**WRF Webinar: Solutions for Underperforming Drinking Water Systems**
**Thursday, January 21st, 2021**

## Webcast Summary:

Approximately 25 million people in the United States are served by water systems that regularly fail to meet federal safe drinking water standards. In addition, systems with poor water quality are more likely to serve low-income and semi-rural communities, as well as people of color. More rigorous water quality standards combined with increasing water quality challenges will make it even more difficult for systems with limited capacity to meet drinking water requirements. Small community water systems (those serving <10,000 people) are more likely to have a history of long-term health-based violations. The economic challenge of operating and maintaining a small water system is a large contributor to water quality violations. This suggests that solutions are urgently needed to help struggling small water systems remain solvent and ensure their ability to deliver safe, affordable water to their communities.

This webcast focused on the recently published WRF project, Solutions for Underperforming Drinking Water Systems in California (5015). This project examined the challenges currently faced by underperforming drinking water systems in California, potential solutions, and opportunities for regional partnerships. Solutions that have the biggest impact are operational solutions, treatment solutions, source water solutions, and partnership solutions. While focused on California, the lessons learned apply more broadly to communities across the United States.

## Presenter Biography Information

**Katie Porter — California Urban Water Agencies (CUWA)**
Katie Porter is a staff member for the California Urban Water Agencies (CUWA), a non-profit organization of eleven major urban water agencies that collectively serve about two thirds of California's urban population. She currently works for Brown and Caldwell and previously served as an Associate Branch Chief in USEPA's Office of Ground Water and Drinking Water in Washington DC, where she developed national policy for the Safe Drinking Water Act and implemented programs to improve system sustainability and small system compliance. Katie earned her BS from MIT and MS from Tufts University in Chemical Engineering. She is a registered Professional Engineer in CA and a certified Envision Sustainability Professional.

**Laura Feinstein — San Francisco Bay Area Planning and Urban Research Association (SPUR) (former senior researcher at the Pacific Institute)**
Laura Feinstein is sustainability and resilience policy director at SPUR, the Bay Area public policy think-tank. She leads SPUR's work on climate resilience and environmental justice. Previously she was a senior researcher at the Pacific Institute. Laura has led research projects on environmental justice, the water-energy nexus, safe and affordable drinking water, sea level rise and drought adaptation. She holds a BA from UC Berkeley in anthropology, and a PhD from U.C. Davis in ecology.

**Maureen Hodgins — Regional Liaison The Water Research Foundation**
Ms. Hodgins joined the Foundation in July 2005. Prior to that, Maureen worked for the Marine Department of the U.S. Antarctic Program as science cruise coordinator. She also worked at the University of California as a staff research associate studying trace organics in environmental samples. Maureen holds a bachelor's degree from Oberlin College, where she majored in Biology.

**Morgan Shimabuku — Pacific Institute**
Morgan Shimabuku joined the Pacific Institute in 2018 as a Research Associate in the Water Program. She conducts research on solutions to water equity and access challenges, benefits and tradeoffs of water management strategies, and a universal approach for measuring water resilience at the basin scale. She holds a bachelor's degree in Environmental Studies and Geology from Whitman College and a Master's in Geography from the University of Colorado-Boulder

**Michelle Frederick — California State Water Resources Control Board, Division of Drinking Water**
Michelle holds a bachelor's degree in chemistry from UC Berkeley and a master's degree from Georgia Tech in environmental engineering. She is a California registered professional civil engineer. She began working for the State drinking water program in 2005. In her current position, Michelle focuses on developing and supporting the Division of Drinking Water's SAFER section's efforts to ensure safe and affordable drinking water to all Californians, particularly through water partnerships and analysis of at-risk water system needs.

**WRF Webinar: Full Lead Service Line Replacement Guidance**
**Thursday, March 4th, 2021**

**Webcast Summary:**

Lead Service Lines (LSLs) can be a significant contributor to lead levels at the tap. Many utilities have been actively removing LSLs to reduce lead exposure from drinking water. The revised Lead and Copper Rule (LCR) contains requirements that will impact utility LSL replacement programs. This webcast featured results and recommendations from *Full Lead Service Line Replacement Guidance* (project 4713), which performed full LSL replacements at over 100 locations across North America. Based on field studies, webcast attendees will learn how to apply lead reduction strategies following full LSL replacement. In addition to project results, utility representatives shared their firsthand experiences and best practices related to LSL replacement.

**Presenter Biography Information**

**Rebecca Slabaugh — Drinking Water Practice Leader, Arcadis North American**
Rebecca serves as the Drinking Water Practice Leader for Arcadis North American. She brings 14 years of experience in corrosion control and metals release, and has provided technical support to AWWA, EPA, and various state agencies on lead and copper compliance issues, including the LCR revisions. She is a member of the AWWA Lead and Copper Rule Technical Advisory Workgroup, and a contributing author to AWWA M58 (2nd ed.): Internal Corrosion Control in Water Distribution Systems.

