professionalism. Finally, optimizing the process, be it in treatment or distribution, generally improves water quality and provides more protection to the environment and public health. Again, these topics go to the heart of being a water professional.

Speaker **Layne McWilliams**

E-mail lmcwilliams@parametrix.com

Speaker's Job Title Principal Consultant, Climate Change & Resiliency

Phone

Organization Parametrix

Primary Job Duties Layne works with his firm's water group as well as the climate and ESG groups to help identify and implement changes that will reduce and mitigate the impacts we have on climate - and the impact climate will have on us! His work has focused on operational optimization and waste reduction in water, wastewater, and industrial facilities throughout the U.S. through energy efficiency and strategic energy management programs. One of his goals in joining a design firm is to help improve the efficiency of new designs so there are less retrofits needed in the future.

Registrations or Certifications Washington State Professional Engineer;Member, Oregon State Bar

2023 Western Washington Short School

Date	6/6/2023	**Track**	2A - Utility Management / Leadership
Start Time	2:30 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	3:30 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Overcoming the Challenges of Staff Scheduling**

Abstract

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.

Relevance

Efficient and effective staffing of medium to large facilities is crucial to the overall success of that facility.

Speaker	**Jeremy Carnahan**	**E-mail**	jeremy.carnahan@piercecountywa.gov
Speaker's Job Title	Operations Supervisor	**Phone**	
Organization	Pierce County		

Primary Job Duties Ensuring smooth, safe, and efficient operation of Pierce County's Chambers Creek and Cascadia MBR treatment facilities. Provide training, mentorship, and a fun learning environment for all plant staff. Sustain a learning mindset for all operations to continue growing and evolving in this industry.

Registrations or Certifications Washington State Water Operator;Washington State Wastewater Operator

2023 Western Washington Short School

Date 6/6/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 1B - Data Management

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

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

Abstract

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.

Relevance

Emerging AI/cloud technologies provide opportunities for sewer utilities to achieve significant cost savings in CCTV inspection, as well enhance the quality and consistency of condition assessment data. Relatedly, cloud-based platforms enable a level of real-time, secure, and remote collaboration that hasn't been possible before, which leads to improvements in workflows and decision-making processes for maintenance and capital planning activities.

Speaker **Eric Sullivan**

E-mail esullivan@sewerai.com

Speaker's Job Title Director of Business Development

Phone 2064577610

Organization SewerAI

Primary Job Duties Accountable for go-to-market of SewerAI's cloud and AI computer vision offerings. Development and growth of new accounts and engagements with sewer utilities, consulting engineers, and services contractors.

Registrations or Certifications NASSCO PLMACP Trainer

2023 Western Washington Short School

Date	6/6/2023	**Track**	1C - Asset Management
Start Time	2:30 PM	**Drinking Water and/or Wastewater**	Wastewater
End Time	3:30 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Pipe Defect Evaluation and Trenchless Repairs**

Abstract

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 construction contract packages.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.

Relevance

The presentation is very relevant to water/waterwater industries because it is on the rehabiliation of pipe's using a variety of trenchless methods.

Speaker	**Craig Christensen**	**E-mail**	craig.christensen@deainc.com
Speaker's Job Title	Project Manager	**Phone**	2069305191
Organization	David Evans and Associates, Inc.		
Primary Job Duties	Project Manager		
Registrations or Certifications	Washington State Professional Engineer		

2023 Western Washington Short School

Date 6/7/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 2B - Wells

Drinking Water and/or Wastewater Water

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Production Well Installation and Testing from A to ZPresentation Duration (hour blocks)1 hour**

Abstract

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.

Relevance

Water suppliers using groundwater are often in need of additional production wells for redundancy or additional capacities. These wells have to be sited, installed, and tested to meet Ecology and DOH standards.

Speaker **Jay Chennault**

E-mail jchennault@aesgeo.com

Speaker's Job Title Principal Hydrogeologist

Phone

Organization Associated Earth Sciences, Inc.

