

# September 14-16, 2020

# REACHING NEW HEIGHTS IN WATER REUSE



In Collaboration with The Water Research Foundation

# A Note from the Organizers

Dear Symposium Attendee:

This year's Symposium theme, *Reaching New Heights in Water Reuse*, showcases the dramatic expansion of water recycling as a sought-after solution for a range of water management challenges. And although the global pandemic does not allow us to meet in person, we are pleased to provide attendees with a comprehensive technical program and interactive experience to enable you to continue your professional development and maintain connections with colleagues.

The WateReuse Association and The Water Research Foundation have enjoyed working together on this year's WateReuse Symposium and on many other reuse-related initiatives. The two organizations have continued to partner on several member services such as implementation of EPA's Water Reuse Action Plan (WRAP), webcasts, and the National Blue Ribbon Commission for Onsite Non-Potable Water Systems.

During the 30th anniversary of the WateReuse Association, it is exciting to celebrate the growth in water recycling that is happening across the United States and around the world. This year's Symposium includes sessions on the latest trends in potable reuse, decentralized systems, workforce development and finance, with spotlight sessions on the latest scientific research and technology development. The program also offers several sessions on policy developments occurring at the federal and state level, with a special live session focused on the WRAP. And, we are pleased that EPA's Assistant Administrator for Water, David Ross, will be joining us for a capstone event on Wednesday that will encourage all of us to envision a future where water reuse is a fully integrated element in all our water management systems.

To increase your engagement opportunities, we encourage you to participate in our live simulcasts, tune-in to our technical sessions during live speaker chats, and visit the Exhibit Hall and Networking Lounge. The chat feature available throughout the virtual platform allows you to connect with colleagues anytime, anywhere during the Symposium.

Please remember that beginning in 2021, the Annual WateReuse Symposium moves to March of each year. Thank you for attending; we hope you enjoy the WateReuse (Virtual) Symposium, and we look forward to seeing you again next year in March!



PATRICIA SINICROPI
Executive Director
WateReuse Association



PETER GREVATT
Chief Executive Officer
The Water Research Foundation



Water challenges are escalating around the globe, placing people and communities, our environment, and our very future at risk. By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity. We are a Fortune 1000 global water technology provider with one mission: to help our customers solve water through the power of technology and expertise. Together, we can make water more accessible and affordable, and communities more resilient. Let's create a world that is more water-secure and sustainable for all. We have the opportunity of a lifetime to solve water. Let's work together and lead the way. #LetsSolveWater



# Resources to Support Your Experience

#### PROFESSIONAL DEVELOPMENT

The 2020 WateReuse Symposium is pleased to offer professional development hours (PDHs) for all states.

#### **How Do I Earn Educational Credits at the Symposium?**

The 2020 WateReuse Symposium PDH/CEU request form is available in the attendee briefcase in the virtual environment. Please complete the form and email it to Alicia Rutherford at arutherford@watereuse.org by October 30, 2020.

#### When Will I Receive Credits for the Symposium?

Certificates will be emailed to participants 3-4 weeks after the Virtual Symposium closes. It is the attendee's responsibility to submit the certificates to the state accreditation agencies to request credit.

#### **General Information**

Terminology and education credit requirements and restrictions vary widely. All participants are responsible for checking with their license/certification authority to ensure that WateReuse technical sessions meet specific requirements.

#### **SESSION PRESENTATIONS**

Unless otherwise noted, technical sessions are pre-recorded and available for viewing at your convenience.



Signifies live sessions. All live sessions are being recorded and will be available on the virtual platform the STREAMING following day for on-demand viewing.

#### SESSION AND PRESENTATION SURVEYS

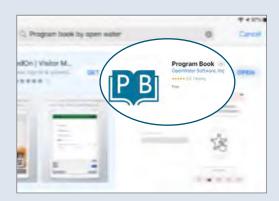
Your feedback is important to us! Please be sure to complete the survey that will be emailed to you after the live days.

## SYMPOSIUM MOBILE APP

WateReuse is excited to share the content for the technical sessions, along with speaker bios and head shots, in this year's mobile app.

#### **GETTING STARTED:**

1 Download "Program Book" from Open Water in the app store. It is a blue icon with a graphic of p and b in an open book.



- 2 Open the app. Enter the organization code: WateReuseSymposium
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- 3 Select WateReuse Association



4 Select 2020 WateReuse Symposium



5 Navigate to abstracts and presenters







# **Eaton Analytical**

Your single source for a broad range of high-quality potable and water reuse testing

www.EurofinsUS.com/Eaton







Change is happening at a pace we've never seen before. Climate change, sea level rise, cyber threats, aging infrastructure...and now an unprecedented health crisis from a global pandemic. Anticipating change and managing our most precious resources through these conditions has become a daunting task. For more than 85 years Carollo has delivered innovative solutions to meet today's challenges while being adaptive to an unknown future. By never wavering from our singular, passionate focus on water, we can meet the challenge of change head on, and help build a better world for generations to come.

# Thank You to Our Sponsors

The WateReuse Symposium would not be possible without the generous support of our sponsors. Please be sure to view the sponsor listing on the Symposium Mobile App to view their full contact information, company description, and valuable information about how they are advancing water recycling.