**Richard A. Brown, PE — Vice President, Manager of Water Treatment Cornwell Engineering Group, Inc.**
Richard Brown is a Vice President at the Cornwell Engineering Group, Inc. He oversees the treatment process evaluation and optimization, applied research, and regulatory compliance for public water systems, including: lead and copper, DBPR, SWTR, and residuals handling. Mr. Brown is a graduate of Purdue University and UNC-Chapel Hill. He has been PI or Co-PI on various WRF funded projects, including lead and copper related projects.

**Jeff Charrois, PhD — Senior Manager of Analytical Operations & Process Development Teams EPCOR Water, Edmonton, Alberta**
Jeff Charrois is currently the Senior Manager of Analytical Operations & Process Development Teams at EPCOR Water, in Edmonton, Alberta. Formerly Jeff has worked in government, academic and industry sectors including: Alberta Environment and Parks as well as being an Associate Professor and Director of the Curtin Water Quality Centre at Curtin University (Australia). Jeff has 20 years of internationally related experience in the areas of: drinking-, waste-, and recycled-water quality, disinfection by-products, analytical method development, and environmental risk management. Dr. Charrois completed his PhD at the University of Alberta in Public Health Sciences

**Katherine Mello, PE — Senior Manager Providence Water**
Katherine is the Senior Director of Operations at Providence Water, where she has been working for the last 6 years. Prior to that she worked at CDM Smith, where she specialized in drinking water quality and treatment. Lead in drinking water has been a primary focus over the course of her professional career. Katherine is a registered Professional Engineer in Rhode Island and a Board Certified Environmental Engineer. She currently chairs RI's Drinking Water Operator's Certification Board.

**Jonathan Cuppett — Research Program Manager The Water Research Foundation**
Jonathan Cuppett serves as a Research Program Manager at WRF where he has worked since 2009. Jonathan manages WRF research projects related to lead and copper corrosion, financial management, rates and revenue, and affordability. Prior to joining WRF, Jonathan worked at multiple environmental consulting firms focusing on groundwater remediation and hazardous waste disposal. Jonathan has a bachelor’s degree from Penn State University and a master’s degree in Environmental Science and Engineering from Virginia Tech.

**WRF Webinar: Technology Scan Webcast Series: Energy Efficiency**
**Tuesday, March 16th, 2021**

## Webcast Summary:

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

**In Situ Remediation Technology (InSRT)**
RemWell's In Situ Remediation Technology (InSRT) reactor uses ultrasound frequencies between 400 and 1000 kHz to degrade per- and polyfluoroalkyl substances in groundwater in a horizontal well, which avoids many of the energy demands associated with ex situ remediation.

**Ephyra®**
Ephyra® is a compact and sustainable technology based on plug flow digestion. Optimization of reactor design, advance process control, and stable operation has led to significantly improved performance of Ephyra®. Based upon full-scale performance results, compact construction, ease-to-operate, and a positive energy balance, Ephyra® has a very short payback time, often less than five years.

## Presenter Biography Information

**Danny Traksel — Director Business Development, Royal HaskoningDHV**
With a background in Environmental Engineering and Water Technology from studies in both The Netherlands and Australia, Danny hold currently the position of Director Business Development at Royal HaskoningDHV, one of the leading engineering and consultancy firms in the world. Together with strategic, regional partners and other stakeholders, he is responsible for bringing ground-breaking technologies to new markets. One of his goal is to introduce Ephyra®, an innovative plug flow digestion technology, in North America. Building on his current partnerships in Ontario, Canada, he is currently searching for potential licensee partners in both Canada and the USA. Prior to his current position, he worked as Managing Director at Sustec and as a Commercial Director at Veolia Water Technologies.

**Michelle Crimi, PhD — Co-Founder, RemWell**
Michelle Crimi, co-founder of RemWell and co-developer of RemWell's patented InSRT Technology, is also a Professor jointly appointed in Civil & Environmental Engineering and Engineering & Management at Clarkson University. Her research focuses on developing *in situ* treatment technologies for groundwater contamination, determining the impact of

groundwater technologies on aquifer quality, and integrating treatment technologies for optimized risk reduction. Her projects are often conducted in partnerships with industry and consulting organizations and have a strong technology transfer focus with the objective of moving technologies from the laboratory to full scale adoption by developing guidance, tools, protocols, and workshops to support field application. She has been PI or co-PI on several research projects focused on treating emerging contaminants, funded primarily by the U.S. Department of Defense's Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP). She earned her BS in Industrial Hygiene and Environmental Toxicology from Clarkson University, her MS in Environmental Health from Colorado State University, and her PhD in Environmental Science and Engineering from the Colorado School of Mines.

**Fidan Karimova** — **Innovation Program Manager**, **The Water Research Foundation**
Fidan joined the legacy Water Environment Research Foundation in 2015. She works on the Innovation team where she serves as the contact person for utilities interested in learning more about the Innovation Program, and works with technology experts to vet technologies that are then featured in LIFT Link. Fidan is also in charge of the University-Utility partnerships and the LIFT IWS Challenge. Fidan previously worked with young entrepreneurs in 86 countries to turn their ideas into startups. She created a mobile app that tracks a person's daily water use. She received her MS in Environmental Management and BS in International Business from University of Maryland and earned a Water Management certificate from Delft University of Technology.