Primary Job Duties Project manager - Consulting Firm

Registrations or Certifications Washington State Professional Engineer;Washington State Licensed Geologist, Hydrogeologist, CWRE

2023 Western Washington Short School

Date 6/6/2023

Start Time 2:30 PM

End Time 3:30 PM

Track 1A - Pump Stations

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Pump Vibration Causes and Remedies**

Abstract

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.

Relevance

Excessive pump vibration affects pump reliability and maintenance cost. Identifying and eliminating excess vibration is critical for pump reliability and reducing maintenance cost.

Speaker **Noel Frederick**

E-mail noel.frederick@avsengineeringllc.com

Speaker's Job Title Engineer

Phone 2063269556

Organization AVS Engineering, LLC

Primary Job Duties Engineer

Registrations or Certifications Washington State Professional Engineer

2023 Western Washington Short School

Date 6/6/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 2A - Utility Management / Leadership

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Rate Setting Fundamentals**

Abstract

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.

Relevance

This presentation will focus on outlining how rates are set for financially sustainable water and wastewater utilities.

Speaker **Sergey Tarasov**

E-mail sergeyt@fcsgroup.com

Speaker's Job Title Principal

Phone

Organization FCS GROUP

Primary Job Duties Utility Rate Consultant

Registrations or Certifications n/a

2023 Western Washington Short School

Date 6/6/2023

Start Time 1:20 PM

End Time 2:20 PM

Track 1C - Asset Management

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Recommissioning**

Abstract

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.

Relevance

The presentation will also discuss the benefits of recommissioning, including reducing energy and water consumption, improving equipment life, increasing facility reliability, and enhancing overall environmental sustainability. Additionally, it will highlight the potential challenges associated with recommissioning, such as the need for initial capital investment and dealing with complex system interactions.

Speaker **Angela Templin**

E-mail atemplin@glumac.com

Speaker's Job Title Angela Dawn Templin

Phone

Organization Angela Dawn Templin

Primary Job Duties Commissioning Authority, Vice President

Registrations or Certifications Washington State Professional Engineer;Building Commissioning Association Certified Professional

2023 Western Washington Short School

Date 6/7/2023

Start Time 1:40 PM

End Time 2:40 PM

Track 2A - Asset Management

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Risk and uncertainty workshop - Part 1**

Abstract

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.

Relevance

Water and wastewater services are asset intensive and depend on infrastructure. Asset management will help organizations to improve how they manage assets and deliver value. Through asset management practices water and wastewater organizations can enhance how they identify, plan, implement, and sustain improvements to meet their required levels of service. Improvement in management of assets will deliver value, and help organizations to fully understand challenges, plan for desired outcomes, access the right capability, manage ambiguity, and continually apply data and insights to transition from uncertain and reactive to informed and proactive decision-making. Asset management supports alignment across organizational objectives, business processes, information and data requirements to achieve enhanced decision making and better value and outcomes for stakeholders and the delivery of water and wastewater services.

Speaker **Todd Shepherd**

E-mail todd.shepherd@amcl.com

Speaker's Job Title Principal Consultant

Phone

Organization AMCL

Primary Job Duties Todd has extensive experience deploying effective Asset Management Systems, including developing policies, Asset Management objectives and strategic plans, integrating Asset Class Strategies, Site and System Strategies, Value model prioritization and innovative approaches to the development of Whole Life Cost Models, incorporating risk analysis and up-to-date maintenance failure data to project optimal economic life for critical assets.

Registrations or Certifications

2023 Western Washington Short School

Date 6/7/2023

Start Time 2:50 PM

End Time 3:50 PM

Track 2A - Asset Management

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Risk and uncertainty workshop - Part 2**

Abstract

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.

Relevance

Water and wastewater services are asset intensive and depend on infrastructure. Asset management will help organizations to improve how they manage assets and deliver value. Through asset management practices water and wastewater organizations can enhance how they identify, plan, implement, and sustain improvements to meet their required levels of service. Improvement in management of assets will deliver value, and help organizations to fully understand challenges, plan for desired outcomes, access the right capability, manage ambiguity, and continually apply data and insights to transition from uncertain and reactive to informed and proactive decision-making. Asset management supports alignment across organizational objectives, business processes, information and data requirements to achieve enhanced decision making and better value and outcomes for stakeholders and the delivery of water and wastewater services.

