2021 Western Washington Short School

Date 06/09/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Accessible Inclined Orientation UV Disinfection System Permits Smaller Footprints for Larger Treatment Systems**

Abstract

As larger wastewater treatment plants began to utilize ultraviolet disinfection systems, the demand for more UV output within a more compact design was identified. Open channel medium pressure systems had been the preferred method for UV disinfection due to the significant amount of UV-C light generated; however, power inefficiencies and fouling concerns began to show that these systems had their shortcomings. Taking a forward thinking approach by recognizing the need for a compact, efficient, and potent disinfection system and learning from the existing treatment solutions available, the inclined orientation, low-pressure lamp system was developed.The inclined orientation system uses a 45° angle to maximize the disinfection time in the channel, minimizes the depth of the channel, and provides simple maintenance accessibility. Couple this design with the development of a more potent, yet energy efficient, lamp and you have a UV disinfection system that is capable of treating flows for larger treatment systems within a very compact footprint.

Speaker **Pedro Gochicoa**

E-mail pedro.gochicoa@xylem.com

Speaker's Job Title Territory Manager

Phone 9803121365

Organization Xylem

Primary Job Duties As a Territory Manager I'm responsible for implementing Xylem's sales strategy for the Wedeco Brand in the West Coast, and providing technical support to customers with ultraviolet, ozone, and advanced water treatment solutions.

Registrations or Certifications None

2021 Western Washington Short School

Date 06/08/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Process Control

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Advanced Process Control for the Aeration Basins**

Abstract

Finally, the market realizes that High Efficiency Blowers & Improved Diffusers require linear & repeatable control valves to deliver results. This Iris valve will greatly improve your process, reduce your air pressure & save energy. Learn about this unique valve and see our success story at Bright Water WWTP.

Speaker **Paul Nelsen**

E-mail paul@eggerpumps.com

Speaker's Job Title Managing Director

Phone 14785381593

Organization EGGER TURO PUMPS & Iris Valves

Primary Job Duties Managing Director

Registrations or Certifications My sales rep. is Victor Pedroni who is a member

2021 Western Washington Short School

Date 06/09/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Asset Management

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **AM Principles and Practices for Asset Intensive Public Sector Organizations**

Abstract

This session will provide a high-level overview of asset management by discussing asset management principles and best practices often strived for in order to achieve desired outcomes of the principles.Asset Management principles are generally determined by each organization based on the organizational goals and are often documented in an AM Policy. This presentation will describe the following asset management principles:• Customer focus• Lifecycle approachMany organizations also incorporate emphasis on principles regarding safety, innovation, and transparency. These principles will be discussed along with the benefit of creation of an AM policy.The importance of the asset lifecycle will be discussed and the practices of asset management will then be presented in the following clusters:Asset Management Planning, including • Development of a Strategic Asset Management Plan• Understanding of stakeholders and organizational drivers. Risk Management, including • Corporate, Operational, Project, and Asset Risk• Risk Identification, Analysis, and TreatmentAsset Lifecycle Decision-making, including• Capital Investment Planning• Maintenance and Reliability StrategiesFinancial Strategies, including• Financial Policies• Funding StrategiesAsset Management Enablers, including• Organizational Change• GovernanceThis intent is for this session to be followed-up by another one hour session by Terry Martin during which several example problems will be discussed with use of asset management practices to achieve solutions that align to the asset management principles.

Speaker **Liz Kelly**

E-mail lkelly@parametrix.com

Speaker's Job Title Senior Vice President

Phone 2069094514

Organization Parametrix

Primary Job Duties Business development and operational oversight of four offices in the Puget Sound region.

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Track Regulations

Start Time 02:25 PM

Drinking Water and/or Wastewater Water

End Time 2:55 PM

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

Presentation Title: **An Update on Drinking Water Regulatory Activity**

Abstract

There are a number of regulatory actions currently underway that could affect water systems operations in the near term. This presentation will focus on a few of these actions, most likely LCR, PFASs, and microbial and disinfection byproduct regulations, and will be adjusted based on the updates closer to the time of the training.

Speaker **Sam Perry**

E-mail Perry.samuel@epa.gov

Speaker's Job Title Environmental Engineer

Phone 206-553-2851

Organization USEPA - Region 10

Primary Job Duties Support for state drinking water programs and water systems on the lands of federally recognized tribal governments.

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Track Asset Management

Start Time 10:35 AM

Drinking Water and/or Wastewater Water

End Time 11:35 AM

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

Presentation Title: **Asset Management for Operations**

Abstract

By using fire hydrants and battery powered state-of-the-art sensors, operations will be able to understand how their distribution system is performing and be proactive rather than reactive. With 24/7 monitoring platforms, utilities will be able to plan strategically rather than on urgency. They can record and display data including pressure, flow, leak, chlorine and pH and then make informed decisions to control assets on their own terms. Asset management is only as good as the data that is available, and this presentation will focus on how to collect the data, but also how to use it to improve service to their customers and plan for the future.

Speaker **Mike Uthe**

E-mail muthe@muellerwp.com

Speaker's Job Title Northwest Area Manager

Phone 406-223-2192

Organization Mueller Water Products

Primary Job Duties Mike Uthe is the current Northwest area manager for Mueller's Water Management Solutions group based out of Belgrade, Montana. He currently covers AK, WA, OR, ID, MT, UT, WY, and CO in this role. He has spent the last 7 years working in municipal water as a technical resource for utilities and engineers. His expertise covers asset management, hydraulic control valves, and non-revenue water. He has a bachelor's degree in Petroleum Engineering, and a master's degree in Mechanical Engineering.

Registrations or Certifications None in state of Washington

2021 Western Washington Short School

Date 06/09/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Distribution System

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Benefits of Recycled Water**

Abstract

Overview of reclaimed water, and its various issues to include its increasing use for water rights mitigation

Speaker **Christopher Stoll**

E-mail chrisstoll@kennedyjenks.com

Speaker's Job Title Project Manager

Phone 206-753-3412

Organization Kennedy Jenks

Primary Job Duties Project manager focusing on water and wastewater planning and design with a particular focus on recycled water.

Registrations or Certifications Washington State Professional Engineer, ENV-SP

2021 Western Washington Short School

Date	06/09/2021	**Track**	Treatment
Start Time	10:35 AM	**Drinking Water and/or Wastewater**	Wastewater
End Time	11:35 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Beyond Net Zero – Reaching the Next Level of Renewable Energy through Beneficial Use of Food Waste**

Abstract

Business case evaluation assessing feasibility of accepting food slurry, expanding digestion and producing renewable electricity at a WWTP in the Pacific Northwest.

Speaker	**Matt Noesen**	**E-mail**	matt.noesen@jacobs.com
Speaker's Job Title	Project Manager, Technologist, Advisor	**Phone**	503.803.6162
Organization	Jacobs		
Primary Job Duties	West U.S. Regional Solutions Leader for Wastewater		
Registrations or Certifications	Washington State Professional Engineer, PMP		

2021 Western Washington Short School

Date 06/09/2021

Start Time 12:05 PM

End Time 12:35 PM

Track Biosolids

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Biosolids 101 - The Poop Loop**

Abstract

Ashley Mihle from King County's biosolids program will present an overview of biosolids, and how wastewater utilities can use this valuable resource on farms, forests, and gardens. The presentation will cover the basics of biosolids, regulatory classifications and end uses, the benefits of biosolids, current research and science, quality and safety, and opportunities for the future. In general, land application of biosolids is the most economical, socially responsible, and environmentally friendly way to turn a waste material into a valuable resource that builds soil and helps fight climate change. Examples will be provided from King County's biosolids program and their Loop® product.

Speaker **Ashley Mihle**

E-mail ashley.mihle@kingcounty.gov

Speaker's Job Title Loop compost project manager

Phone 2064772743

Organization King County Wastewater

Primary Job Duties Project management

Registrations or Certifications N/A

2021 Western Washington Short School

Date 06/09/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Biothermal Solids Processing Solutions**

Abstract

Solids processing solutions at water resource recovery facilities use biological and thermal technologies. Biothermal technologies like anaerobic digestion, thermal drying, pyrolysis, gasification, and incineration enable the resource recovery of biosolids, nutrients, energy, and water. Solids solutions can meet multiple objectives of environmental stewardship, operational reliability, and financial sustainability. Examples of solids processing solutions, with different biothermal technologies, around the world are given. Case studies of both established and emerging technologies are given. Consideration for selecting one or a combination of biothermal technologies are discussed. Synergies between digestion and thermal technologies are highlighted.

