



## 2023 Western Washington Short School

**Date** 6/6/2023 **Track** 1B - Data Management  
**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:** 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

**E-mail** mzellers@muellerwp.com

**Speaker's Job Title** Territory Manager

**Phone** 5033105993

**Organization** Mueller

**Primary Job Duties** Sales

**Registrations or Certifications** None



## 2023 Western Washington Short School

<b>Date</b> 6/6/2023	<b>Track</b> 2B - Treatment
<b>Start Time</b> 8:40 AM	<b>Drinking Water and/or Wastewater</b> Water
<b>End Time</b> 9:10 AM	<b>Length of Session</b> 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  
**Track** 1C - Wastewater Certification  
**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:** 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

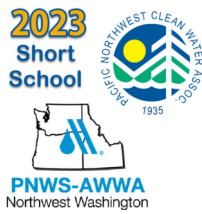
**Speaker** Joseph Carter  
**E-mail** jcarter@awwd.com

**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  
**Track** 1A - Treatment  
**Start Time** 1:40 PM  
**Drinking Water and/or Wastewater** Wastewater  
**End Time** 2:40 PM  
**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.

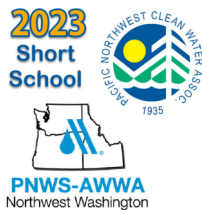
**Speaker** **Milt Larsen**                      **E-mail** miltlarsen@kennedyjenks.com

**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 **Track** 1B - Water Reuse  
**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:** 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 øereal-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](mailto: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](mailto: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 **Track** 1C - 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:** 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

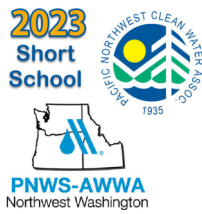
**Speaker's Job Title** Sales Representative

**Phone**

**Organization** Bainbridge Associates

**Primary Job Duties** Sales

**Registrations or Certifications** BS Natural Resources from Humboldt State University



## 2023 Western Washington Short School

<b>Date</b> 6/6/2023	<b>Track</b> 2B - Treatment
<b>Start Time</b> 9:10 AM	<b>Drinking Water and/or Wastewater</b> Water
<b>End Time</b> 9:40 AM	<b>Length of Session</b> 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 **Track** 1C - Distribution Systems  
**Start Time** 9:10 AM **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 9:40 AM **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.

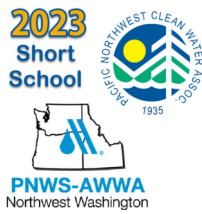
**Speaker** Josh Blount **E-mail** jblount@dipra.org

**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      **Track** 2A - Utility Management / Leadership  
**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: 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](mailto: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](mailto:eleanor.ott@ecy.wa.gov)

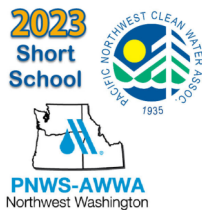
**Speaker's Job Title** Regional Engineer/Permit Manager

**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      **Track** 1B - Odor Control  
**Start Time** 1:40 PM      **Drinking Water and/or Wastewater** Wastewater  
**End Time** 2:40 PM      **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 Flow<sup>®</sup>,<sup>ç</sup> 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      **Track** 2A - Asset 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:** **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

<b>Date</b>	6/7/2023	<b>Track</b>	1C - Distribution Systems
<b>Start Time</b>	8:40 AM	<b>Drinking Water and/or Wastewater</b>	Water;Wastewater
<b>End Time</b>	9:10 AM	<b>Length of Session</b>	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.

<b>Speaker</b>	<b>Josh Blount</b>	<b>E-mail</b>	jblount@dipra.org
<b>Speaker's Job Title</b>	Regional Director	<b>Phone</b>	2055324267
<b>Organization</b>	Ductile Iron Pipe Research Association		
<b>Primary Job Duties</b>	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.		
<b>Registrations or Certifications</b>	North Carolina State Professional Engineer, AMPP Cathodic Protection Technician		





## 2023 Western Washington Short School

**Date** 6/7/2023  
**Track** 1C - Distribution/Collection Systems  
**Start Time** 1:40 PM  
**Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 2:40 PM  
**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

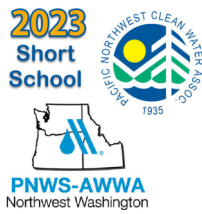
**Speaker's Job Title** Technical Sales

**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      **Track** 1C - Distribution/Collection Systems  
**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:** **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.