Speaker **Todd Shepherd**

E-mail todd.shepherd@amcl.com

Speaker's Job Title Principal Consultant

Phone

Organization AMCL

Primary Job Duties Todd has extensive experience deploying effective Asset Management Systems, including developing policies, Asset Management objectives and strategic plans, integrating Asset Class Strategies, Site and System Strategies, Value model prioritization and innovative approaches to the development of Whole Life Cost Models, incorporating risk analysis and up-to-date maintenance failure data to project optimal economic life for critical assets.

Registrations or Certifications

2023 Western Washington Short School

Date 6/7/2023

Start Time 12:10 PM

End Time 1:10 PM

Track 2B - Pump Stations

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Solutions for Pump Plugging**

Abstract

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.

Relevance

Homeowners continue to flush not only wipes, but other debris down the toilet to cause pump failures & plugs in equipment.

Speaker **Rich Owens**

E-mail rich@owenspump.com

Speaker's Job Title President

Phone 534208301

Organization Owens Pump & Equipment

Primary Job Duties President

Registrations or Certifications Supplier

2023 Western Washington Short School

Date	6/6/2023	**Track**	1C - Wastewater Treatment
Start Time	10:40 AM	**Drinking Water and/or Wastewater**	Wastewater
End Time	11:10 AM	**Length of Session**	Half Hour (about 25 minutes with 5 minutes for questions and discussion)

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

Abstract

The presentation will discuss the methods used to install a Chloramine system to reduce the effects of Nitrite Lock. This is an uncommon problem that many operators must deal with and if they do not understand the issue it can cause permit violations.

Relevance

This is an uncommon problem that many operators must deal with and if they do not understand the issue it can cause permit violations. The presentation will demonstrate the causes of a high chlorine demand and one method to overcome this demand.

Speaker	**Ed Griffenberg**	**E-mail**	egriffen@hdrinc.com
Speaker's Job Title	Senior Operations Specialist	**Phone**	
Organization	HDR		
Primary Job Duties	O&M Manual creation and Startup Services		
Registrations or Certifications	Washington State Wastewater Operator		

2023 Western Washington Short School

Date	6/7/2023	**Track**	1B - Collection Systems
Start Time	2:50 PM	**Drinking Water and/or Wastewater**	Wastewater
End Time	3:50 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Solving Infiltration & Corrosion Problems in Sanitary Sewer Structures**

Abstract

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

Relevance

This presentation gives options for manhole rehabilitation.

Speaker	**Jim Swain**	**E-mail**	jimswain@cipmanhole.com
Speaker's Job Title	PRESIDENT	**Phone**	
Organization	CIP CONSTRUCTION TECHNOLOGIES, INC.		
Primary Job Duties	Admin		
Registrations or Certifications	State of Montan		

2023 Western Washington Short School

Date	6/7/2023	**Track**	2A - Asset Management
Start Time	10:10 AM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	11:10 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Taming the Beast: Making your EAM system work for you:**

Abstract

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.

Relevance

Water and wastewater services are asset intensive and depend on infrastructure. Asset management will help organizations to improve how they manage assets and deliver value. Through asset management practices water and wastewater organizations can enhance how they identify, plan, implement, and sustain improvements to meet their required levels of service. Improvement in management of assets will deliver value, and help organizations to fully understand challenges, plan for desired outcomes, access the right capability, manage ambiguity, and continually apply data and insights to transition from uncertain and reactive to informed and proactive decision-making. Asset management supports alignment across organizational objectives, business processes, information and data requirements to achieve enhanced decision making and better value and outcomes for stakeholders and the delivery of water and wastewater services.