Speaker **Dave Parry**

E-mail dave.parry@jacobs.com

Speaker's Job Title Vice President, Senior Fellow

Phone 4253014070

Organization Jacobs

Primary Job Duties Senior Technical Consultant, Anaerobic Digestion and Biogas Systems, Research & Development, Design and Operation

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 08:50 AM

End Time 09:50 AM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **BNR Conversion of the Oro Loma/Castro Valley WPCP**

Abstract

Maintaining reliability in aging infrastructure has become a significant investment for wastewater agencies as facilities approach the end of their useful life. One such agency, Oro Loma Sanitary District (OLSD), was faced with a significant investment to rehabilitate a 7-mile long 189 MGD deep-water outfall in San Francisco Bay shared by six agencies. At the same time, nutrient regulation was being considered through a region-wide watershed permit that would require higher levels of treatment at OLSD's 20 MGD Water Pollution Control Plant (WPCP). OLSD identified a project that would address these two challenges.Implementation of $26M biological nutrient removal (BNR) upgrade of the existing secondary treatment process allowed OLSD to cost-effectively comply with anticipated regulation in the future watershed permit for nitrogen removal. In addition, an improved effluent quality allowed OLSD to renegotiate its NPDES permit to allow for the use of a near-shore outfall during wet-weather as an alternative discharge location to the deep-water outfall. Permitted use of the alternative outfall allowed OLSD's partner agencies additional capacity in the shared deep-water outfall, as well as reducing OLSD's liabilities for future outfall maintenance. The BNR upgrades were designed and constructed over a 3-year period and went into operation in September 2020.This presentation will highlight how BNR was incorporated into the WPCP, the anticipated benefits of the project, and how the improvements are performing based on the first months of operation.

Speaker **David Seymour**

E-mail davidseymour@kennedyjenks.com

Speaker's Job Title Engineer

Phone 206-753-3420

Organization Kennedy Jenks

Primary Job Duties Wastewater Design Engineer

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Facility Spotlight

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Cascadia WWTP Facility Tour**

Abstract

Virtual tour of Pierce County's Cascadia WWTP near Bonney Lake, WA.

Speaker **Jon Kercher**

E-mail jon.kercher@piercecountywa.gov

Speaker's Job Title Wastewater Operations Supervisor

Phone (253) 798-3013

Organization Pierce County

Primary Job Duties Wastewater Treatment Operations Supervisor

Registrations or Certifications Washington State Wastewater Operator

2021 Western Washington Short School

Date 06/08/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Pump Stations

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Centrifugal Pump Hydraulics, Best Practices for Pump Selection**

Abstract

This presentation will present fundamental concepts and best practices to be applied when selecting centrifugal pumps, with emphasis on how to define and specify an acceptable operating range within a pumping system. Topics will include an introduction to key elements related to pump selection including manufacturer's pump curves, development of system curves, variable speed pumping, parallel pumping, net positive suction head, and more.

Speaker **John Ssagun**

E-mail jsagun@carollo.com

Speaker's Job Title Lead Mechanical Engineer

Phone 206-538-5173

Organization Carollo Engineer Inc.

Primary Job Duties Lead Mechanical Design Engineer responsible for evaluating and developing pump station hydraulics and mechanical design documents.

Registrations or Certifications California State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Collection Systems

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Challenging HDD Reduces Project Footprint and Disturbance**

Abstract

We will present a case study for a gravity sewer installation using HDD with challenging geometric and workspace constraints.

Speaker **Mark Miller**

E-mail mmiller@geoengineers.com

Speaker's Job Title Principal Engineer

Phone 417-799-2623

Organization GeoEngineers, Inc.

Primary Job Duties Trenchless National Practice Leader

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Track Treatment

Start Time 01:15 PM

Drinking Water and/or Wastewater Water

End Time 1:45 PM

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

Presentation Title: **City of Issaquah, WA's Experiences with PFAS Removal for the Past Five Years**

Abstract

This presentation shares the details of how a local Washington community implemented a treatment response after detecting per- and polyfluoroalkyl substances (PFAS) in one of their major water supplies. The City currently operates a GAC system for PFAS removal and as part of a long-term study, the City pilot tested an ion exchange system. This presentation will compare the operational data collected from the ion exchange pilot with the operational data from the GAC system. It will provide a comparison of GAC and ion exchange for the removal of PFAS, including run time data, operation and maintenance requirements, waste residuals management and overall removal efficiency and performance. Lastly, this presentation will touch on the operational surprises, challenges, and unintended consequences that the City has had to deal with since their GAC system came online 5 years ago.

Speaker **Beth Mende**

E-mail Elizabeth.mende@hdrinc.com

Speaker's Job Title Water/Wastewater Engineer

Phone (909) 528-1002

Organization HDR

Primary Job Duties Water/Wastewater Engineer with a background in surface water treatment plant process design and operations, laboratory analytics, water quality management and regulatory compliance, and system piping and hydraulic designs. Her experience ranges from running bench scale and pilot plant operations, technical studies, field tests, water quality evaluations, as well as plant operation optimizations.

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Pump Stations

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Considerations Surrounding VFD's Applied to Generator Supplies**

Abstract

There are additional factors to considered when applying VFD's to a generator supply. This presentation will discuss the potential application issues, and what can be done about them, to insure your VFD application is compatible with both line supply and generator back-up power.

Speaker **Robert Hansen**

E-mail rhansen@carmodycompany.com

Speaker's Job Title General Manager

Phone 206-979-0586

Organization Carmody Company

Primary Job Duties Drives Applications Engineer, 19 years, and ABB Authorized Drives Commissioning Tech, and ABB Authorized Drives Commissioning Trainer

Registrations or Certifications None

2021 Western Washington Short School

Date 06/08/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Distribution System

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Control Valves 101: Operation, Application, & Maintenance**

Abstract

This course will cover the basic design and operation of diaphragm actuated automatic control valves, the common applications and pilot configurations, and the recommend preventative maintenance to keep these valve working smoothly.

Speaker **Robert Velasquez**

E-mail robert@cimco-gcsystems.com

Speaker's Job Title Water Management Consultant

Phone 2533539620

Organization Cimco-GC Systems

Primary Job Duties Engineering and technical support for engineers, distribution, and water & wastewater districts.

Registrations or Certifications Washington State Water Operator, Washington State Wastewater Operator, Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 08:50 AM

End Time 09:50 AM

Track Instrumentation & C

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Data, Analysis, and the Future of Instrumentation and Controls**

Abstract

This presentation will cover the basics of data monitoring and storage, how various types of data may be used, and different approaches to more in-depth data analysis. Additionally, some long-term developments and trends in instrumentation and controls including near-real-time process simulation, the use of digital twins for design, training, operations, and maintenance, and the potential impacts and insights to be gained from applied machine learning and predictive maintenance will be covered. Content will focus on typical concerns and impacts on operation staff, specifically various design decisions that may limit implementation of future technologies, as well as impacts to plant performance, operations, and maintenance. This presentation is the last in a three-part session and will cover four main topic areas discussed briefly below. For each topic, special considerations, lessons learned, and examples from past water and wastewater projects will be included. What Data are We Talking About?: This will introduce the attendee to the idea of data storage and analysis by summarizing sources of data, not only directly from instrumentation, but also operator entered information such as permit compliance test results or visual observations, and the status and history of control decisions made by the control system:- Data Storage and Uses - Data Analysis- The Future of Instrumentation and ControlsAs the intent is for this to be the last topic within a proposed three-part session, a closely statement will be provided briefly summarizing the content and some thoughts for future consideration will be provided. This may tie some of the topics into the global water crisis, our collective role in addressing it, and how technology can help. Will also talk about how staying up to date on developments is important in knowing how to best leverage new technological solutions and this is made easier by surrounding ourselves with skilled and diverse peers both in and outside our organizations.

Speaker **Jennifer Murphy**

E-mail jmurphy@parametrix.com

Speaker's Job Title Sr Project Manager, Engineer, and Division Manager

Phone 443.506.9963

Organization Parametrix

Primary Job Duties Project Management; mechanical, instrumentation, and controls design and expertise

Registrations or Certifications Washington State Professional Engineer, Oregon State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Distribution System

Drinking Water and/or Wastewater Water

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

Presentation Title: **Disinfecting Water Mains & Storage Tanks**

Abstract Discussing methodology for disinfecting new mains & storage tanks

Speaker **Aaron D Crotts**

E-mail acrotts@everettwa.gov

Speaker's Job Title Water Quality Analyst

Phone 4252577216

Organization City of Everett

Primary Job Duties Disinfecting water lines & water tanks during new construction.

Registrations or Certifications Washington State Water Operator

2021 Western Washington Short School

Date 06/09/2021

Start Time 08:50 AM

End Time 09:50 AM

Track Odor Control

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Dispersion Modeling for Odor Management**

Abstract

Using dispersion modeling (AERMOD) to identify odor sources and areas of impact, as well as investigating control strategies.

