

## **WRF Webinar: WRF Technology Scan Webcast Series: Asset Management**

**Tuesday, April 13<sup>th</sup>, 2021**

### **Webcast Summary:**

#### Overview:

The Water Research Foundation's Technology Scan webcasts are designed to help you become a Utility of the Future! This webcast is focused on innovative water technologies related to asset management. The following products and systems will be featured during the presentation:

**SAM4: Proactively Manage Your Assets in Water and Wastewater Processes – Semiotic Labs**

SAM4 is a plug and play predictive maintenance solution for industrial electric motors and rotating equipment, including pumps. SAM4 monitors 24/7, detects potential failures up to five months in advance, and alerts users when issues are detected. SAM4 detects over 90% of failures (vs. 50-60% for traditional vibration systems) because it analyzes electrical waveforms from inside the motor control cabinet.

**Ziptility – Ziptility**

Ziptility is an all-in-one infrastructure management app that helps utilities ditch paper locates, work orders, maintenance logs, and mapping with a single solution. With unlimited users and devices, utilities are able to rely on all members of their utility—from their field and crew staff to office employees—to better find, fix, and manage infrastructure assets in real time.

### **Presenter Biography Information**

**Simon Jagers — Founder, Samotics**

Simon Jagers is one of the founders of Samotics. By combining IoT-sensors and machine learning algorithms, Samotics develops practical condition monitoring tools that predict if, when and why equipment fails. Simon is a board member of the World Class Maintenance foundation and the Forbes Technology Council. He founded several IT companies before Semiotic Labs and has held senior commercial positions in leading IT companies such as Dell, Oracle, and EMC (now DellEMC) as well as niche firms such as Raising IT, and Cloud Management Professionals.

**Tyler Henke — Co-Founder & CEO, Ziptility**

Tyler Henke is the Co-founder and CEO of Ziptility – an uncomplicated asset management platform used by forward-thinking utility managers to protect, maintain, and improve their infrastructure assets. After spending six years as a software design consultant, Tyler stumbled into the utility industry while working as a Product Manager for a regional GIS technology company. He's since made it his mission to make easier-to-use utility software tools and make innovative technologies more accessible to small and medium utility teams. In addition to managing Ziptility, he serves as the secretary for a local sewer district in Bloomington, Indiana

**Erin Partlan, PhD — Innovation Program Manager, The Water Research Foundation**

Erin Partlan is an Innovation Program Manager at WRF where she manages projects on all types of water reuse. She received her PhD from Clemson University in Environmental Engineering and Science, where she researched membrane filtration in conjunction with novel activated

carbon to target micropollutant removal. Her research is published in the peer-reviewed journals *Water Research* and *Chemosphere*. She serves as a subject matter expert on advanced membrane applications at WRF. Previously, she has worked in R&D at a membrane filtration start-up, and as a water technology analyst. Her joys include mentoring undergraduate and graduate students and tinkering with code.

## **WRF Webinar: Optimizing Biofiltration for Improved Manganese Control under Cold-Water Conditions Thursday, April 22<sup>nd</sup>, 2021**

### **Webcast Summary:**

#### Overview:

Industry focus on Manganese (Mn) is increasing due to recent research on health impacts and accumulation in distribution systems. However, utilities that utilize or are considering biofiltration as a sustainable treatment practice for removing an array of contaminants may find Mn removal more challenging compared to using chlorinated filters. This webcast will summarize the conclusions from the recently published WRF project report, *Optimizing Biofiltration for Improved Manganese Control under Cold-Water Conditions (4749)*, which provides utilities with practical strategies for improving year-round Mn removal across surface water biofilters.

### **Presenter Biography Information**

**Ashley Evans** — Discipline Leader for Biological Drinking Water Treatment, Arcadis  
Ashley is Arcadis' Discipline Leader for Biological Drinking Water Treatment, the Chair of the AWWA Biological Drinking Water Treatment Committee, and is co-chairing development of the new Manual of Practice 80 on Biological Drinking Water Treatment. She was recently the Principal Investigator for Water Research Foundation project 4749 investigating manganese removal and release across biofilters, which is what she will be discussing today.

**William Knocke, PhD, PE** — Civil and Environmental Engineering, Virginia Tech  
Dr. Bill Knocke has been a member of the Virginia Tech Civil and Environmental Engineering faculty for over forty years. He has published over 100 papers and articles related to drinking water treatment practices, with heavy emphasis in the realm of iron and manganese control. Dr. Knocke is a registered profession engineer in the Commonwealth of Virginia.