Speaker	**Tammy Whipple**	**E-mail**	tammy.whipple@amcl.com
Speaker's Job Title	Principal Consultant	**Phone**	2066834337
Organization	AMCL		
Primary Job Duties	Support water, wastewater and municipalities with strategic asset management		
Registrations or Certifications	IAM Asset Management Professional		

2023 Western Washington Short School

Date	6/6/2023	**Track**	2A - Utility Management / Leadership
Start Time	12:10 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	1:10 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **The Recruitment Crisis in the Water Environment Profession**

Abstract

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.

Relevance

This is relevant to managers as well as operators in understanding what appeals to people graduating from high school and community college with an interest in the environmental sciences. This will improve and ease the recruitment as well as the retention process for new employees.

Speaker	**Chris Maher**	**E-mail**	maherc@cleanwaterservices.org
Speaker's Job Title	Operations Analyst	**Phone**	5035478037
Organization	Clean Water Services		
Primary Job Duties	Optimization and Troubleshooting Wastewater Treatment Processes		
Registrations or Certifications	Oregon State Watewater Operator		

2023 Western Washington Short School

Date	6/6/2023	**Track**	1B - Data Management
Start Time	8:40 AM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	9:40 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Treatment Plant Data Management and Visualization**

Abstract

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.

Relevance

Most w/ww facilities lack data management and visualization capabilities that combine all data sources (SCAD, Lab, Ops, Admin, external). This presentation the covers the required infrastructure and presents a data visualization concept to make all data accessible to human intelligence before we worry about the artificial kind.

Speaker	**Mario Benisch**	**E-mail**	mbenisch@hdrinc.com
Speaker's Job Title	Process Engineer	**Phone**	5034233768
Organization	HDR		
Primary Job Duties	Senior Process Engineer		
Registrations or Certifications	Oregon PE		

2023 Western Washington Short School

Date 6/7/2023

Start Time 8:40 AM

End Time 9:40 AM

Track 2B - Wells

Drinking Water and/or Wastewater Water

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Understanding and Addressing Well Performance Issues**

Abstract

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.

Relevance

This presentation is relevant in the water industry due to it's focus on water wells that provide groundwater supply for many water/utility districts. Maintenance of water supply wells through the use of rehabilitation methods can extend their life and performance resulting in long-term cost savings for the well operator.

Speaker **Chris Allen**

E-mail callen@aesgeo.com

Speaker's Job Title Associate Hydrogeologist

Phone

Organization Associated Earth Sciences, Inc.

Primary Job Duties Project management, analysis, and reporting for hydrogeologic focused projects in Washington State

Registrations or Certifications Licensed Geologist and Hydrogeologist in Washington State. License #2594

2023 Western Washington Short School

Date	6/6/2023	**Track**	1A - Regulations
Start Time	7:30 AM	**Drinking Water and/or Wastewater**	Water
End Time	8:30 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Understanding the Lead and Copper Rule Revisions**

Abstract

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.

Relevance

The Lead and Copper Rule Revisions are a series of mandatory federal rule changes that affects multiple operational and engineering aspects of every utility that has a distribution system. All water utilities will need to come into compliance with these revisions, with the first deadline being October 2024.

Speaker	**Pierre Kwan**	**E-mail**	pierre.kwan@hdrinc.com
Speaker's Job Title	Water Treatment Technical Director	**Phone**	2068264735
Organization	HDR		

Primary Job Duties Oversee of all of HDR's drinking water treatment and quality projects around the world

Registrations or Certifications Washington State Professional Engineer

2023 Western Washington Short School

Date 6/6/2023

Start Time 7:30 AM

End Time 8:00 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

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

Abstract

After five years of related construction activity, King County's Georgetown Wet Weather Treatment Station (GWWTS) began treating combined sewage in December 2022 that would have otherwise been released into the Duwamish River in Seattle. The station was designed to control combined sewer overflows at the South Michigan and Brandon Street outfalls by limiting untreated discharges to an average of no more than one per year, per outfall. The GWWTS has a capacity for a peak inflow of 133 mgd. The station includes a 1.1 MG equalization basin and two 35-mgd treatment trains that use ballasted sedimentation and ultraviolet disinfection to meet discharge permit requirements. Additionally, the GWWTS includes a regulator, screening and handling, influent pump station, chemical storage and distribution, odor control and solids storage systems. During the wet weather season, the station is ready to quickly startup and treat intermittent and variable events on short notice. Startup and shutdown sequences between events consist of a recycle stream, solids discharge, water management, and tank flushing. During dry weather, the station can recycle treated water to allow for operator training, maintenance, and inspection.