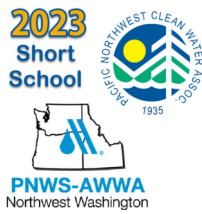
**Speaker** **Ben McConkey** **E-mail** [ben.mcconkey@hdrinc.com](mailto:ben.mcconkey@hdrinc.com)

**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 **Track** 2A - Asset Management  
**Start Time** 7:30 AM **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 8:30 AM **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

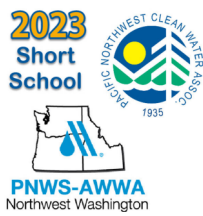
**Speaker's Job Title** Principal Consultant

**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  
**Track** 2B - 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:** 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 savings. Using 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

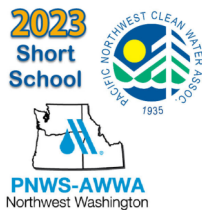
**Speaker's Job Title** Western Regional Sales Manager

**Phone** 6124012006

**Organization** Centrisys

**Primary Job Duties** Technical Sales

**Registrations or Certifications** None



## 2023 Western Washington Short School

<b>Date</b> 6/6/2023	<b>Track</b> 2A - Utility Management / Leadership
<b>Start Time</b> 10:10 AM	<b>Drinking Water and/or Wastewater</b> Wastewater
<b>End Time</b> 11:10 AM	<b>Length of Session</b> 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.

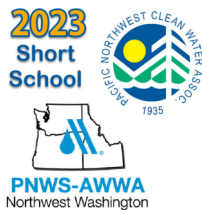
**Speaker** Jim Pitts **E-mail** jim.pitts@kingcounty.gov

**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 discusses how lagoons can be used to treat influent wastewater to meet today's stringent discharge requirements

**Speaker** Gregory Roppelt

**E-mail** greg.roppelt@wastewater.com

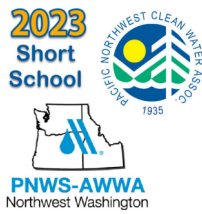
**Speaker's Job Title** Western Regional Sales Manager

**Phone** 2395658873

**Organization** Nexom/EDI

**Primary Job Duties** Oversee technical sales of for the Western US for all product lines that EDI/Nexom offer. These 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 Engineer



## 2023 Western Washington Short School

**Date** 6/6/2023      **Track** 1A - Regulations  
**Start Time** 8:40 AM      **Drinking Water and/or Wastewater** Water  
**End Time** 9:40 AM      **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](mailto: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 **Track** 2A - Utility Management / Leadership  
**Start Time** 8:40 AM **Drinking Water and/or Wastewater** Wastewater  
**End Time** 9:10 AM **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.

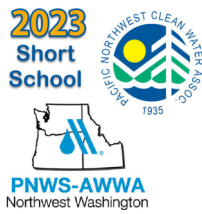
**Speaker** Laurie Pierce **E-mail** [laurie.pierce@piercecountywa.gov](mailto:laurie.pierce@piercecountywa.gov)

**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 **Track** 2B - Water Data  
**Start Time** 2:50 PM **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 3:50 PM **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

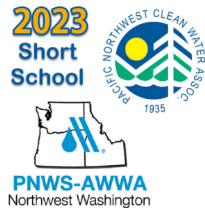
**Speaker's Job Title** Vice President

**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

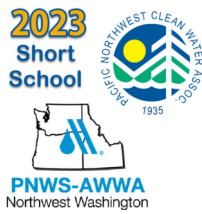
**Speaker's Job Title** Area Manager - Pacific Northwest

**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                      **Track** 1A - Regulations  
**Start Time** 10:40 AM                      **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 11:10 AM                      **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

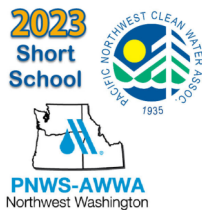
**Speaker** Ryan Zboralski                      **E-mail** rzbo461@ecy.wa.gov

**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

**Track** 2B - 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:** **Nutrient Recovery and Struvite Mitigation in Pima County, AZ, with NuReSys Technology**

**Abstract** ABSTRACT Struvite (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 ( $\text{FeCl}_3$ ) 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  $\text{MgCl}_2$  dosing, the annual savings on ferric and managing a drier Cake compensate for the  $\text{MgCl}_2$ . 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](mailto: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

**Track** 1A - Treatment

**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:** **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](mailto:grock@ugsicorp.com)