#### **CHAMPIONS**

#### **AECOM**

Vijay Sundaram, National Water Reuse Technical Practice Leader, Water Business Line vijay.sundaram@aecom.com



#### **Black & Veatch**

Zeynep Erdal, Integrated One Water Solutions Leader, Water Business erdalz@bv.com



#### **Carollo**

Eva Steinle-Darling, Reuse Innovation Manager esd@carollo.com



#### **Eastern Municipal Water District**

Paul Jones, General Manager jonesp@emwd.org



#### **Evoqua**

Patrick Regan, Vice President patrick.regan@evoqua.com



#### **Tetra Tech**

Gary ReVoir, Vice President gary.revoir@tetratech.com



#### **West Basin Water District**

Patrick Sheilds, General Manager patricks@westbasin.org



#### **Xylem**

Kevin Flis, Business Development Manager kevin.flis@xyleminc.com

## **VISIONARIES**

#### **Irvine Ranch Water District**

Mark Tettemer, Recycled Water Development Manager tettemer@irwd.com



#### **Metropolitan Water District of Southern California**

Raymond Jay, Sr. Resource Specialist rjay@mwdh2o.com



#### **Water Replenishment District**

Kimberly Badescu, Public Affairs Representative kbadescu@wrd.org



#### **INNOVATORS**

#### **Arcadis**

Ufuk Erdal, Water Reuse Practice Director ufuk.erdal@arcadis.com

#### **Hazen & Sawyer**

Troy Walker, Water Reuse Practice Leader twalker@hazenandsawyer.com

#### **HDR**

Chance Lauderdale, Drinking Water Director chance.lauderdale@hdrinc.com

#### **Jacobs**

Larry Schimmoller, Global Technology Leader for Water Reuse larry.schimmoller@jacobs.com

#### **Plummer**

Ellen McDonald, Principal, Water Planning Practice Leader emcdonald@plummer.com

#### Suez

Renee Twardzik, Senior Marketing Communications Leader renee.twardzik@suez.com









#### **ADVOCATES**

#### **Brown and Caldwell**

Melanie Holmer, Water Reuse Leader mholmer@brwncald.com

#### **CDM Smith**

Greg Wetterau, Vice President wetteraugd@cdmsmith.com

#### **El Dorado Irrigation District**

Elizabeth Dawson, Engineering Manager edawson@eid.org

#### **Kennedy Jenks**

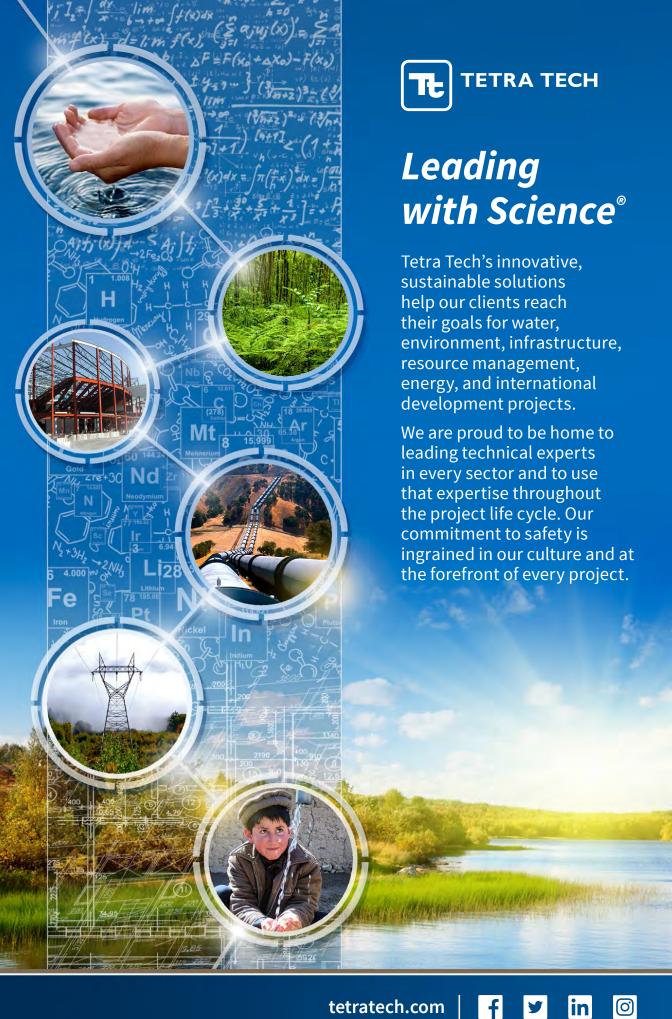
Dawn Taffler, Vice President, One Water Practice dawntaffler@kennedyjenks.com

















# Thank You to Our Exhibitors

Interested in connecting with attendees? The virtual 35th Annual WateReuse Exhibit Hall offers the opportunity to connect online, in real time with water reuse professionals. Booths in the virtual exhibit hall allow attendees the opportunity to browse displays, download information, watch videos, and participate in informative discussions via the message forums, chat, or email—on the live days and throughout the five-week on-demand period.

#### **EXHIBITORS**

#### **Aqua-Aerobic Systems**

Cheryl Kunz ckunz@aqua-aerobic.com

#### **H2O Innovation**

Dominique Metayer-Drolet dominique.metayer@h2oinnovation.com

#### Kando

Jenny Gelman, David Fishman jenny@kando.eco, david@kando.eco

#### **Natural Systems Utilities**

Zach F. Gallagher zgallagher@nsuwater.com

#### **Omya**

Jarrod Massam jarrod.massam@omya.com

#### Shimadzu Scientific Instruments Inc.

Maureen Quaranta maquaranta@shimadzu.com

#### **Smith & Loveless Inc.**

**Darby Ritter** dritter@smithandloveless.com



















# DEMYSTIFYING INTELLIGENT WATER for a sustainable water future

Population growth, urbanization and prolonged drought continue to force cities to diversify their water management portfolios. Human intervention coupled with advanced technologies, such as AI and predictive analytics, empowers water utilities to co-create sustainable solutions with their communities, especially when it comes to water reuse.

Learn more about how Intelligent Water can advance the **one water** movement: https://www.arcadis.com/en/united-states/our-perspectives/2020/advancing-the-one-water-movement/.