Relevance

Startup is especially challenging for intermittent facilities and a robust startup and commissioning process is needed for any new construction. This presentation describes a thorough startup and commissioning process that can be completed in any season.

Speaker **Tina Hastings**

E-mail Tina.Hastings@Jacobs.com

Speaker's Job Title Senior Project Manager

Phone

Organization Jacobs

Primary Job Duties Wastewater Project Management

Registrations or Certifications Washington State Professional Engineer

2023 Western Washington Short School

Date 6/6/2023

Start Time 9:10 AM

End Time 9:40 AM

Track 2A - Utility Management / Leadership

Drinking Water and/or Wastewater Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Using Reliability Principles To Discover Design Blind Spots**

Abstract

There can be disconnects between Designers and Operations & Maintenance. Introducing Reliability Centered Design is an effective method to bridge the gap. Reliability Centered Design (RCD) is a tool used during design that identifies potential failures in a system, assesses O&M impacts, and includes engineering measures to prevent failures and mitigate risks.

Relevance

Water and wastewater professionals are tasked with continual operation of the infrastructure and reliability centered design brings the processes and operation of their facilities straight into design. It is at the heart of helping them meet that goal.

Speaker **Gwen Gyldenege**

E-mail gwengyldenege@kennedyjenks.com

Speaker's Job Title Reliability Engineer

Phone

Organization Kennedy Jenks

Primary Job Duties Reliability and Wastewater Design and Construction

Registrations or Certifications Washington State Engineer-In-Training

2023 Western Washington Short School

Date	6/6/2023	**Track**	1B - Water Reuse
Start Time	1:20 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	2:20 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Using Research to Inform Community Decisions about Reclaimed Water Use**

Abstract

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.

Relevance

There is growing concern about human and environmental health impacts from contaminants of emerging concern, a term applied to a broad array of trace chemicals that come from consumer, commercial and industrial products. Water, wastewater effluent and reclaimed water have been identified as a potential source of CECs. Because there are limited regulations related to CECs, it can be hard for wastewater and water utilities to understand and characterize risk to humans and the environment from uses of reclaimed water.

Speaker	**Jacque Klug**	**E-mail**	jacque.klug@kingcounty.gov
Speaker's Job Title	Nutrient Management Coordinator	**Phone**	
Organization	King County Wastewater Treatment Division		

Primary Job Duties Jacque manages the King County Wastewater Treatment Division's nutrient management response, coordinating regulatory compliance; wastewater treatment operational changes; policy development and implementation; and nutrient-related science research. Prior to this position, Jacque was a project manager for King County's Recycled Water Program and oversaw research related to contaminants of emerging concern.

Registrations or Certifications None

2023 Western Washington Short School

Date 6/7/2023

Start Time 1:40 PM

End Time 2:40 PM

Track 2B - Pump Stations

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **VFD Hands on Programming Experience**

Abstract

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

Relevance

VFD's are ubiquitous in industry today because of their opportunity to save energy. This is an opportunity to experience drive programming in a safe classroom environment.