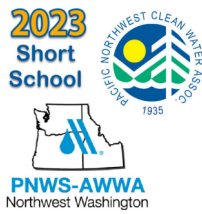
**Speaker's Job Title** Regional Manager

**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 **Track** 1C - Wastewater Certification  
**Start Time** 7:30 AM **Drinking Water and/or Wastewater** Wastewater  
**End Time** 8:30 AM **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](mailto: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

<b>Date</b>	6/7/2023	<b>Track</b>	1A - Treatment
<b>Start Time</b>	8:40 AM	<b>Drinking Water and/or Wastewater</b>	Wastewater
<b>End Time</b>	9:40 AM	<b>Length of Session</b>	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

<b>Date</b>	6/7/2023	<b>Track</b>	1B - Climate and Energy
<b>Start Time</b>	8:40 AM	<b>Drinking Water and/or Wastewater</b>	Water;Wastewater
<b>End Time</b>	9:40 AM	<b>Length of Session</b>	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** [lmcmwilliams@parametrix.com](mailto:lmcmwilliams@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

<b>Date</b>	6/6/2023	<b>Track</b>	2A - Utility Management / Leadership
<b>Start Time</b>	2:30 PM	<b>Drinking Water and/or Wastewater</b>	Water;Wastewater
<b>End Time</b>	3:30 PM	<b>Length of Session</b>	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](mailto: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 **Track** 1B - Data Management  
**Start Time** 7:30 AM **Drinking Water and/or Wastewater** Wastewater  
**End Time** 8:30 AM **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 rehabilitation 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

**Track** 2B - Wells

**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:** **Production Well Installation and Testing from A to Z**  
**Presentation 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 siting 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](mailto:jchennault@aesgeo.com)

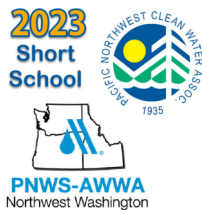
**Speaker's Job Title** Principal Hydrogeologist

**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

<b>Date</b>	6/6/2023	<b>Track</b>	1A - Pump Stations
<b>Start Time</b>	2:30 PM	<b>Drinking Water and/or Wastewater</b>	Water;Wastewater
<b>End Time</b>	3:30 PM	<b>Length of Session</b>	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](mailto:noel.frederick@avsengineeringllc.com)

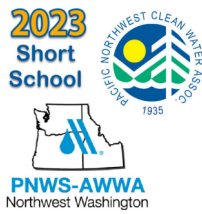
**Speaker's Job Title** Engineer

**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

**Track** 2A - Utility Management / Leadership

**Start Time** 7:30 AM

**Drinking Water and/or Wastewater** Water;Wastewater

**End Time** 8:30 AM

**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 **Track** 1C - Asset Management  
**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:** **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.

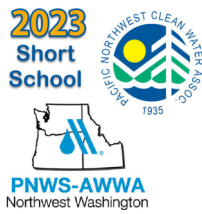
**Speaker** **Angela Templin** **E-mail** [atemplin@glumac.com](mailto:atemplin@glumac.com)

**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

<b>Date</b>	6/7/2023	<b>Track</b>	2A - Asset Management
<b>Start Time</b>	1:40 PM	<b>Drinking Water and/or Wastewater</b>	Water;Wastewater
<b>End Time</b>	2:40 PM	<b>Length of Session</b>	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

<b>Date</b> 6/7/2023	<b>Track</b> 2A - Asset Management
<b>Start Time</b> 2:50 PM	<b>Drinking Water and/or Wastewater</b> Water;Wastewater
<b>End Time</b> 3:50 PM	<b>Length of Session</b> 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.

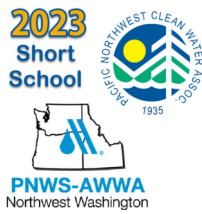
**Speaker** Todd Shepherd **E-mail** todd.shepherd@amcl.com

**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](mailto: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

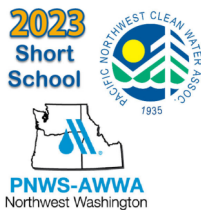
**Speaker's Job Title** Principal Consultant

**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 Wastewater Operator





# 2023 Western Washington Short School

<b>Date</b>	6/6/2023	<b>Track</b>	1B - Data Management
<b>Start Time</b>	8:40 AM	<b>Drinking Water and/or Wastewater</b>	Water;Wastewater
<b>End Time</b>	9:40 AM	<b>Length of Session</b>	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.