#### Arcadis.

Improving quality of life

Capture to read this QR about "Before, During and After: Caring for your workforce and finances through a crisis". This presentation explores the future economic outlook, describes the evolving funding sources to mitigate short-term losses and outlines steps to implement an effective Business Continuity Plan for returning to work and sustaining operations.











# Thank You to Our Partnering Organizations

The WateReuse Association thanks our partnering organizations for marketing and communications support of the 35th Annual WateReuse Symposium.

#### **PARTNERS**























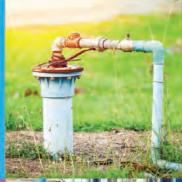




Groundwater Reliability Plus - Encompasses EMWD's actions and investments to improve the quality and quantity of the water in local groundwater basins, also called aquifers. Programs that are part of GWR Plus:



# Groundwater Reliability Plus



#### Groundwater

supplies through the other programs



# Recycled

be reused for irrigation and industrial purposes. EMWD consistently uses 100 percent of its recycled water supply for beneficial purposes within its 555-square mile service area.



#### Desalination





# Water Use Efficiency





# Healthy





# Water Banking





## **Purified Water** Replenishment

water (purified water) with tertiary treated recycled water. After an

# Monday, September 14

# **OPENING GENERAL SESSION** | Monday, September 14 | 8:00 am MT



# **LIVEO** Keynote Address (Followed by Live Q&A)

Welcome and Introduction of Keynote Speaker:

GILBERT TREJO, WateReuse Association President, Chief Technical Officer, El Paso Water

**Keynote Speaker:** 

**PETER KAGEYAMA**, Author of For the Love of Cities and The Emotional Infrastructure of Places

Peter speaks about emotional engagement with PLACES—cities, towns, villages, schools and neighborhoods. Good things happen when more people become emotionally engaged with their places, when more people fall in love with those places. Peter talks about how to create the set of conditions where love is more likely to happen and how to encourage people to go from saying they love a place to actually doing something for that place.



Sponsored by:



#### **LIVEO Plenary Panel: Reaching New Heights in Water Reuse STREAMING**

Participate in an illustration of the Symposium theme, "Reaching New Heights in Water Reuse," in the context of the WateReuse Association's 30th anniversary. Our discussion explores how water reuse has evolved over the past three decades in terms of its use applications, and how it might develop in the future.



GILBERT TREJO, WateReuse Association President, Chief Technical Officer, El Paso Water



#### **Panelists:**



**GLORIA GRAY**, Director, West Basin Municipal Water District



YUVBIR SINGH, Chief Executive Officer, SUEZ Water Technologies & Solutions Suez

PANELISTS CONTINUED ON **FOLLOWING PAGE** 



Live sessions. Recordings will be posted on the virtual platform the following day for on-demand viewing.



Sessions related to the implementation of the National Water Reuse Action Plan (WRAP).



FELICIA MARCUS, Landreth Fellow, Stanford University Water in the West Program



**CHRIS PHIPPS**, Director, Anne Arundel County, Department of Public Works



PINAR BALCI, Assistant Commissioner, Bureau of **Environmental Planning** and Analysis, New York City Department of **Environmental Protection** 



**SUNNY WANG**, Water Resources Manager, City of Santa Monica, Public Works Department -Water Resources

Note: Opening General Session will be available on demand Tuesday, September 15, 2020.

# **TECHNICAL SESSIONS** | Monday, September 14 | 10:30 am MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 10:30 am MT to chat with the presenters in the following groups of sessions.

# Session Group: Water Reuse 101: A Bootcamp for Beginners

## **Benefits of Non-Potable, Benefits of Potable, and Water Reuse Regulations** (70 minutes)

#### Moderator:

Brooke Wright, P.E., Brown and Caldwell

Melanie Holmer, Water Reuse Leader, Brown and Caldwell

Shannon Spurlock, Founder and Principal, Ochotona Consulting

Jill Vandegrift, Environmental Engineer, CDM Smith

Don Vandertulip, Engineer, Texas Commission on Environmental Quality

## **Key Elements of Reuse Programs and Public Outreach, Communications, and Engagement** (45 minutes)

Kati Bell, Managing Director of Water Strategy, Brown and Caldwell Mark Millan, Principal, Data Instincts

# Water Reuse Case Studies: Colorado, California, Texas, and Virginia (75 minutes)

Thomas Dziura, Research Intern, Hampton Roads Sanitation District Kelsey Lyons, Start-up, Commissioning, and Optimization (SCO), Denver Water Mike Markus, General Manager, Orange County Water District Daniel Nix, Utilities Operations Manager, City of Wichita Falls Sarah Young, Deputy Director – Planning and Engineering, Aurora Water

#### **Upcoming Research and Symposium Preview (5 minutes)**

Allegra da Silva, Regional One Water Practice Leader and National PFAS Coordinator, Brown and Caldwell

#### **LIVE** Water Reuse 101 Instructors Answer Questions Live (60 minutes - Live)

#### **Moderators:**

MELANIE HOLMER, Water Reuse Leader, Brown and Caldwell **BROOKE WRIGHT**, P.E., Brown and Caldwell

#### 10:30 -11:00 am MT

Kati Bell, Managing Director of Water Strategy, Brown and Caldwell

Melanie Holmer, Water Reuse Leader, Brown and Caldwell

Mark Millan, Principal, Data Instincts

Shannon Spurlock, Founder and Principal, Ochotona Consulting

Jill Vandegrift, Environmental Engineer, CDM Smith

Don Vandertulip, Engineer, Texas Commission on Environmental Quality

#### 11:00 -11:30 am MT

Thomas Dziura, Research Intern, Hampton Roads Sanitation District

Kelsey Lyons, Start-up, Commissioning, and Optimization (SCO), Denver Water

Mike Markus, General Manager, Orange County Water District

Daniel Nix, Utilities Operations Manager, City of Wichita Falls

Sarah Young, Deputy Director - Planning and Engineering, Aurora Water

# Session Group: Water Recycling Policy and Planning

# CA State Water Board Grant with WRF: Research to Pave the Way for Regulations (90 minutes)

Jean Debroux, Chief Technology Officer, Kennedy Jenks

Julie Minton, Research Unit Leader, The Water Research Foundation

Adam Olivieri, Principal/Founder, EOA Inc.