Speaker **Robert Hansen**

E-mail rhansen@carodycompany.com

Speaker's Job Title Drives Applications Engineer

Phone

Organization Carmody Company

Primary Job Duties Drives Applications Engineer

Registrations or Certifications none

2023 Western Washington Short School

Date 6/6/2023

Start Time 8:00 AM

End Time 8:30 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Wastewater

Length of Session Half Hour (about 25 minutes with 5 minutes for questions and discussion)

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

Abstract

During the COVID-19 pandemic, wastewater-based epidemiology gained popularity as a useful tool for monitoring disease prevalence at a community level in near-real time. To this end, in 2020, the Centers for Disease Control launched the National Wastewater Surveillance System (NWSS) to supplement public health efforts to address the COVID-19 pandemic across the United States. NWSS provides coordination, funding, and support for State government-led wastewater-based epidemiology programs nationwide. In October 2021, Washington Department of Health began testing wastewater samples for SARS-CoV-2, the virus that causes COVID-19. Testing programs continue to expand to capture additional pathogens, and as of February 2023, Washington's Wastewater-Based Epidemiology (WAWBE) program is sampling and testing at 28 wastewater treatment plants across 16 different counties in the state. This presentation will educate the audience on how wastewater-based epidemiology works, why it is important, and the future of WAWBE.

Relevance

Wastewater treatment plants are crucial partners for the success of program. The Washington Wastewater-Based Epidemiology program coordinates with wastewater operators across the state to collect samples for disease testing. This presentation will help epidemiologists and program coordinators for WAWBE build better partnerships with those in the wastewater industries, especially professionals working at wastewater treatment plants in Washington state.

Speaker **Breanna McArdle**

E-mail Breanna.McArdle@doh.wa.gov

Speaker's Job Title Wastewater Epidemiologist

Phone

Organization Washington Department of Health

Primary Job Duties Epidemiology supervisor for Washington Wastewater Based Epidemiology Program

Registrations or Certifications Epidemiologist

2023 Western Washington Short School

Date 6/7/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 1A - Treatment

Drinking Water and/or Wastewater Water;Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Wastewater Chemistry: 101**

Abstract

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

Relevance

This presentation will provide a solid foundation of chemical basics to support wastewater operational staff in their day-to-day understanding of the varied water treatment processes that can occur from the time the wastewater enters the collection system until it leaves the treatment facility.

Speaker **Doug Kelley**

E-mail dkelley@inlande.com

Speaker's Job Title President

Phone 15096794637

Organization Inland Environmental Resources, Inc.

Primary Job Duties Technical Management

Registrations or Certifications Ph.D. Chemist

2023 Western Washington Short School

Date	6/7/2023	**Track**	1B - Odor Control
Start Time	12:10 PM	**Drinking Water and/or Wastewater**	Wastewater
End Time	1:10 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Wastewater Odor Generation and Controls**

Abstract

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.

Relevance

This presentation will discuss how odors from wastewater systems and facilities can be prevented from impacting communities and violating air pollution control laws and regulations.

Speaker	**Diederik Apgar**	**E-mail**	dirk.apgar@kingcounty.gov
Speaker's Job Title	Engineering Supervisor	**Phone**	4254178138
Organization	King County Wastewater Treatment Division		
Primary Job Duties	Supervise engineering group and participate in the design of wastewater odor control systems.		
Registrations or Certifications	Washington State Professional Engineer		

2023 Western Washington Short School

Date 6/6/2023

Start Time 10:10 AM

End Time 11:10 AM

Track 2B - Treatment

Drinking Water and/or Wastewater Wastewater

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Wastewater Treatment Aeration Applications and Blower Technologies**

Abstract

1)Purpose of Aeration2)Methods of Aerationa.Packed Tower Aerationb.Surface/Splash Aerationc.Bottom Aerationd.Coarse Bubble Aeratione.Fine Bubble Aeration3)Wastewater Treatment Aeration Applicationsa. Equalization Basinsb.Aerated Grit Chambersc.Channel Aerationd.Aeration Basinse.Secondary Clarifiersf.Aerobic Digestersg.Sludge Holding Tanksh.Filter Air Scouringi.Post Aeration4)Waste Treatment Energy Consumption 5)Blower Technologiesa.Positive Displacementb.Helical Screwc.Centrifugald.Integrally Geared Turbo e.High-Speed Turbo6)Design Considerations

Relevance

Aeration is a major component of wastewater treatment.

Speaker

E-mail rick.barile@sulzer.com

Speaker's Job Title Western Regional Manager, Municipal Wastewater

Phone

Organization Sulzer Flow Solutions, Inc.