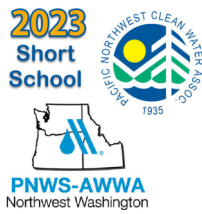
**Speaker** Mario Benisch **E-mail** mbenisch@hdrinc.com

**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                      **Track** 2B - Wells  
**Start Time** 8:40 AM                      **Drinking Water and/or Wastewater** Water  
**End Time** 9:40 AM                      **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 its 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

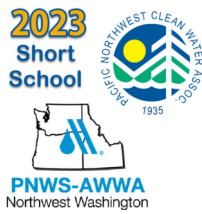
**Speaker's Job Title** Water Treatment Technical Director

**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      **Track** 2B - Treatment  
**Start Time** 7:30 AM      **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 8:00 AM      **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 **Track** 2A - Utility Management / Leadership  
**Start Time** 9:10 AM **Drinking Water and/or Wastewater** Wastewater  
**End Time** 9:40 AM **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

<b>Date</b> 6/6/2023	<b>Track</b> 1B - Water Reuse
<b>Start Time</b> 1:20 PM	<b>Drinking Water and/or Wastewater</b> Water;Wastewater
<b>End Time</b> 2:20 PM	<b>Length of Session</b> 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](mailto: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      **Track** 2B - Pump Stations  
**Start Time** 1:40 PM      **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 2:40 PM      **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      **Track** 2B - Treatment  
**Start Time** 8:00 AM      **Drinking Water and/or Wastewater** Wastewater  
**End Time** 8:30 AM      **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      **Track** 1A - Treatment  
**Start Time** 7:30 AM      **Drinking Water and/or Wastewater** Water;Wastewater  
**End Time** 8:30 AM      **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

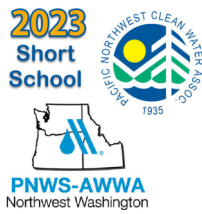
**Speaker's Job Title** President

**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](mailto: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

<b>Date</b> 6/6/2023	<b>Track</b> 2B - Treatment
<b>Start Time</b> 10:10 AM	<b>Drinking Water and/or Wastewater</b> Wastewater
<b>End Time</b> 11:10 AM	<b>Length of Session</b> 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 Aeriation  
 a.Packed Tower Aeriationb.Surface/Splash Aeriationc.Bottom Aeriationd.Coarse Bubble Aeriatione.Fine Bubble Aeriation  
 3)Wastewater Treatment Aeration Applicationsa. Equalization Basinsb.Aerated Grit Chambersc.Channel Aeriationd.Aeration Basinese.Secondary Clarifiersf.Aerobic Digestersg.Sludge Holding Tanksh.Filter Air Scouringi.Post Aeration  
 4)Waste Treatment Energy Consumption 5)Blower Technologiesa.Positive Displacementb.Helical Screwc.Centrifugald.Integrally Geared Turbo e.High-Speed Turbo  
 6)Design Considerations

**Relevance** Aeration is a major component of wastewater treatment.

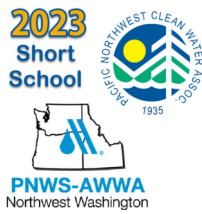
**Speaker** **E-mail** rick.barile@sulzer.com

**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 Aeriation  
a.Packed Tower Aeriationb.Surface/Splash Aeriation  
c.Bottom Aeriationd.Coarse Bubble Aeriation  
e.Fine Bubble Aeriation3)Wastewater Treatment Aeration Applications  
a. Equalization Basinsb.Aerated Grit Chambers  
c.Channel Aeriationd.Aeration Basine.Secondary Clarifiers  
f.Aerobic Digestersg.Sludge Holding Tank  
h.Filter Air Scouringi.Post Aeration4)Waste Treatment Energy Consumption  
5)Blower Technologies  
a.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

<b>Date</b> 6/7/2023	<b>Track</b> 1C - Distribution Systems
<b>Start Time</b> 7:30 AM	<b>Drinking Water and/or Wastewater</b> Water
<b>End Time</b> 8:30 AM	<b>Length of Session</b> 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.

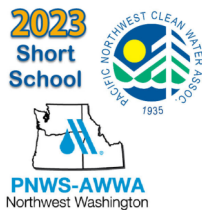
**Speaker** Mike Uthe **E-mail** muthe@muellerwp.com

**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 rebuild.

**Speaker** **Kevin A Lindsey**                      **E-mail** [klindsey@geoengineers.com](mailto: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