Speaker **Miranda Mair**

E-mail miranda.mair@hdrinc.com

Speaker's Job Title Meteorologist / Air Quality Specialist

Phone 763-278-5903

Organization HDR

Primary Job Duties Dispersion modeling

Registrations or Certifications None

2021 Western Washington Short School

Date 06/09/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Enhanced Domestic Primary Wastewater Treatment Utilizing Pile Cloth Media Filtration for Operational Savings and Sustainability**

Abstract

For the last 10 to 15 years, the wastewater industry has been moving towards being more energy efficient and self-sustaining. Our wastewater resource recovery facilities are capable of self-sustaining because we can convert the solids into usable materials for energy production. There are many ways to make a facility self-sustaining and new technologies make this possible. Presently, the largest consumption of energy is our secondary treatment process. One way to reduce energy consumption in the secondary treatment process is to reduce the organic load. This is known as carbon diversion. Historically, this has been done primary clarification or processes which require chemical addition to increase the removal of solids and the related organic loading. After extensive use of pile cloth media filtration (PCMF) in tertiary applications for over two decades, pile cloth media filtration has now been adapted for primary domestic wastewater treatment. The use of the PCMF's physical barrier means chemical addition is not required while achieving high removal of organic material. The improved effluent quality reduces TSS and BOD loading to the secondary process resulting in reduced aeration costs and more capacity within the existing secondary treatment process or a smaller system. Additionally, the waste stream from the filtration process can be directed to thickeners, then to anaerobic digesters for increased gas production. PCMF is a new solution that has emerged as a promising technology due to its proven performance and operational advantages compared to existing treatment processes. The improved effluent quality from primary treatment step reduces TSS and BOD loading to the secondary process, providing more capacity within the existing secondary treatment process or energy savings. The waste stream from the pile cloth media filtration process can be directed to thickeners, then to anaerobic digesters for increased biogas production.

Speaker **John Dyson**

E-mail Jdyson@aqua-aerobic.com

Speaker's Job Title Product Manager

Phone 8153913541

Organization Aqua-Aerobic Systems, Inc.

Primary Job Duties Responsible for the pile cloth media filtration for high solids applications which cover the development, testing, project design, and startup of facilities.

Registrations or Certifications B.S in Chemistry, Longwood University

2021 Western Washington Short School

Date 06/08/2021

Start Time 12:05 PM

End Time 12:35 PM

Track Asset Management

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Extending the Life of Electronics in Harsh Environments**

Abstract

Too often organizations do not think about or neglect to protect equipment in non-explosive, but damaging environments. Harsh conditions in these environments can cause problems, impeding process efficiency and sapping productivity. Worst of all, costs rise unnecessarily as organizations must replace expensive electronics before the intended end of life.It's clear that simply dealing with these issues as they come up is not enough, too much time and money is wasted. Proactive, preventive actions are a necessity for any organization relying on electronic equipment for the day-to-day operation in corrosive or dusty environments.In this presentation, we explore the business impact of operating electronics in harmful environments, how positive pressurization can help mitigate or eliminate these issues, and how this simple, cost effective solution can protect the investment in equipment, as well as the business.Expo Technologies has more than 60 years of experience and a deep knowledge of protecting electronics being used in harsh and harmful environments. We develop and deliver simple, robust solutions that improve safety and save companies time and cost.

Speaker **Miles Reynolds**

E-mail mreynolds@expoworldwide.com

Speaker's Job Title Business Development Manager

Phone (440) 247-5314

Organization Expo Technologies

Primary Job Duties Identification and developoment of new business opportunities, as well as increasing the company's value to current customers

Registrations or Certifications None

2021 Western Washington Short School

Date 06/09/2021

Start Time 8:10 AM

End Time 08:40 AM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Forming Resource Recovery Practices in Wastewater Residuals**

Abstract

Since 2012, Bioforcetech has been working to produce waste management systems that work symbiotically with nature to leverage potential energy into direct value. Today, we are able to guarantee closed-loop, carbon negative biomass management at an affordable price for the betterment of our people and planet achieved through our proprietary two step process of the BFT BioDryer and P Series Pyrolysis unit. Much like the control of oxygen, heat, and bacteria for sludge digestion, the Bioforcetech BioDryer uses air and bacteria to dry biosolids in a three phase process. This living process is so effective that our BioDryer is able to process biosolids from 20% to 90+% solids in as little as 48 hours with only 50% and 30% of the thermal energy and electricity that belt and drum drying require. What's more, the entire system is modular, flexible, and automated to fit any clients needs and adapt to future scenarios.While we are making strides within our industry, our vision does not stop at the treatment plant. Our efficient system results in an excellent quality locked carbon biochar full of potential known as OurCarbon™. To leverage this potential, we are developing biochar materials to be applied to industry in place of fossil fuel based equivalents. OurCarbon™ is available to manufacturers and brands that want to incorporate this carbon negative material into their products as a sustainable colorant, filter, insulator, or material additive. Working together, we can create and place a material that has huge potential to draw down carbon emissions and help society rethink waste as a valuable asset.

Speaker **Valentino Villa**

E-mail v.villa@bioforcetech.com

Speaker's Job Title Co-Founder & COO

Phone 6509060193

Organization Bioforcetech Corporation

Primary Job Duties COO

Registrations or Certifications N/A

2021 Western Washington Short School

Date 06/09/2021

Start Time 01:15 PM

End Time 02:15 PM

Track Facility Spotlight

Drinking Water and/or Wastewater Water

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

Presentation Title: **Green River Filtration Facility Tour**

Abstract

Virtual tour of Tacoma Water's Green River Filtration Facility

Speaker **Jeff Bolam**

Speaker's Job Title Water Treatment Supervisor

Organization City of Tacoma

Primary Job Duties Water Treatment Supervisor

Registrations or Certifications Washington State Water Operator

E-mail jbolam@cityoftacoma.org

Phone (253) 502-8600

2021 Western Washington Short School

Date 06/09/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Collection Systems

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **How Can You Manage Your Peak Wet Weather Flows with Treatment?**

Abstract

As our climate changes, we are experiencing more intense wet weather events resulting in an increase frequency in peak flow conditions in our collection networks and treatment facilities. These wet weather events are resulting in much higher instantaneous peak flow conditions and events are lasting for longer durations. These conditions are putting more stress on our treatment facilities to handle a larger range of operating conditions. Our industry has focused for decades on separating combined sewer systems (CSS), repairing sanitary sewer systems (SSS) or building storage to contain the excess volume during events. This work has made some major dents in reducing the discharge of untreated wastewater, but we continue to have untreated wastewater discharges because of climate change and the never ending collection networks repairs needed. Generally, the first solution has been to build storage for the peak wet weather flow events and feed the stored volumes back to the treatment plant. This solutions works in some cases but not in all cases because the volumes to be stored can be very large volumes and not practical for all events. How can we solve the issue of reducing or eliminate the discharge of untreated wastewater during peak wet weather flow events? The solution is the use of a combination of technologies to manage and control these peak wet weather flows and treat these volumes of wastewater. What are the technologies available to utilities now for peak wet weather flows? • Active flow management in the collection network using advanced monitoring, providing storage in the network • Classic Storage Solutions that as being optimized • Enhanced High Rate Treatment Technologies (EHRT) – Filtration and ClarificationIn summary, we have debated for decades about how to handle peak wet weather flows and legal issues regarding whether treatment of peak weather flows by auxiliary EHRT technologies is acceptable. While we have spent years debating how it should be done, millions, if not billions of gallons of untreated effluent have continued to flow into our waterways. Many EHRT technologies produce effluents close to or better than secondary treatment standards without biological treatment during wet weather events. The use of auxiliary EHRT technologies as part of the solution can allow us to dramatically reduce the number of untreated overflows, provide improved effluent quality to our waterways, and make them safe for recreational use.

Speaker **John Dyson**

E-mail Jdyson@aqua-aerobic.com

Speaker's Job Title Product Manager

Phone 8153913541

Organization Aqua-Aerobic Systems, Inc.

Primary Job Duties Responsible for the pile cloth media filtration for high solids applications which cover the development, testing, project design, and startup of facilities.

Registrations or Certifications B.S. in Chemistry - Longwood University

2021 Western Washington Short School

Date 06/08/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Distribution System

Drinking Water and/or Wastewater Water

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

Presentation Title: **How distributed pressure monitoring leads to effective pressure management and leakage control**

Abstract

Pressure management is widely cited as an effective method for reducing background leakage. But making changes to control valves or pump operations can involve risk if utilities do not have good distribution system visibility. Fortunately, with the advent of battery powered and connected sensing devices, it is now feasible to achieve extensive monitoring. Pressure sensors can be installed at high and low points in the zones, at key assets, and even at meter locations. Utilities can use this data to study their system and assess the opportunity for pressure reduction and stabilization. Then, they can carefully administer changes while ensuring end users are not adversely impacted. This presentation will share utility examples on how extensive monitoring leads to more effective pressure management, mitigating risk while also allowing for cost effective leakage control.

Speaker **Joseph Dryer**

E-mail Joe.Dryer@xylem.com

Speaker's Job Title Application Engineer

Phone 9199079479

Organization Xylem

Primary Job Duties Work with water utilities to leverage AMI system and data to solve problems and advanced water efficiency programs.