Brian Pecson, Director Engineering Services, Trussell Technologies Inc.

Shane Trussell, President, Trussell Technologies Inc.

Krista Wigginton, Associate Professor, University of Michigan

Charles Wong, Department Head, Chemistry at the Southern California Coastal Water Research Project

## National Policy Developments Related to Water Reuse (90 minutes)

#### **Moderator:**

Jon Freedman, Senior Vice President, Global Government Affairs, Suez

Pete Evich, Vice President, Van Scoyoc Associates

Greg Fogel, Policy Director, WateReuse Association

Mia O'Connell, President, O'Connell & Dempsey, LLC

Eric Sapirstein, Founder and President, ENS Resources Inc.

#### Navigating the Geopolitics of Beneficial Reuse — Regulations, Public Perceptions, and other **Hidden Drivers** (60 minutes)

Christina Alito, One Water Institute Lead, HDR Julie Labonte, Vice President and Global Director of Program Management – Water, HDR Ryan Messer, Project Manager and Reuse Practice Leader, HDR

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## Session Group: Water Recycling in the Rockies

#### Colorado's First Localized Recycled Water System: Learning Every Step of the Way (30 minutes)

Kelsey Lyons, Water Treatment Technician, Denver Water Austa Parker, Lead Planner, Denver Water

#### Implementation of Localized Reclaimed Water Treatment Systems in Colorado (30 minutes)

Brandi Honeycutt, Environmental Protection Specialist, Colorado Department of Public Health and Environment

#### **Incorporating Urban Reuse in Colorado Education Standards** (30 minutes)

Liz Lemonds, Reclaimed Water Compliance, Colorado Department of Public Health and Environment

## Water Reuse Alternatives in Big Sky Montana (30 minutes)

Scott Buecker, Senior Project Manager, AE2S

#### Water Reuse in Colorado Above 14,000 Feet – Pikes Peak Summit Visitor Center (30 minutes)

Simon Farrell, Project Manager, Associate, JVA Inc.

## Weighing the Future of Non-Potable Reuse in Colorado (30 minutes)

Allegra da Silva, One Water Regional Leader, Brown and Caldwell Kevin Lusk, Principal Engineer, Colorado Springs Utilities Patricia Whitby, Environmental Engineer, Brown and Caldwell

## **Headwaters Policy: Advancing Reuse in Colorado** (90 minutes)

Laura Belanger, Senior Water Resources Engineer and Policy Advisor, Western Resource Advocates Barbara Biggs, Chair, Metro Roundtable, General Manager, Roxborough Water & Sanitation District Rebecca Mitchell, Director, Colorado Water Conservation Board Jim Pokrandt, Director of Community Affairs, Colorado River Water Conservation District

#### A Pathway to Regulating Direct Potable Reuse in Colorado (90 minutes)

Kevin Hardy, Executive Director, National Water Research Institute Tyson Ingels, Lead Drinking Water Engineer, Colorado Department of Public Health and Environment Mark Marlowe, Director of Castle Rock Water, Town of Castle Rock Austa Parker, Key Account Manager, Recycled Water & Efficiency Team, Denver Water Larry Schimmoller, Global Technology Leader for Water Reuse, Jacobs

Sponsored by:

# **Jacobs**

# WATEREUSE ANNUAL MEETING | Monday, September 14 | 12:00 pm MT



# **LIVEO WateReuse Annual Meeting: Live Speaker Availability**

Welcome and Tribute to Bahman Sheikh: CRAIG LICHTY, WateReuse Association Vice President, Client Director, Black & Veatch

Thirty Years of Engaging, Educating, and Advocating: GILBERT TREJO, WateReuse Association President, Chief Technical Officer, El Paso Water

State of Association: PATRICIA SINICROPI, Executive Director, WateReuse Association







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**AECOM** 

# **TECHNICAL SESSIONS** | Monday, September 14 | 2:00 pm MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 2:00 pm MT to chat with the presenters in the following groups of sessions.

# Session Group: Communications and Public Outreach

#### Benefits of Ongoing Operation of a Potable Reuse Pilot in Altamonte Springs, FL (30 minutes)

Jo Ann Jackson, One Water National Practice Leader, Black & Veatch Ed Torres, Public Works Director, City of Altamonte Springs, Florida

#### **Brewing Beer from Recycled Water in the Country of the Reinheitsgebot** (30 minutes)

Steffen Rüting, AOP Process Engineer, Xylem Services GmbH

# Seeing (in Any Form) Is Believing: Extending the Life of Your Demonstration Facility Through a Virtual Tour Video (30 minutes)

Megan Drummy, Account Supervisor, Katz & Associates Inc. Sara Katz, Founder/CEO, Katz & Associates Inc.