Primary Job Duties Western US Municipal Wastewater Management for Pumps, Mixers and blowers

Registrations or Certifications None

2023 Western Washington Short School

Date	6/7/2023	**Track**	1A - Treatment
Start Time	12:10 PM	**Drinking Water and/or Wastewater**	Wastewater
End Time	1:10 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Wastewater Treatment Aeration Applications and Blower Technologies**

Abstract

1)Purpose of Aeration2)Methods of Aerationa.Packed Tower Aerationb.Surface/Splash Aerationc.Bottom Aerationd.Coarse Bubble Aeratione.Fine Bubble Aeration3)Wastewater Treatment Aeration Applicationsa. Equalization Basinsb.Aerated Grit Chambersc.Channel Aerationd.Aeration Basinse.Secondary Clarifiersf.Aerobic Digestersg.Sludge Holding Tanksh.Filter Air Scouringi.Post Aeration4)Waste Treatment Energy Consumption 5)Blower Technologiesa.Positive Displacementb.Helical Screwc.Centrifugald.Integrally Geared Turbo e.High-Speed Turbo6)Design Considerations

Relevance

Aeration is a major component of wastewater treatment.

Speaker	**Richard Barile**	**E-mail**	rick.barile@sulzer.com
Speaker's Job Title	Western Regional Manager, Municipal Wastewater	**Phone**	
Organization	Sulzer Flow Solutions, Inc.		
Primary Job Duties	Western US Municipal Wastewater Management for Pumps, Mixers and blowers		
Registrations or Certifications	None		

2023 Western Washington Short School

Date 6/7/2023

Start Time 7:30 AM

End Time 8:30 AM

Track 1C - Distribution Systems

Drinking Water and/or Wastewater Water

Length of Session Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Water Loss Reduction - Practical Approaches**

Abstract

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.

Relevance

This presentation will be geared toward water operations and reducing loss in the pipeline network. All utilities strive for reduced water loss, and this presentation will explain some common methods for doing that.

Speaker **Mike Uthe**

E-mail muthe@muellerwp.com

Speaker's Job Title Northwest Manager; Technology

Phone

Organization Mueller Water Products

Primary Job Duties I am the sales manager for Mueller's technology products in the Northwest USA (Alaska through Colorado).

Registrations or Certifications Engineer

2023 Western Washington Short School

Date	6/7/2023	**Track**	2B - Wells
Start Time	10:10 AM	**Drinking Water and/or Wastewater**	Water
End Time	11:10 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Water Supply Well Evaluation Case Studies**

Abstract

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.

Relevance

Provides groundwater supply system managers and operators with additional insights into how to evaluate a well and decide whether to replace or revuild.

Speaker	**Kevin A Lindsey**	**E-mail**	klindsey@geoengineers.com
Speaker's Job Title	Principle Hydrogeologist	**Phone**	
Organization	GeoEngineers, Inc.		

Primary Job Duties Groundwater resource supply projects, including planning, overseeing, and reporting related to existing and new municipal, industrial, and irrigation water supply wells.

Registrations or Certifications Washington Licensed Hydrogeologist

2023 Western Washington Short School

Date	6/6/2023	**Track**	1C - Asset Management
Start Time	12:10 PM	**Drinking Water and/or Wastewater**	Water;Wastewater
End Time	1:10 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **What is new in the world of electronic O&M manuals**

Abstract

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

Relevance

Water and wastewater operators are in charge of their individual facilities. This presentation will demonstrate how up to date information is available through the electronic O&M manual including SOPs, equipment manuals, active permits etc.

Speaker	**Ed Griffenberg**	**E-mail**	egriffen@hdrinc.com
Speaker's Job Title	Senior Operations Specialist	**Phone**	4255918436
Organization	HDR		

Primary Job Duties I work with water and wastewater operator and train them to better operator their facilities. I also create O&M manuals and provide startup service.

Registrations or Certifications Washington State Wastewater Operator