Registrations or Certifications Adrian Sutor (co-presenter) does have several Washington state water operator certifications

2021 Western Washington Short School

Date 06/09/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Distribution System

Drinking Water and/or Wastewater Water

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

Presentation Title: **How much water do we sell? The City of Lynnwood installs AMI to understand actual water use by its customers.**

Abstract

The City of Lynnwood is located in Snohomish County and has a population of approximately 38,000. The City maintains approximately 8,750 metered potable water service connections and purchases water from neighboring Alderwood Water District. The majority of existing meters are 5/8-inch in diameter and serve single family residential homes. The City maintains 8 billing routes and meter reading has been accomplished manually every other month. Trane, a local energy services company, had been working with the City to define the water savings and customer service benefits that could come from this meter upgrade. Trane also supported the City in applying for and receiving a $300,000 WaterSMART grant through the Bureau of Reclamation. With this federal grant funding the City was able to advance the project. The main goals of the project are to renew metering lifecycle, increase meter resolution, introduce analytics to increase customer service, reduce unaccounted for water loss, and standardize on technology.

Speaker **Angie Estey; Michael James**

E-mail angie.estey@trane.com

Speaker's Job Title Senior Account Executive/Project Development Leader

Phone 2068196858

Organization Trane

Primary Job Duties Provide public entities a proven, and vetted, design build procurement path that meets procurement laws but allows proven

Registrations or Certifications None

2021 Western Washington Short School

Date 06/09/2021

Start Time 9:20 AM

End Time 09:50 AM

Track Treatment

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **How to bring Valves & Gates into the 21st Century through Automation**

Abstract

Defining automating valves in the water and wastewater treatment by retrofitting existing infrastructure. We'll define what an actuator does, why they are needed, when a retrofit makes sense, and what is the best type of actuator for certain applications.

Speaker **Mike McKamey**

E-mail mikem@beaver-equipment.com

Speaker's Job Title VP

Phone 2066783775

Organization Beaver Equipment

Primary Job Duties Manufacturer's Representative

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date	06/09/2021	**Track**	Asset Management
Start Time	08:50 AM	**Drinking Water and/or Wastewater**	Water, Wastewater
End Time	09:50 AM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Implementation Examples of Asset Management Principles for Public Sector Organizations**

Abstract

This presentation is meant to follow Liz Kelly's earlier presentation, which is more high level and theoretical in nature, by showing numerous real-world applications of asset management.

Speaker	**Terry Martin**	**E-mail**	tmartin@parametrix.com
Speaker's Job Title	Senior Consultant	**Phone**	2065475126
Organization	Parametrix		
Primary Job Duties	Asset Management Consulting		
Registrations or Certifications	Washington State Professional Engineer		

2021 Western Washington Short School

Date 06/08/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Odor Control

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Introduction to Biological Odor Control**

Abstract

to introduce and explain the different biological technologies for odor control in wastewater treatment and collection

Speaker **Mike Harman**

E-mail mharman@biorem.biz

Speaker's Job Title Sales Manager

Phone 678-697-9722

Organization Biorem Environmental

Primary Job Duties Sales Manager

Registrations or Certifications other

2021 Western Washington Short School

Date 06/08/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Instrumentation & C

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Introduction to Control Systems**

Abstract

This presentation will cover the basics of instrumentation, controls, communication, and networking from design through start-up, commissioning, and long-term operation. Content will focus on typical concerns and impacts on operation staff, specifically various design decisions and system considerations that may impact plant performance, operations, and maintenance. This presentation is the first in a three-part session and will cover five main topic areas discussed briefly below. For each topic, special considerations, lessons learned, and examples from past water and wastewater projects will be included. Contract and O&M Documentation: This will introduce presentation attendees to P&IDs, Elementary Control Diagrams, and Loop Drawings. The discussion will primarily focus on the various functions of each of these I&C documents and how to interpret / read some of the more basic elements and examples. Sensor types: The primary physical process sensors (flow, pressure, level, and temperature) will be introduced. Some basic examples in different types of sensors for each parameter will be discussed as well as common requirements and limitations to be considered such as accuracy, repeatability, noise, dead band, and measurement lag. Controlled Elements: The various controlled elements will be covered such as VFDs and other adjustable speed or flow devices, actuators for valves, inlet/discharge vanes, and gates, the difference between modulation, positioning, and open/closed control operation, and various other pieces of process equipment such as blowers, pumps, and heat exchangers.Control System Communications and Control Types: This will discuss at a high level how the sensor data may be used to control the previously mentioned controlled elements.Loop Tuning and Startup: The impacts of process control programming and SCADA configuration on the long-term successful performance of a designed system will be discussed. This includes the value and need for loop tuning as well as PLC/HMI/DCS troubleshooting.

Speaker **Marvin Casanova**

E-mail mcasanova@parametrix.com

Speaker's Job Title Engineer IV

Phone 253.392.6559

Organization Parametrix

Primary Job Duties I&C and electrical task lead and senior engineering design.

Registrations or Certifications Washington State Professional Engineer, Oregon, New Mexico, Texas, Idaho, Utah Professional Engineer

2021 Western Washington Short School

Date	06/09/2021	**Track**	Odor Control
Start Time	01:15 PM	**Drinking Water and/or Wastewater**	Wastewater
End Time	1:45 PM	**Length of Session**	Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **Introduction to Odor Control Technologies**

Abstract

A review of technologies available to remove odorous, toxic and/or corrosive gases from the air. This lesson will focus primarily on dry scrubbing technologies for the removal of hydrogen sulfide and chlorine gas.

Speaker	**Ashlyn Bradshaw**	**E-mail**	abradshaw@pureairfiltration.com
Speaker's Job Title	West Coast Territory Sales Manager	**Phone**	678-935-1431
Organization	PureAir Filtration		

Primary Job Duties Ashlyn Bradshaw is the Territory Sales Manager of California, Washington and Oregon for PureAir Filtration. PureAir is a manufacturer of custom-designed, high performance gas adsorbent systems. These systems are used for sewage odor control, emergency gas removal, protecting electronics, and indoor air quality.

Registrations or Certifications N/A

2021 Western Washington Short School

Date 06/08/2021

Start Time 08:50 AM

End Time 09:50 AM

Track Distribution System

Drinking Water and/or Wastewater Water

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

Presentation Title: **Introduction to Water Line Flushing**

Abstract

Distribution lines can accumulate all sorts of things that can have a negative impact on water quality, fire flows, and distribution system efficiency. In addition, oversized water mains (lazy lines) and dead ends can make it difficult to maintain desired chlorine residuals throughout your system. It is therefore essential to implement a flushing program, which consists of annual or semi-annual unidirectional flushing, along with the utilization of automatic flushing devices where appropriate.UD flushing provides additional benefits, such as the exercising and inspection of hydrants and valves. It also presents an opportunity to perform flow testing and record valuable system data. Automatic flushing is a useful tool that enables the utility to maintain more consistent chlorine residuals in problem areas at a lower cost, while utilizing less non- revenue water.While flushing is a critical component to maintaining a distribution system, there are alsoconsiderations, such as dechlorination, property damage due to water discharge and safety. It is therefore important to be aware of current best practices, along with available industrysolutions.A successful flushing program is a continuous process and an excellent way to keep adistribution system in top performance.The purpose of this presentation is to educate attendees regarding the need for a flushingprogram and to advise on best practices and equipment to be used for a safe and successful flush. Implementing these procedures will assist in creating a well-maintained system.

Speaker **Drew Endrody**

E-mail drewe@pollardwater.com

Speaker's Job Title Product Manager

Phone 800.437.1146

Organization Pollardwater

Primary Job Duties Manage product lines - marketing, sales, technical trianing

Registrations or Certifications Washington State Water Operator

2021 Western Washington Short School

Date 06/08/2021

Start Time 01:45 PM

End Time 02:15 PM

Track Distribution System

Drinking Water and/or Wastewater Water

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

Presentation Title: **Legionella and Building Water Systems**

Abstract

this presentation introduces attendees to the number one cause of water borne disease outbreaks in the USA - Legionella bacteria. They will learn about life cycle of organism, diseases caused, how it is transmitted and its repercussions on the water industry.

Speaker **Steve Deem**

E-mail steve.deem@doh.wa.gov

Speaker's Job Title Engineering and Technical Services

Phone 2533956767

Organization Washington State Department of Health

Primary Job Duties Provide engineering and technical support to the Washington Office of Drinking Water.

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Track Distribution System

Start Time 01:15 PM

Drinking Water and/or Wastewater Water

End Time 1:45 PM

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

Presentation Title: **Legionella Management and Control for Water System Managers**

Abstract

This talk will summarize the most recent technical and regulatory-related findings in Legionella risk and management, including impacts from the COVID-19 pandemic. It will provide water system managers and operators knowledge in what regulations are in place and proposed for managing Legionella, how the organism can grow/multiply in water systems and buildings, what operations and engineering tools can be used to reduce Legionella risk, and how system operators and managers can collaborate with building operators to reduce Legionella risks.