#### First Full-Scale DPR Permit in Arizona for Demonstration and Education (30 minutes)

Suzanne Grendahl, Water Quality Director, Scottsdale Water David Walby, Water Reclamation Services Director, Scottsdale Water

# Knowledge vs. Assumptions: Research for Connecting with Potable Reuse Customers (30 minutes)

Mark Millan, Principal, Data Instincts
Patricia Tennyson, Executive Vice President, Katz & Associates

# Making Water in the Sunshine! Next Steps for the FL Potable Reuse Commission (30 minutes)

Christine Owen, Director of Water and Reuse Innovations, Hazen and Sawyer Lynn Spivey, Director, Plant City Utilities

# **One Water Brewing Showcase: Shaping Public Perception about Direct Potable Reuse** (30 minutes)

Nicole Sherbert, Public Information Officer, Scottsdale Water

# **Public Outreach Lessons Learned in Implementing Potable Reuse Projects** (30 minutes)

Melody LaBella, Resource Recovery Program Manager, Central Contra Costa Sanitary District Mark Millan, Principal, Data Instincts

#### Road Ready: Strategies for a Mobile Non-RO Direct Potable Reuse Demonstration (30 minutes)

Tzahi Cath, Professor, Colorado School of Mines Donene Dillow, Environmental Specialist, Colorado Springs Utilities Kirk Olds, Manager, Water/Wastewater Engineering, Colorado Springs Utilities John Rehring, Vice President, Carollo Engineers Inc.

#### **Workshop: Water Reuse Education and Outreach** (90 minutes)

Morgan Close, VP of Project and Programs, Project WET Foundation

# Session Group: Stormwater Capture and Reuse

#### Advancing Water Recycling through Land Use Policy in Fairfax County, VA (30 minutes)

Matthew Hansen, Civil Engineer, Fairfax County, VA, Department of Land Development Services

#### **Characterization and Treatment of Stormwater and Urban Runoff for Potable Reuse** (30 minutes)

Brent Alspach, Director of Applied Research, Arcadis

#### **Characterization of Microbial Quality of Roof Runoff to Inform Treatment Standards** (30 minutes)

Jumana Alja'fari, PhD Candidate, Colorado State University Nichole Brinkman, Biologist, U.S. Environmental Protection Agency Michael Sukop, Research Scientist, U.S. Environmental Protection Agency

# **TECHNICAL SESSIONS** | Monday, September 14 | 3:30 pm MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 3:30 pm MT to chat with the presenters in the following groups of sessions.

# Session Group: Broad Considerations for Reaching New Heights in Reuse

# **Technology Innovations in Water Reuse** (30 minutes)

Cristina Ahmadpour, President, Isle Utilities

# Opening the Floodgate: Legal Barriers to Sustainability through Water Reuse (30 minutes)

Matthew Dobbins, Partner, Vinson & Elkins LLP

#### **Reaching New Heights – Finding New Flows in an Urban Water Cycle** (30 minutes)

Denise Chow, Environmental Engineering Associate, City of Los Angeles, LA Sanitation Lenise Marrero, Assistant Division Manager, City of Los Angeles, LA Sanitation Ali Poosti, Division Manager, City of Los Angeles, LA Sanitation

#### Thinking Like Water: Striving Toward Net Zero Water in Arid Projects and Beyond (30 minutes)

Erin English, Practice Leader and Senior Water Resources Engineer, Biohabitats Inc.

#### **LIVE** Implementation of the National Water Reuse Action Plan Live (90 minutes - Live)



#### **Moderator:**

Gilbert Trejo, WateReuse Association President, Chief Technical Officer, El Paso Water

Jake Adler, Environmental Analyst, Association of Clean Water Administrators

Allie Davis, Foreign Affairs Officer, U.S. Department of State

Greg Fogel, Policy Director, WateReuse Association

Paula Kehoe, Director of Water Resources, San Francisco Public Utilities Commission

Julie Minton, Research Unit Leader, Water Research Foundation

Sharon Nappier, National Program Leader for Water Reuse, U.S. Environmental Protection Agency

Dave Smith, Assistant Director, U.S. EPA Region 9

Note: A recording of this session will be available on demand Tuesday, September 15, 2020.

## Water Systems and Water Reuse: Buildings, Community, and Utility Synergies (90 minutes)

Rucker Alex, Principal, OneWater, Brown and Caldwell Taylor Chang, Water Resources Analyst, San Francisco Public Utilities Commission Aliza Furneaux, Policy and Program Manager, WateReuse Association

Emma Hughes, Project Manager, LEED, U.S. Green Building Council

#### **Your Water Reuse: Potable or Non-Potable?** (60 minutes)

Rob Beste, Assistant General Manager, Water Replenishment District of Southern California

John Campbell, Environmental Biotechnologist, Hilmar Cheese Company

Val Frenkel, Vice President, Greeley and Hansen, LLC

Richard Grubb, Business Network Leader, Chevron

Patrick Shields, General Manager, West Basin Municipal Water District

Patricia Sinicropi, Executive Director, WateReuse Association

# Session Group: Aguifer and Groundwater Recharge

# **Destin Water Users ASR System – Pioneering Solution for Reclaimed Water Storage** (30 minutes)

Robert Maliva, Principal Hydrogeologist, WSP Global Inc.

## Managed Aquifer Recharge and Water Supply Resilience in Albuquerque, New Mexico (30 minutes)

Amy Ewing, Hydrogeologist, Daniel B. Stephens & Associates Inc.

## **City of Santa Monica's Advanced Water Treatment Facility** (30 minutes)

Jacob Peterson, Project Manager, PACE

# **LIVE SESSION** | Monday, September 14 | 5:00 pm MT

#### **The Great Debate: Reverse Osmosis-Based vs. Carbon-Based Treatment for Potable Reuse**

Potable reuse has taken hold in several different parts of the United States. Broadly, the treatment trains can be divided into two camps:

- Reverse osmosis (RO) based treatment that uses RO as both a desalination step and removal barrier for contaminants—typically on a treatment backbone of membrane filtration/reverse osmosis/UV advanced oxidation
- A carbon-based system that uses carbon adsorption technologies with ozone-BAC/ GAC/UV advanced oxidation

This "debate" will focus on operations. Following a live debate, through polling, our audience will be invited to select the winner.