**Cynthia Ha** — Environmental Engineer, Alameda County Water District  
Cynthia Ha is an environmental engineer at Alameda County Water District. Cynthia has over a decade of experience working in research, water quality and regulatory compliance. Cynthia is a licensed Professional Engineer with a master's degree in Civil and Environmental Engineering from the University of California, Los Angeles. She was recently the Research Lead for The Water Research Foundation project 4749 investigating the strategies to optimize biofilters for manganese removal under winter conditions.

**Martin Earle** — PhD Student Dalhousie University

Martin is a PhD student at Dalhousie University, studying the mechanisms of manganese removal across drinking water biofilters, specifically focusing on surface water treatment. As a member of the WRF 4749 project team, Martin conducted analysis of the bench-scale experiments and filter media samples for other experiments.

**Grace Jang, PhD — Research Program Manager, The Water Research Foundation**

Grace Jang has been a Research Program Manager at WRF since 2009. She manages a variety of research projects focusing on microbial water quality, opportunistic pathogens in premise plumbing, and biological treatment. Dr. Jang is currently the lead on WRF's Waterborne Pathogens in Distribution and Plumbing Systems Research Area to help better understand opportunistic waterborne pathogen issues in distribution systems and premise plumbing. Prior to joining WRF, she worked at various research laboratories focusing on bioleaching, disinfection efficacy, nitrification, and vascular cell dysfunction by hyperglycemia. She received her BS degree in environmental engineering, her MS degrees in environmental engineering and biomedical engineering, and her PhD in environmental engineering from Arizona State University.

**WRF Webinar: National Water Pipeline Database (PIPEiD) – Better Data and Models for Improved Asset Management: Webcast Series**  
**Thursday, June 3rd, 2021**

**Webcast Summary:**

Overview:

PIPEiD, a national water pipeline database, will help water utilities more effectively manage water pipeline infrastructure systems for performance, resiliency, and sustainability. This work was conducted on behalf of the United States Bureau of Reclamation under congressional direction to collect high-quality field performance data of water pipelines of different materials and diameters, including cast and ductile iron, prestressed concrete cylinder pipe, reinforced concrete, steel, thermoplastic, and others.

**Presenter Biography Information**

**Sunil Sinha, PhD — Professor & Director, Sustainable Water Infrastructure Management Center (SWIM), Virginia Tech**

Dr. Sunil Sinha is a Professor of Civil and Environmental Engineering and Director of Sustainable Water Infrastructure Management (SWIM) Center of Excellence at Virginia Tech. Dr. Sunil Sinha is a National Science Foundation (NSF) Career Award recipient in the area of sustainable water infrastructure management systems. Dr. Sinha's research, teaching, and consulting activities are focused in the areas of infrastructure management, sustainability, pattern recognition, sensor informatics, and resilience, especially water systems. Dr. Sinha has documented and disseminated the results and findings from research in over 450 publications in referred

journals, and reports. Dr. Sinha was seen behind “90-minutes” PBS documentary titled “Liquid Assets: The Story of Our Water Infrastructure,” that throws light on a long-buried problem — America’s aging water system. He has given many NPR interviews and featured as a water infrastructure expert in a History Channel documentary titled “The Crumbling of America.”

**Anmol Vishwakarma — PhD student, Virginia Tech**

Anmol Vishwakarma is a PhD student in Civil Engineering at Virginia Tech. His doctoral research investigates the risks and lifecycle economics of water pipeline infrastructure systems using advanced mathematical modeling techniques. Anmol also holds a B.E. degree in Environmental Engineering from the Delhi Technological University, India, and an M.S. degree in Environmental Engineering from Virginia Tech. He aspires to advance the state of research of water infrastructure management using artificial intelligence techniques.

**Kathy Laskowski — Deputy Director, Sustainable Water Infrastructure Management Center (SWIM), Virginia Tech**

Kathy Laskowski is the Deputy Director of the Sustainable Water Infrastructure Management (SWIM) Center at Virginia Tech. She is a certified Project Manager (PMP) and has more than 15 years of experience in complete project life cycle administration. Ms. Laskowski has extensive knowledge in the areas of development and implementation of planning documents, management of diverse cross-functional teams, proposal development, financial management and consulting on program operational efficiency. She has used her experience and knowledge at Virginia Tech for the past 20 years.

**Jian Zhang, PhD — Research Program Manager, The Water Research Foundation**

Jian Zhang serves as a Research Program Manager at WRF where he has worked since 2002. Jian has over 20 years of experience in the field of drinking water and wastewater systems. Research projects managed by Jian have been mostly focused on condition assessment, risk assessment, and asset management. The latest and ongoing Research Area led by Jian is focused on resilience of water infrastructure. Jian has a bachelor's degree and a master's degree in environment engineering from Tongji University, China, and a PhD degree in environmental engineering from University of Cincinnati.