Speaker **Alex Mofidi**

E-mail alex@confluence-engineering.com

Speaker's Job Title Senior Project Manager

Phone 2068664562

Organization Confluence Engineering Group LLC

Primary Job Duties Manage engineering projects for drinking water systems that include water treatment design and optimization, distribution system water quality characterization and optimization to meet aesthetic and regulatory compliance, assist utilities in a variety of water quality issues (corrosion control/LCR compliance, contaminant monitoring/control, operations and maintenance issues), and perform risk management for Legionella/microbials and lead/copper in premise plumbing systems.

Registrations or Certifications Washington State Professional Engineer, California PE, California T3 Operator, Oregon PE

2021 Western Washington Short School

Date 06/08/2021

Track Asset Management

Start Time 2:55 PM

Drinking Water and/or Wastewater Water

End Time 03:25 PM

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

Presentation Title: **Leveraging AMI Data for Distribution System Model Calibration**

Abstract

The City of Renton owns an all-pipe hydraulic model for its water distribution system, which includes 308 miles of pipes, 11 reservoirs, 11 pump stations, 43 PRV stations, and 16 distinct pressure zones. The City has maintained this model regularly, however, they recently installed Advanced Metering Infrastructure (AMI) for all of its customers and wanted to utilize this new data in the model calibration and understand the system's response to stress situations. An extensive field effort was also performed to help refine model accuracy; 20 hydrant flow tests were conducted with more than 60 pressure logger data points recorded. This data was used to simulate model system operations to match Supervisory Control and Data Acquisition (SCADA) and field test results. With this update, the City was able to improve its distribution system's operation and performance. This update will garner trust in future analyses performed for the Water System Plan and in everyday operational decisions.

Speaker **Aurelie Nabonnand**

E-mail ANabonnand@carollo.com

Speaker's Job Title Lead Engineer

Phone 2066846532

Organization Carollo Engineers, Inc

Primary Job Duties Project Manager for water, wastewater planning projects and hydraulic modeling projects.

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Collection Systems

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Listen Closely, Your Sewer is Talking to You**

Abstract

This presentation reviews how customers can adopt unique and patented monitoring technology, which gives them data in the field that they did not have before. The level monitors mount directly on the manhole covers – thereby eliminating the need for a confined space entry - and use ultrasonic sensors to monitor water levels. Real-time remote water level monitoring can identify locations where a possible sewer system overflow (SSO) is developing and alarm these conditions before the overflow, allowing field staff to visit the site and perform corrective actions. Locating these problems prior to an SSO actually occurring has enabled users of this unique monitoring tool to pinpoint the causes of these blockages.By placing the remote monitors at sites which are cleaned multiple times a year (due to FOG, roots, etc), water levels are wirelessly transmitted in real-time to the collection system operator, and the knowledge of these water levels and the lack of problems at these sites has enabled re-deployment of staff to other problem areas. This yields both ROI in time and money within one year of utilizing the system.Remote real-time level monitors also provide a means to detect and correlate rain events with I&I. The ability to identify, quantify and track down sources of I&I is critical to minimizing problems with overflows during significant precipitation events. This system now uses automatic tools to track WHICH locations are experiencing higher levels, based on the rain event. The system can also monitor the TOTAL dynamic range between the bottom of the pipe to the very top of the manhole. Finally, by utilizing this same set up, agencies can now monitor H2S levels in their sewer systems as well. This new feature can assist in odor studies, dosing, and overall health of the pipe/manhole.

Speaker **Brogan Quist**

E-mail bquist@smartcoversystems.com

Speaker's Job Title West Regional Sales Manager

Phone (760) 207-8348

Organization SmartCover

Primary Job Duties West Regional Manager: Work with Water and Wastewater utilities across the Western US and Canada. Goal is to help these customers with their water and wastewater monitoring needs, from Sanitary Sewer Overflow Prevention, to Inflow and Infiltration studies, to H2S monitoring.

Registrations or Certifications CWEA (California)

2021 Western Washington Short School

Date 06/08/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Asset Management

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Locating 101: Protect Your Underground Assets**

Abstract

This course will cover the challenges of locating underground utilities, common location techniques, steps to build a comprehensive locating system, and common dos and don'ts of utility locating.

Speaker **Robert Velasquez**

E-mail robert@cimcopnw.com

Speaker's Job Title Water Management Consultant

Phone 2533539620

Organization Cimco

Primary Job Duties Engineering and technical support for engineers, distribution, and water & wastewater districts.

Registrations or Certifications Copperhead Trained and Authorized

2021 Western Washington Short School

Date 06/08/2021

Start Time 12:35 PM

End Time 01:05 PM

Track Asset Management

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Maintenance and Reliability for Water and Wastewater Utilities**

Abstract

Presenting tools and solutions from Fluke that help the water and wastewater industries maintain their systems and increase reliability.

Speaker **Adam Sheffield**

E-mail adam.sheffield@fluke.com

Speaker's Job Title Territory Sales Manager

Phone 425-218-0535

Organization Fluke

Primary Job Duties Assist customers in identifying the right tools and solutions for their applications

Registrations or Certifications None

2021 Western Washington Short School

Date 06/09/2021

Start Time 2:55 PM

End Time 03:25 PM

Track Regulations

Drinking Water and/or Wastewater Water

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

Presentation Title: **Making Sense of the LCRR**

Abstract

The Lead and Copper Rule Revisions (LCRR) are coming – even if we don't know when. This rule, published on January 15, 2021, represents the most significant drinking water regulation in the past 8 years and will impact all drinking water systems in the United States. However, its Effective Date was recently delayed to June 17, 2021, and additional delays have been proposed for the Effective Date (December 16, 2021) and Compliance Date (September 16, 2021). This presentation will focus on what actions are likely to be required under the LCRR and what changes might occur with the proposed delay. Emphasis will be placed on actions that will be required by the compliance date and what steps systems will need to take to comply with LCRR requirements.

Speaker **Damon Roth**

E-mail droth1@brwncald.com

Speaker's Job Title Sr. Principal

Phone 5097704322

Organization Brown and Caldwell

Primary Job Duties Consulting engineer

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Meeting new regulations for total nitrogen in wastewater treatment plants discharge**

Abstract

To meet new environment regulations regarding bio-nutrients removal and nitrogen TMDL wastewater treatment plants have to be modified to recycle internal mixed liquor into a newly created anoxic zone. Geyser Pump will share experience and solutions for internal recycling and sludge mixing in anoxic zones.

Speaker **Fadi Kassir**

E-mail fkassir@geyserpulsepumps.com

Speaker's Job Title President and CEO

Phone 12065492969

Organization Geyser Pump Tech LLC

Primary Job Duties Providing pumping and mixing solutions to small and mid-size wastewater treatment plants engineers and operators

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Mobile Organic Biofilm (MOB™) Process as a hybrid granular/fixed-film technology and its implementation in full-scale WWTPs**

Abstract

Mobile Organic Biofilm (MOB™) process is a disruptive biofilm treatment technology combining the advantages of fixed-film and granular sludge, and overcoming the disadvantages intrinsic to both.MOB™ Process utilizes kenaf-derived lignocellulosic material as biofilm carriers for enhanced nutrient removal. The naturally porous and sturdy material has high surface area to support concentrated biofilm growth and takes up just 1.25% fill rate compared to 50% by conventional plastic media, freeing up reactor volume to accommodate more flow and treatment capacity. Similar to granular sludge, the 1-mm carriers with specific gravity of 1.053 have high settleability and harbor stratified redox zones for simultaneous BNR, can circulate with activated sludge that help reduce sludge blanket in the secondary clarifiers, and be returned to the main bioreactors in a closed loop. The hybrid technology eliminates extensive screen installations, reduces down time for upgrade, retrofits into almost any treatment configurations, and provides readily available backbone for granular development that is significantly more cost-effective to maintain and recover than conventional granular sludge.MOB™ Process' first successful full-scale application at the Moorefield WWTP in WV has helped the plant save at least 50% cost in upsets, additives, and O&M since 2017, and has continued to be implemented and studied at full-scale and pilot facilities across North America.

Speaker **Jason Calhoun**

E-mail jason@nuvodaus.com

Speaker's Job Title Chief Technology Officer

Phone 9196151205

Organization Nuvoda

Primary Job Duties In charge of the technology sales and implementation, as well as R&D efforts in improving the products.