JASON CURL, Hazen and Sawyer **TROY WALKER**, Hazen and Sawyer





**KEVIN LINDER.** Advanced Water Treatment Superintendent, Aurora Water





**RYAN POPKO**, Purification Program Manager, JEA



**GERMANO SALAZAR-BENITES.** SWIFT Manager, Hampton **Roads Sanitation District** 



Sponsored by: Hazen

Note: A recording of this session will be available on demand Tuesday, September 15, 2020.

# Jacobs

# Creating a more connected, sustainable world.

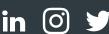


Combining knowledge and imagination, we are working with our clients to find creative and innovative solutions to address some of the biggest and most complex water challenges around the globe. Together we're making a positive difference in our communities and shaping the next generation of innovative solutions to protect the world's water.

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# West Basin is a proud sponsor of the 35th Annual WateReuse Symposium



West Basin, a provider of recycled water since the 90s, is dedicated to producing recycled water as an affordable local water supply for the service area and region.



225 billion gallons of recycled water produced since 1995



4 Treatment Facilities



100 miles of pipeline



More than \$700 million invested



More than 450 connections

#### **Board of Directors**



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Donald L. Dear Division V

To learn more about West Basin's water recycling program and its Water for Tomorrow program, visit www.westbasin.org/waterfortomorrow













# Tuesday, September 15

# PLENARY AND AWARDS FOR EXCELLENCE | Tuesday, September 15 | 8:00 am MT

#### **Plenary Session**

Welcome:

**CRAIG LICHTY**, WateReuse Association Vice President, Client Director, Black & Veatch

**State of Water Reuse Research:** 

**PETER GREVATT**, Chief Executive Officer, The Water Research Foundation

#### **WateReuse Association President's Awards**

#### **Presenters:**

PAM KENEL, WateReuse Awards Chair, Water Resources Director, Loudoun Water GILBERT TREJO, WateReuse Association President, Chief Technical Officer, El Paso Water









Sponsored by:



# **TECHNICAL SESSIONS** | Tuesday, September 15 | 9:00 am MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 9:00 am MT to chat with the presenters in the following groups of sessions.

# Session Group: Workforce Development Trends for Water Recycling Systems

#### **Using Algorithms and Web Scans to Gain Insights on Water Sector Workforce Needs** (30 minutes)

Melissa Meeker, Chief Executive Officer, The Water Tower at Gwinnett Department of Water Resources

#### Workforce Skills of the Future (30 minutes)

Walter Graf, Program Director, Assistant Management and Intelligent Water Systems, The Water Research Foundation

#### New Skills and New Opportunities – The Water Reuse Workforce of the Future Part 1 (90 minutes)



#### **Moderators:**

Jim Horne, Sustainable Utilities Program Manager, U.S. Environmental Protection Agency, Office of Wastewater Management Diane Taniguchi-Dennis, General Manager, Clean Water Services

#### Panelists:

Charles Bott, Director, Hampton Roads Sanitation District

Kevin Flis, Business Development Manager, Xylem Inc.

Christina Montoya, Communications and Marketing Manager, El Paso Water Utilities

Tressa Nicholas, Technical Support Coordinator WW Program, Idaho Department of Environmental Quality

# Session Group: Decentralized Water Recycling Systems

# **Breaking Down Implementation Barriers for Onsite Non-Potable Water Systems** (30 minutes)

Brie Post, Senior Engineer, Trussell Technologies Inc.

# Challenges in the Startup and Optimization of an Industrial Reuse MBR-RO System (30 minutes)

Katherine Scott, Wastewater Process Engineer, H2O Innovation Inc.

## **Emerging Trends & Drivers for Decentralized Non-Potable Water Reuse Systems** (30 minutes)

Zach Gallagher, Executive Vice President, Natural Systems Utilities

## The WaterHub: Sustainable Water Management Through Decentralized Reuse (30 minutes)

Bob Salvatelli, Director of Business Development, Sustainable Water

## **Onsite Non-Potable Reuse: Planning and Incentivizing Reuse Across** the US (90 minutes)



Sam Arden, Environmental Engineer, Eastern Research Group Taylor Chang, Water Resources Analyst, San Francisco Public Utilities Commission Alan Cohn, Managing Director of Integrated Water Management, New York City Department of Environmental Protection Jay Garland, Research Scientist, U.S. Environmental Protection Agency Emma Hughes, Project Manager, LEED, U.S. Green Building Council

## **Onsite Non-Potable Reuse: Developing and Advancing Risk-Based Treatment Guidance** (90 minutes)



Jay Garland, Research Scientist, U.S. Environmental Protection Agency Brian Good, Chief Administrative Officer, Denver Water Michael Jahne, Environmental Engineer, U.S. Environmental Protection Agency Paula Kehoe, Director of Water Resources, San Francisco Public Utilities Commission Sybil Sharvelle, Professor in Civil and Environmental Engineering Department, Colorado State University

## Session Group: Water Reuse Around the Globe

#### **Economic Viability of Ultrafiltration for Drinking Water Production in Brazil** (30 minutes)

Fabio Pereira de Carvalho, Technical Service & Development Specialist, DuPont Water Solutions

## **Think Globally, Act Locally – Evaluating Potable Water Recycling in the UK** (30 minutes)

Katherine Bell, Director of Water Strategy, Brown and Caldwell Melanie Holmer, Water Reuse Leader, Brown and Caldwell lan Mayor-Smith, Senior Lecturer, University of Brighton Varsha Wylie, Principal Process Engineer, Southern Water Services

# Water Reuse as an Integral Part of Palestine's Water Management (30 minutes)

A. Rasem Hasan, Director of Water and Environmental Studies Institute, An-Najah National University Muna M. Masri, Student, An-Najah National University Ryujiro Tsuchihashi, Senior Technologist, Jacobs