**WRF Webinar: National Water Pipeline Database (PIPEiD) - Descriptive, Correlation, and Survival/Weibull Curve Analysis for Asset Management  
Tuesday, June 8<sup>th</sup>, 2021**

**Webcast Summary:**

Overview:

This is the second in the National Water Pipeline Database titled “PIPEiD” Webcast Series.

PIPEiD, a national water pipeline database, will help water utilities more effectively manage water pipeline infrastructure systems for performance, resiliency, and sustainability. This work was conducted on behalf of the United States Bureau of Reclamation under congressional direction to collect high-quality field performance data

of water pipelines of different materials and diameters, including cast and ductile iron, prestressed concrete cylinder pipe, reinforced concrete, steel, thermoplastic, and others.

#### **Presenter Biography Information**

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environment engineering from Tongji University, China, and a PhD degree in environmental engineering from University of Cincinnati.

**WRF Webinar: National Water Pipeline Database (PIPEiD) - Performance, Risk, and Life Cycle Economic Analysis for Advanced Asset Management**

**Thursday, June 10<sup>th</sup>, 2021**

**Webcast Summary:**

Overview:

This is the third webcast in the National Water Pipeline Database titled “PIPEiD” Webcast Series.

PIPEiD, a national water pipeline database, will help water utilities more effectively manage water pipeline infrastructure systems for performance, resiliency, and sustainability. This work was conducted on behalf of the United States Bureau of Reclamation under congressional direction to collect high-quality field performance data of water pipelines of different materials and diameters, including cast and ductile iron, prestressed concrete cylinder pipe, reinforced concrete, steel, thermoplastic, and others.

**Presenter Biography Information**

**Sunil Sinha, PhD — Professor & Director, Sustainable Water Infrastructure Management Center (SWIM), Virginia Tech**

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**WRF Webinar: WRF Technology Scan: Contaminant Removal  
Tuesday, June 29<sup>th</sup>, 2021**

**Webcast Summary:**

Overview

The Water Research Foundation's Technology Scan webcasts are designed to help you become a Utility of the Future! This webcast will focus on innovative water technologies related to contaminant removal. The following products and systems will be featured during the presentation:

Ingenieria de Obras Zaragoza S.L. – Puremust-sn<sup>®</sup>

Puremust-sn<sup>®</sup> is a patented, cost-effective, environmentally friendly system for nitrate removal from groundwater. It uses non-pathogen nitrate-reducing bacteria (NRB) to eliminate nitrates through a reduction-oxidation process (denitrification). Certification from SGS confirms that Puremust-sn<sup>®</sup> can achieve nearly 100% nitrate reduction from concentrations as high as 1400 mg/L.

Aqua Metrology Systems, Ltd. – Safeguard H2O: In-Situ Stannous and Tin Oxide Generator

Fully automated, on-demand, in-situ generator of stannous (reducing agent) and tin dioxide (adsorbent), coupled with online monitoring capability. Tin and electricity are the only consumables. Removes As, Cu, Cr(VI), Fe, Pb, and Mn from drinking water and As, Cr(VI), Hg, and Se from wastewater. Acts as a corrosion inhibitor for lead pipes and cooling systems; adsorbs SO<sub>2</sub> and H<sub>2</sub>S from industrial emissions.

## Presenter Biography Information

### **Rick Bacon** — CEO, Aqua Metrology Systems

Rick Bacon has served as CEO of Aqua Metrology Systems (AMS) since 2012. Prior to joining AMS, Rick held senior management and board level positions in the energy, industrial, technology, and water sectors. Rick, who has a keen interest in technology start-ups and innovation, has led AMS through their development and commercialization of online, real-time analytical and remediation solutions to predict, control and treat a range of contaminants in drinking water, process water and wastewater. Rick holds a degree in Land Economy from the University of Cambridge, United Kingdom, and a PhD from the University of California Santa Barbara.

### **Joaquín Murría Martín** – CEO, Ingeobras

Joaquín Murría has 15 years of experience as the manager of a pioneering company in water treatment and the development of water treatment technologies. His strong commitment to innovation and his spirit of self-improvement have allowed INGEOBRAS to be at the forefront of international markets with innovative technologies.

### **Erin Partlan, PhD** – Innovation Program Manager, The Water Research Foundation

Erin Partlan is an Innovation Program Manager at WRF where she manages projects on all types of water reuse. She received her PhD from Clemson University in Environmental Engineering and Science, where she researched membrane filtration in conjunction with novel activated carbon to target micropollutant removal. Her research is published in the peer-reviewed journals Water Research and Chemosphere. She serves as a subject matter expert on advanced membrane applications at WRF. Previously, she has worked in R&D at a membrane filtration start-up, and as a water technology analyst. Her joys include mentoring undergraduate and graduate students and tinkering with code.