Registrations or Certifications Virginia State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Pump Stations

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **My Pump Shakes, Rattles and Rolls Vibration the Cause and Effects**

Abstract

Vibration in mechanical equipment, and especially pumps, is not new or a recent discovery. However, the damage caused by vibration is being recognized and documented more often. Vibration has been brought to the forefront as more facilities are doing condition assessments and determining the root cause of non-performing or marginally performing equipment. Coupled with the technical expertise of engineers trained in the finite-element, modal analysis, and vibration field curriculums plus the sophistication of vibration instruments and equipment, vibration is being recognized in many cases as the root cause and/or symptom of frequent maintenance and equipment rebuilds. Variable-frequency drives have been used in the wastewater industry since the 1980s; however, the implications on pump vibration and natural frequency have been extensively recognized only in the last 15 to 20 years. Several vibration issues are reviewed in this presentation.

Speaker **John E Koch**

E-mail jkoch@hdrinc.com

Speaker's Job Title Senior Project Manager/Vice President

Phone 14257731384

Organization HDR

Primary Job Duties Senior project manager with experience in the design and equipment selection and construction of combined sewer overflow, wastewater and water treatment facilities. Expertise is in process-mechanical equipment layout and procurement, startup and testing of equipment, and managing the construction process. Have been involved in development, pilot testing and final design of primary and secondary effluent filtration equipment for numerous wastewater plants. Experience includes design and rehabilitation of sanitary sewer systems and pump stations. Also have prepared many operation and maintenance manuals for water and wastewater treatment plants. John is a Senior Professional Associate with HDR and serves on the Corporate Design Standards committee.

Registrations or Certifications Washington State Water Operator, Washington State Professional Engineer, American Academy of Environmental Engineers - Board Certified Environmental Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Nutrient General Permit: Optimization Tips and Techniques**

Abstract

The Puget Sound Nutrients General Permit will require plants to perform optimization actions each year. This talk will go through several tier 1 and tier 2 optimization activities, discussing the following for each:•Tips for implementing•How to evaluate how successful it was•Potential pitfalls or negative effects to watch out forOptimization activities that will be covered are:•Modifying solids retention time•Improving side stream return control•Aeration pattern alterations / adding online probes•Chemical feed addition, including carbon addition and alkalinity•Creation of anoxic zones and internal recycle•Step feed alterations

Speaker **Scott Weirich**

E-mail sweirich@parametrix.com

Speaker's Job Title Engineer II

Phone 2535015269

Organization Parametrix

Primary Job Duties Design and operations assistance for Wastewater Facilities

Registrations or Certifications Washington State Wastewater Operator, Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Track Odor Control

Start Time 12:05 PM

Drinking Water and/or Wastewater Wastewater

End Time 01:05 PM

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

Presentation Title: **Odor and Corrosion Control: Getting the Best of Both Worlds**

Abstract

Odor and Corrosion issues are interrelated and addressing one can exacerbate the other. The presentation will discuss early approaches to odor control and their unintended consequences. It then will cover lessons learned and proceed to address various approaches for controlling odor and corrosion including vapor and liquid phase treatment options and he interrelationships between odor control approaches and corrosion.

Speaker **Richard Finger**

E-mail Dick.finger@att.net

Speaker's Job Title Consultant

Phone 2536313343

Organization Retired/self-employed Consultant

Primary Job Duties Dick has a BS in Chemistry from the University of Washington and an MS in analytical chemistry from San Diego State College. He began work as a Chemist with Metro in 1968, worked as Process Control Supervisor at the Renton Plant from 1969 to 1996 and as West Section Manager from 1996 to 2005. He retired in July of 2005, but continues to work on various projects as a self employed consultant or as an intermittent employee. His areas of focus include wastewater process control, odor control, water reuse and wastewater O & M and management..

Registrations or Certifications Washington State Wastewater Operator

2021 Western Washington Short School

Date 06/08/2021

Start Time 01:15 PM

End Time 02:15 PM

Track Odor Control

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Odor Control Master Planning Process**

Abstract

This presentation provides an overview of the approaches taken in an odor control master planning effort and how the master plan can help the utilities make the wise decisions to achieve the maximum odor control benefit with the minimum costs. Five processes of the master planning, goal setting, field investigation, desktop analysis, alternative development and evaluation, and plan development will be discussed in more details with tools, technologies and project examples.

Speaker **Miaomiao Zhang**

E-mail miaomiao.zhang@murraysmith.us

Speaker's Job Title Principal engineer

Phone 425.943.9130

Organization Murraysmith

Primary Job Duties Water, wastewater and odor control facility planning, design and construction

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Track Treatment

Start Time 01:15 PM

Drinking Water and/or Wastewater Wastewater

End Time 02:15 PM

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

Presentation Title: **Old Dog, New Tricks: How the BAF platform is adapting to new treatment challenges from Primary to Tertiary**

Abstract

Biologically Active Filters (BAFs) are a combined filtration and biological treatment technology which for decades has been widely implemented in drinking water and tertiary treatment applications. The technology encourages the growth of active biofilm on the filtration media, thus allowing for simultaneous particulate and soluble pollutant control. Traditionally, BAF systems used in wastewater treatment were limited to tertiary applications where suspended solids loads were minimal. In the 1980s, new upflow BAF designs spurred the use of this technology for secondary treatment, providing special benefits for process footprint reduction, cold weather performance and intensification. In the last 5 years, several new developments have allowed BAFs to be applied in new and exciting configurations, including as replacements for primary settling tanks, high-rate wet weather treatment and SSO mitigation systems, and water reuse applications. This session will present the newest upgrades to the BAF platform, including novel media and aeration configuration, which have increased process loading and removal rates, further reduced footprints, and facilitated split media beds for multi-functional treatment stages. . Participants will learn about how different novel BAF configurations may be applied to solve primary, secondary, tertiary and wet weather challenges at treatment plants, and how these configurations promote energy savings and resilience to extreme weather events.

Speaker **Jon Liberzon**

E-mail jl@bkt21.com

Speaker's Job Title Vice President

Phone 917-972-2503

Organization Tomorrow Water

Primary Job Duties Jon is VP at Tomorrow Water, a CA-based firm that develops and delivers advanced water, wastewater and solids treatment technologies. Jon leads the company's technical sales, R&D, and business development efforts. He focuses on biological wastewater treatment but also he has experience with drinking water and agricultural development in least developed countries (LDCs). Jon holds a Masters from the Technion – Israel Institute of Technology, and a Bachelors from the U. of Michigan. Jon is also a certified PMP.

Registrations or Certifications N/A

2021 Western Washington Short School

Date 06/09/2021

Start Time 01:15 PM

End Time 02:15 PM

Track Collection Systems

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **One Doesn't Just Walk Into A Proactive Rehabilitation Program: SPU's Strategic Quest.**

Abstract

Seattle Public Utilities (SPU) entered into a Consent Decree in 2013 to reduce combined sewer overflows and work towards eliminating sanitary sewer overflows. A major cause of sewer overflows in Seattle is structural failure. It is also a growing concern given that the City's 1,420 miles of sewer pipes have an average age over 80 years and pipe rehabilitation has been historically underfunded. SPU increased pipe inspection and rehabilitation funding upon signing the Consent Decree, but recognized that there would need to be a holistic look at pipe rehabilitation to ensure long-term system reliability. This presentation walks through SPU's work to develop and secure funding of a long-term rehabilitation plan for its aging sewer system. This planning effort was not a single event, but a concerted effort through a series of strategic projects over four years; with each strategy building on one another. Participants will learn about SPU's strategies for pipe inspection, condition evaluation, risk assessment, capital investment, and implementation planning. Particular focus will be spent on key aspects of the process such as incorporating service equity, increasing efficiencies, securing staffing for implementation, and preparing for adaptive management. This presentation will leave participants with a roadmap for how to move from a reactive to proactive rehabilitation program.

Speaker **Caroline Barlow**

E-mail caroline.barlow@seattle.gov

Speaker's Job Title Sewer Rehabilitation Program Manager

Phone 2063869872

Organization Seattle Public Utilities

Primary Job Duties With 19 years of experience in the municipal utility industry, Caroline Barlow currently serves as the Rehabilitation Program Manager for SPU's Drainage and Wastewater Line of Business. Caroline received her BS degree in Civil Engineering from Gonzaga University and is a registered Professional Civil Engineer in Washington State.Julie Crittenden is a program manager and strategic advisor with Seattle Public Utilities and leads Seattle's Capacity, Management, Operations and Maintenance Program. Julie has over 20 years of water resource management experience focused on drainage and wastewate. She received her M.S. degree from the University of Washington, and her B.S. degree from the University of California, Davis.

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 01:15 PM

End Time 02:15 PM

Track Pump Stations

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Only You Can Prevent Premature Pump Replacement**

Abstract

Assessing the condition of pumps can be a significant undertaking for many utilities, with many approaches and techniques of assessment available. Significantly reduced capacity or excessive vibration are easily identifiable signs of a failed pump; however, quantifying the specific degradation of an individual pump can be difficult.Methodology for field testing pumps and the differing approaches in testing both flood control and wastewater pumps will be presented. The technical requirements, constraints, and opportunities of instruments and data logging equipment will be reviewed. Case studies will be presented detailing how results from pump testing can be applied to assess equipment condition as well as make predictive maintenance and capital improvement decisions.