# Israel's Unique Experience with Water Reuse: Policy, Regulation, and Financing (90 minutes)



#### **Moderator:**

Jon Freedman, Senior Vice President, Global Government Affairs, Suez

Danny Greenwald-Shapira, Senior Deputy Director General - Regulation, Israel Water Authority Sharon Nappier, National Program Leader for Water Reuse, U.S. Environmental Protection Agency Alon Zask, Senior Deputy Director General for Natural Resources, Israel Ministry of Environmental Protection

# **LIVE SESSION** | Tuesday, September 15 | 10:30 am MT

## **LIVE** New Skills and New Opportunities – The Water Reuse Workforce of the Future Part 2 (90 minutes – Live)



Building a sustainable and effective reuse program for a community requires the skills and talents of a diverse ecosystem of players. This ecosystem in turn is driven by the workforce that makes it all happen. Different skills are needed, and these skills must be developed, nurtured, and brought together to ensure that reuse programs come together, are sustained, and make a difference in communities. Please join a panel of thought leaders across the reuse ecosystem for this important discussion hosted by EPA's Office of Wastewater Management and the WateReuse Association.



In the first part of this workshop, we will hear from the panelists. After the presentations, workshop participants will engage in small group discussions to identify challenges and reuse workforce needs to understand the roles and related skills/capabilities that need to be in place to ensure a robust and effective (fit for purpose) water reuse program for a community.



#### **Moderators:**

JIM HORNE, Sustainable Utilities Program Manager, U.S. Environmental Protection Agency, Office of Wastewater Management

**DIANE TANIGUCHI-DENNIS**, General Manager, Clean Water Services

#### Panelists:



**CHARLES BOTT**, Director, **Hampton Roads Sanitation** District



**KEVIN FLIS**, Business Development Manager, Xylem Inc.



**CHRISTINA MONTOYA,** Communications and Marketing Manager, El Paso Water Utilities



TRESSA NICHOLAS, Technical **Support Coordinator WW** Program, Idaho Department of Environmental Quality

Note: A recording of this session will be available on demand Wednesday, September 16, 2020.

# **LIVE SESSION** | Tuesday, September 15 | 12:00 pm MT

# **LIVE** Operating Water Recycling Systems

Join our panel of operators and managers as they explore the state of the water recycling operations workforce at both onsite and centralized systems. Discussion items will include useful tools for operating systems, daily challenges in operation, aspects of their reuse work they take pride in, and steps that management has taken to build a diverse, skilled, and talented workforce pipeline.



#### **Welcome:**

**DIANE TANIGUCHI-DENNIS**, WateReuse Association Treasurer, Chief Executive Officer, **Clean Water Services** 



#### Moderator:

**ANDREW SALVESON**, Water Reuse Practice Director, Carollo Engineers

#### **Panelists:**



DARRELL ANDREWS. Chief Stationary Engineer, San Francisco Public Utilities Commission



**STEVE JACKSON**, Treatment Specialist, Colorado Springs **Utilities** 



REBECCA SHELTON, Assistant Director, Department of Water Resources, Gwinnett County



**JOSEPH VESEY**, Senior Vice **President & Chief Marketing** Officer, Xylem



**CINDY WALLIS-LAGE**, President, Black & Veatch's Water Business

Note: A recording of this session will be available on demand Wednesday, September 16, 2020.





# **TECHNICAL SESSIONS** | Tuesday, September 15 | 2:00 pm MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 2:00 pm MT to chat with the presenters in the following groups of sessions.

#### Session Group: Research Developments in Water Recycling

#### **Domo Arigato Mr. Roboto: With the Help of Japan, Al Enters Potable Reuse** (30 minutes)

Andrew Salveson, Water Reuse Practice Director, Carollo Engineers Inc.

#### Full Advanced Treatment in Inland Areas – Can We Do That? (30 minutes)

Ufuk Erdal, Senior Vice President and National Water Reuse Director, Arcadis

#### Impacts of Anthropogenic EDCs and the Role of Reuse and Conservation on the Quality of the Potomac River (30 minutes)

Erik Rosenfeldt, Director of Water Process Technologies, Hazen and Sawyer

#### **Real-Time Sewer Monitoring for Enhanced Source Control in Potable Reuse** (30 minutes)

Scott Mansell, Senior Water Resources Engineer, Clean Water Services Eva Steinle-Darling, Principal Technologist, Carollo Engineers Inc.

#### **Research to Advance Potable Reuse in the Southern Great Plains** (30 minutes)

David Foster, Pilot Program Manager, Xylem Inc. Michael Watts, Water Reuse Practice Leader, Garver

## UV/Cl2 for IPR at Water Replenishment District of Southern California: Performance and **Process Control** (30 minutes)

Mihaela Stefan, Sr. Research Scientist, Trojan Technologies

# Session Group: Water Reuse for Industry

## **Biological Treatment of High Salinity Produced Water for Beneficial Reuse** (30 minutes)

Brett Van Houghton, PhD Candidate, Colorado School of Mines

#### Challenges in the Startup and Optimization of an Industrial Reuse MBR-RO System (30 minutes)

Katherine Scott, Wastewater Process Engineer, H2O Innovation Inc.

#### Minimal Liquid Discharge and Circular Economy Brings Affordability to ZLD (30 minutes)

Tina Arrowood, Principal Research Scientist, DuPont Water Solutions

#### **Produced Water: A Guide to Reliable Data Sources** (30 minutes)

Amy Emmert, Senior Policy Advisor, API

#### Review of Industrial Contaminants at Risk of Adversely Impacting Potable Reuse (30 minutes)

Kyle Thompson, Post Doctoral Researcher, Southern Nevada Water Authority

# **TECHNICAL SESSIONS** | Tuesday, September 15 | 3:30 pm MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 3:30 pm MT to chat with the presenters in the following groups of sessions.