Speaker **Brandon Moss**

E-mail bmoss@parametrix.com

Speaker's Job Title Project Engineer

Phone 2536046674

Organization Parametrix

Primary Job Duties Design and Field Testing Engineer

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 02:25 PM

End Time 03:25 PM

Track Treatment

Drinking Water and/or Wastewater Water

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

Presentation Title: **On-Site Sodium Hypochlorite Generation as a Safe and Efficient Alternative to Chlorine Gas or Commercial Strength Bulk Hypochlorite for Water Disinfection**

Abstract

This seminar will provide water system managers, operators and engineers a practical understanding of the science and implementation behind on-site sodium hypochlorite generation (OSHG) as a source of chlorine disinfection capacity for water and wastewater plants as well as distributed well systems.

Speaker **Ethan Brooke**

E-mail grock@ugsicorp.com

Speaker's Job Title Senior Product Manager

Phone 510-550-7100

Organization UGSI Solutions

Primary Job Duties Ethan Brooke is an internationally recognized expert on aeration technologies for trihalomethane (THM) removal.

Registrations or Certifications n/a

2021 Western Washington Short School

Date 06/09/2021

Track Biosolids

Start Time 12:35 PM

Drinking Water and/or Wastewater Wastewater

End Time 01:05 PM

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

Presentation Title: **PFAS and Biosolids - Current Issues and a Look Forward**

Abstract

Per- and Poly- Fluoroalkyl Substances (PFAS) are a large family of organic compounds, including more than 4,000 artificial fluorinated organic chemicals used since the 1940s. They have been used extensively in surface coatings and protectant formulations for consumer products including paper and cardboard packaging products, carpets, leather products and clothing, construction materials, and non-stick coatings.Recent studies have shown PFAS in WWTP influents to be in the tens to hundreds of nanograms per liter (ng/L). Conventional sewage treatment methods do not efficiently remove PFAS. Application of biosolids from WWTPs as a soil amendment can result in a transfer of PFAS to soil, which can then leach to groundwater or be available for uptake by plants and soil organisms and to grazing livestock. PFAS have been detected in soils, groundwater, crops, and livestock near agricultural fields that receive PFAS-contaminated biosolids, fueling public concern.Data will be presented on PFAS measured in biosolids before and after various biosolids treatment technologies including composting, drying, and pyrolysis. This presentation will help utility planners, operators, engineers and administrators understand the nature of the PFAS issue, how these compounds are introduced into wastewater and biosolids, the rapidly changing regulatory landscape, and what technologies are being used to eliminate these compounds from wastewater biosolids products.

Speaker **Todd O. Williams**

E-mail todd.williams3@jacobs.com

Speaker's Job Title Senior Principal Technologist

Phone 804-833-9122

Organization Jacobs Engineering

Primary Job Duties Mr. Williams has a 40-year career in environmental engineering with operating and design experience and specific emphasis in biosolids management planning, and product utilization. Todd is the past Chair of the Water Environment Federation's Residuals and Biosolids Committee and currently serves as Jacobs Engineering's Residuals Resource Recovery Practice Leader.

Registrations or Certifications Virginia and Iowa Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 01:45 PM

End Time 02:15 PM

Track Treatment

Drinking Water and/or Wastewater Water

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

Presentation Title: **PFAS Treatment Design**

Abstract

Overview of the design of a PCE and PFAS treatment system for the Lakewood (WA) Water District.

Speaker **Stephen Timko**

E-mail stephentimko@kennedyjenks.com

Speaker's Job Title Staff Scientist

Phone 206-753-3425

Organization Kennedy Jenks

Primary Job Duties Leads Kennedy Jenks' PFAS Working Group and is a water quality specialist in Kennedy Jenks' Applied Research Group

Registrations or Certifications PhD

2021 Western Washington Short School

Date 06/09/2021

Start Time 9:20 AM

End Time 09:50 AM

Track Construction

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Practical uses of Virtual Reality and Augmented Reality in Design and Construction**

Abstract

Presentation will cover the use of Virtual Reality (VR) and Augmented Reality (AR) for King County's Georgetown Wetweather Treatment Station. VR was used throughout final design for design team reviews, virtual facility walkthroughs, and Operations & Maintenance reviews. AR was used during construction as resource for the Construction Management and Contractor teams while coordinating pipe runs and equipment installation.

Speaker **Brian Shuck**

E-mail brian.shuck@jacobs.com

Speaker's Job Title Project Manager

Phone 425-233-3131

Organization Jacobs

Primary Job Duties Project Manager

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 08:50 AM

End Time 09:50 AM

Track Collection Systems

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Prioritizing Cleaning & Improving Efficiency with Acoustic Inspection Technology**

Abstract

Effectively deploying resources to reduce sanitary sewer overflows (SSOs) is a tricky challenge. If cleaning resources are deployed to pipes that are functioning properly, then time and money are wasted. But if a blocked pipe is overlooked, SSOs may occur. For the average utility, determining where the 10-35% of pipe segments with blockages in the entire network is difficult and results in cleaning already clean pipes. For this reason, hundreds of utilities have started using transmissive acoustics to rapidly screen small diameter gravity-sewer lines before deploying cleaning resources. The technology called the Sewer Line Rapid Assessment Tool, or SL-RAT, uses sound waves to quickly assess for blockages. The SL-RAT can provide an assessment in three minutes or less, meaning a two-person crew can inspect 10-20,000 ft/day. This very fast and low-cost method of assessment is a powerful tool for wastewater collection system managers to gain understanding of their entire system. The quick insight helps focus resources to segments with identified need. Therefore, rapid acoustic assessment has become a helpful and economically attractive tool in helping utilities to stop cleaning clean pipe and transition to a condition-based maintenance program. This presentation will examine numerous utilities that have effectively implemented acoustic inspections and discuss implementation strategies, cost-savings analysis and program results to demonstrate application. Furthermore, limitations of the technology will be discussed to give a comprehensive overlook of acoustic inspection technology. This presentation will be based on operator training courses performed around the country and will summarize a recently published ASTM Standard developed for acoustic pipe inspection.

Speaker **Gene Hallum**

E-mail ghallum@infosense.com

Speaker's Job Title Northwest Territory Manager

Phone 360-929-7627

Organization InfoSense, Inc.

Primary Job Duties I am responsible for managing the sales activities in Oregon, Washington and Idaho for the Sewer Line Rapid Assessment Tool (SL-RAT). I conduct all trainings and demos for customers and prospective customers in this territory.

Registrations or Certifications NA

2021 Western Washington Short School

Date 06/09/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Cathodic Protection

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Provisions for Corrosion Control of Pipelines and Water Tanks**

Abstract

This presentation will focus on options for corrosion control of pipelines and water storage tanks. Discussion will include protective coatings and cathodic protection. The audience will be provided with a basic background on corrosion along with project examples, photographs, and lessoned learned for previous work.

Speaker **Jeremy Hailey**

E-mail jeremy@nwcorrosion.com

Speaker's Job Title Owner/Principal Engineer

Phone 360 391 0822

Organization Northwest Corrosion Engineering

Primary Job Duties Corrosion Engineer

Registrations or Certifications Washington State Professional Engineer

2021 Western Washington Short School

Date 06/08/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Distribution System

Drinking Water and/or Wastewater Water

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

Presentation Title: **Questions and Decisions for Meters and Meter Technology**

Abstract

Mueller Systems and Consolidated Supply will present many of the variables that utilities must decide on when selecting a meter technology and register type, and whether Automated Meter Reading (AMR) or Advanced Metering Infrastructure is the best fit for their water system.

Speaker **Matthew Zellers; Charlie Sovacool**

E-mail mzellers@muellerwp.com

Speaker's Job Title Territory Manager

Phone 5033105993

Organization Mueller Systems

Primary Job Duties New Meters Systems Sales

Registrations or Certifications none

2021 Western Washington Short School

Date 06/08/2021

Track Instrumentation & C

Start Time 10:35 AM

Drinking Water and/or Wastewater Wastewater

End Time 11:35 AM

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

Presentation Title: **Real-Time Process Controls & Instruments to Meet Stringent Effluent Limits and Improve Operational Sustainability**

Abstract

The purpose of this session is to summarize real-time process control programs and historical data from three facilities to illustrate benefits and challenges associated with using advanced process control programs for nitrification, denitrification, and solids separation. The programs include ammonia-based aeration control, aerobic solids retention time (SRT) control, optimized dissolved oxygen (DO) control, chemical nutrient-pace dosing, ammonia-based-load equalization, and secondary clarifier guidance. The use of these programs indicates energy savings and chemical reduction which enhances long term operational sustainability.Real-time process control strategies rely on on-line analyzers for process control parameter measurement including ammonia, nitrate, dissolved oxygen, mixed liquor solids concentrations, and plant flows. Characteristics of these analyzers will be summarized. These controls utilize chemistry and process equations to calculate real-time set points based on system flows, loads, and demands.

Operating data post-program implementation at the Neuse River Resource Recovery Facility (NRRRF), North Durham Water Reclamation Facility (NDWRF), and Napa Sanitation District (NapaSan) was analyzed to evaluate changes in operational efficiency and cost savings resulting from real-time process controls. Each of these facilities has a BNR process, filters, and must meet stringent effluent total nitrogen limits . In addition to presenting positive impacts such as cost and time savings and process optimization, facility feedback on challenges including calibration, cleaning, and troubleshooting of on-line analyzer instruments will be included in the presentation. NRRRF, NDWRF, and NapaSan have optimized their process to achieve reduced effluent total nitrogen concentrations and decrease operating cost with several real-time process control programs. These low-cost solutions are helping utilities operate more efficiently with reduced chemical and energy demand.

Speaker **Victoria Boschmans**

E-mail vboschmans@hazenandsawyer.co

Speaker's Job Title Senior Principal Engineer

Phone 503-334-3399

Organization Hazen and Sawyer

Primary Job Duties Engineer & Project Manager

Registrations or Certifications Oregon and California PE

2021 Western Washington Short School

Date	06/08/2021	**Track**	Asset Management
Start Time	01:15 PM	**Drinking Water and/or Wastewater**	Water, Wastewater
End Time	02:15 PM	**Length of Session**	Full Hour (about 50 minutes with 10 minutes for questions and discussion)

Presentation Title: **Reliability Centered Maintenance**

Abstract

Reliability Centered Maintenance (RCM) is a planning concept that helps to ensure maintenance resources are focused appropriately to ensure efficient, safe, cost effective, and reliable executing of maintenance tasks. This presentation will give an overview of the key concepts regarding RCM.

Speaker	**Steven Dutschke**	**E-mail**	stevendutschke@kennedyjenks.co
Speaker's Job Title	Data Intelligence and Reliability Engineer	**Phone**	949-570-1828
Organization	Kennedy Jenks		

Primary Job Duties	Reliability engineer with experience in data intelligence, reliability, chemical engineering, water, and wastewater. Focuses on asset management and reliability.
Registrations or Certifications	Professional Engineer in State of Michigan

2021 Western Washington Short School

Date 06/09/2021

Start Time 8:10 AM

End Time 08:40 AM

Track Collection Systems

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Saltwater Monitoring and Modeling in King County WTD**

Abstract

Saltwater intrusion costs King County significant amounts of money a year due its corrosive effect on wastewater infrastructure and to operational expenses related to treating this extra saltwater at the Waste Point Treatment Plant. This presentation will describe the history of saltwater intrusion in the King County's combined sewer system (CSS) in Seattle, the nature of the problem, and a current project whose objective is to identify and quantify the sources of saltwater coming from the sea into the CSS. The goal of this project is to identify the repairs, maintenance and operation needs required to limit saltwater intrusion.

Speaker **Homero Flores**

Speaker's Job Title Senior Wastewater Engineer

Organization King County WTD

Primary Job Duties Hydrologic and Hydraulic Modeling

Registrations or Certifications Washington State Professional Engineer

E-mail Homero.flores@kingcounty.gov

Phone (206) 477-5698

2021 Western Washington Short School

Date 06/08/2021

Start Time 08:50 AM

End Time 9:20 AM

Track Pump Stations

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **Suction Piping Best Practices**

Abstract

Examples of good designs in suction piping as well as retrofitting poor designs with the goal of reducing turbulent flow in pumps to improve pump lifetime and efficiency.

Speaker **Ryan Brusca**

E-mail rbrusca@reinerpump.com

Speaker's Job Title Territory Manager

Phone 12533550112

Organization Reiner PumpSystems, Inc.

Primary Job Duties Sales and Customer Management

Registrations or Certifications No Professional Reg

2021 Western Washington Short School

Date 06/08/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Treatment

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **The Fundamentals of Electrochemistry**

Abstract

A functional conversation about electrochemistry including; how things work, how to ensure accurate measurements, how to troubleshoot problems, proper care and maintenance of the equipment, choosing the right equipment for the specific task

Speaker **Mark McElroy**

E-mail mark.mcelroy@thermofisher.com

Speaker's Job Title Technical Sales Manager

Phone 4258940111

Organization Thermo Fisher Scientific

Primary Job Duties Technical support of electrochemistry and water purification equipment for customers in a 9 state territory.

Registrations or Certifications Sales and support for all positions listed above

2021 Western Washington Short School

Date 06/08/2021

Start Time 10:35 AM

End Time 11:35 AM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **The Science of Water and Wastewater Treatment Polymer Activation**

Abstract

This seminar will provide water system managers, operators and engineers a practical understanding of the science behind polymer and polymer activation as well as the techniques used to optimize the use of polymer in plant settings.

Speaker **Jeff Rhodes**

E-mail grock@ugsicorp.com

Speaker's Job Title Vice President of Commercial Development

Phone 9705562001

Organization UGSI Solutions

Primary Job Duties Technical specialist in chemical feed applications for the central United States.

Registrations or Certifications N/A

2021 Western Washington Short School

Date	06/08/2021	**Track**	Pump Stations
Start Time	09:20 AM	**Drinking Water and/or Wastewater**	Water, Wastewater
End Time	09:50 AM	**Length of Session**	Half Hour (about 25 minutes with 5 minutes for questions and discussion)

Presentation Title: **The Valves that Protect, Control, and Make Pumps Work Right**

Abstract

This class will outline the various types of valves used in pumping applications including check, air, relief, control, waste, back pressure, and flow control.

Speaker	**Robert Velasquez**	**E-mail**	robert@cimco-gcsystems.com
Speaker's Job Title	Water Management Consultant	**Phone**	2533539620
Organization	Cimco-GC Systems		

Primary Job Duties	Train and support water districts, engineers, and distribution on the manufacturers products we represent.
Registrations or Certifications	Manufacturer Trained

2021 Western Washington Short School

Date 06/08/2021

Start Time 12:05 PM

End Time 01:05 PM

Track Pump Stations

Drinking Water and/or Wastewater Water, Wastewater

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

Presentation Title: **VFD Cables**

Abstract How superficially designed VFD cables work to mitigate cable and motor failures.

Speaker **Mason McGuire; Robert Hansen**

E-mail mason.mcguire@lutze.com

Speaker's Job Title Product Specialist

Phone 6036302249

Organization LUTZE Inc

Primary Job Duties Technical Support

Registrations or Certifications NA

2021 Western Washington Short School

Date 06/09/2021

Start Time 01:15 PM

End Time 02:15 PM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **Wet Weather Management**

Abstract

The presentation covers wet weather management from a treatment perspective. Topics covered include: impact of wet weather flows on treatment processes, challenges of treating wet weather flows, wet weather regulations, wet weather treatment technologies, and case studies.

Speaker **John Siczka**

E-mail john.siczka@jacobs.com

Speaker's Job Title Senior Technologist

Phone 4145269223

Organization Jacobs

Primary Job Duties John is a Senior Technologist and the Wet Weather Treatment Global Technology Leader with Jacobs. He has 20 years of experience in wastewater project design, studies, and planning. He has expertise in wet weather treatment technology evaluation, pilot testing, and design, as well as odor control modeling, studies, technology evaluation, testing, and design. He also has significant expertise in managing industrial environmental operations , regulatory review, and permit negotiations.

Registrations or Certifications Wisconsin Professional Engineer

2021 Western Washington Short School

Date 06/09/2021

Start Time 07:40 AM

End Time 08:40 AM

Track Regulations

Drinking Water and/or Wastewater Water

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

Presentation Title: **What You Need to Know about the Lead and Copper Rule Revisions**

Abstract

This presentation provides an overview of the new federal Lead and Copper Rule regulations and their implications to drinking water utility operations and compliance

Speaker **Pierre Kwan**

E-mail pierre.kwan@hdrinc.com

Speaker's Job Title Water Treatment Technical Director

Phone 206-826-4735

Organization HDR

Primary Job Duties Overseeing HDR's global efforts in helping utilities have clean, safe, reliable drinking water

Registrations or Certifications Washington State Professional Engineer, Oregon PE, New Mexico PE, British Columbia PE

2021 Western Washington Short School

Date 06/09/2021

Start Time 08:50 AM

End Time 9:20 AM

Track Treatment

Drinking Water and/or Wastewater Wastewater

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

Presentation Title: **What's the best blower technology?**

Abstract

A brief overview of 5 different blower technologies (Multistage Centrifugal, Direct Drive Turbo, Integrally Geared Turbo, Rotary Lobe, Rotary Screw) and what types of applications they fit best in.

Speaker **Gatlin Gold**

E-mail gatlin.gold@atlascopco.com

Speaker's Job Title Municipal Regional Sales Manager

Phone 2817764941

Organization Atlas Copco

Primary Job Duties Municipal Blower Sales

Registrations or Certifications N/A