# Session Group: Research Developments in Water Reuse

#### Organic Carbon Removal and DBP Control by Coagulation, Biofiltration, and GAC (30 minutes)

Sherri Cook, Professor, University of Colorado at Boulder

Eric Peterson, Graduate Student, University of Colorado at Boulder

Scott Summers, Professor, EVEN Program, University of Colorado at Boulder

Yigun Yao, Graduate Student, University of Colorado at Boulder

#### Meeting DBP Regulations and Limiting Health Risks with Ozone-Biofiltration-GAC (30 minutes)

Eric Peterson, PhD Candidate, University of Colorado Boulder

## Reliance on Reverse Osmosis for Removal of PFAS and other CECs (30 minutes)

Greg Wetterau, Vice President, CDM Smith Inc.

## Framing a Water Reuse Research Strategy (90 minutes)

Pinar Balci, Assistant Commissioner, Bureau of Environmental Planning and Analysis, New York City Department of Environmental Protection



Chris Impellitteri, Associate National Program Director, U.S. Environmental Protection Agency

Julie Minton, Research Unit Leader, The Water Research Foundation

Jeff Mosher, Principal Technologist for Water Reuse, Carollo Engineers

Claire Waggoner, Sustainable Water Plans and Policies Section Chief, California State Water Resources Control Board Greta Zornes, Water Reuse Expert, CDM Smith

#### **The Latest Water Research Foundation Findings on COVID-19** (90 minutes)

Christobel Ferguson, Chief Innovation Officer, The Water Research Foundation

Brian Pecson, Director Engineering Services, Trussell Technologies Inc.

Claire Waggoner, Sustainable Water Plans and Policies Section Chief, California State Water Resources Control Board

# Session Group: Financing Strategies for Water Reuse

#### **Reuse: Tales From The Trenches & When Projects Make Cents** (90 minutes)

Wendy Broley, One Water Leader Brown and Caldwell

Zahir Hirani, Principal, Stantec Inc.

Mark Hunsaker, Director of Applications Engineering, Evoqua Water Technologies

Mehul Patel, Executive Director of Operations, Orange County Water District

Patrick Regan, Vice President, Evoqua Water Technologies

Andrew Salveson, Water Reuse Technical Practice Director, Carollo Engineers

Russel Swerdfeger, Global Marketing Manager – Municipal, DuPont Water Solutions

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#### Thinking Strategically About the Business of Water Reuse (30 minutes)

Erin Bonney Casey, Research Director, Bluefield Research

# **Title XVI and WIIN: Opportunities for Federal Funding (30 minutes)**

Amanda Erath, Program Analyst - Title XVI Program Coordinator, Bureau of Reclamation

# **Using WIFIA to Finance Water Reuse Projects** (30 minutes)

Danusha Chandy, Senior Engineer, WIFIA Program Amy Dorman, Deputy Director, Pure Water Operations Division Jesse Pompa, Manager of Grants, Inland Empire Utilities Agency in Chino, California

# **Bureau of Reclamation Water Treatment Research Updates and Funding Opportunities** (30 minutes)

Yuliana Porras Mendoza, Water Treatment Research Coordinator, Bureau of Reclamation



# **LIVE NETWORKING EVENT** | Tuesday, September 15 | 5:00 pm MT

# **LIVE** Virtual Social Activities

Select a session of interest from food, cocktail crafting, or games to socialize at the symposium! During each session, Xylem will raffle off a \$100 gift card as a thank you for attending.

Register by 5pm MT on Monday, September 14th at: https://watereuse.org/symposium-virtual-game-night/

#### MY BEST VACATION STORY

Tell us about the best vacation you've ever taken! Come prepared with a photo or single PowerPoint slide. Also plan on wearing an outfit that represents the location or how you'd dress while on vacation.

#### **VIRTUAL WINE PITCH**

Join this happy hour to learn about your peers' favorite wines and pitch your favorite too! Bring one of your best bottles and be ready to do a 2-3 minutes "pitch" on why everyone needs to taste it for themselves.

#### **COCKTAIL CLASS: LEARN TO MAKE A WHISKEY SOUR**

Learn to make a Whiskey Sour like a pro. Bring your own bourbon or rye whiskey, a lemon, sugar, water, egg white, and a cocktail shaker to learn how to make this classic cocktail in real-time. Plan on having some red wine as well to add a twist!

#### **COFFEE ENGINEERING DESIGN AND PRACTICE**

Learn how to perfect various brewing techniques including pour-over and cold brewing from a self-proclaimed coffee expert. If you love a good cup of joe, this is a can't miss event.

#### **TRIVIA NIGHT**

Are you a trivia pro? Come test your knowledge of pop culture, history, science, and dad jokes during this trivia happy hour!

#### **VIRTUAL TOUR OF TEQUILA, MEXICO: TASTING AND ENJOYING TEQUILA**

Learn the history and culture surrounding Tequila and its namesake. Make sure you bring a bottle of tequila, a sipping glass, salt, and some limes or oranges so we can raise a glass together!

#### **ZOOM GAME: 2 TRUTHS AND 1 LIE**

How's your poker face? Find out during this game where each attendee will present two truthful facts about themselves as well one lie, and other guests have to guess which is false. This is a great way to get to know friends new and old alike.

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# COLLABORATIVE APPROACH. RELIABLE RESOURCE.

Collaborative relationships with property managers are key to the successful implementation of innovative recycled water programs. For IRWD, these relationships have been instrumental in the establishment of more than 6,000 recycled water accounts since we began recycling water in 1967. Our recent collaborative recycled water projects include:

**Great Park Ice:** Irvine's new Great Park Ice & FivePoint Arena uses IRWD recycled water to make the ice for its four rinks — saving 4.3 million gallons of drinking water that would otherwise be used each year for that purpose.





**Great Park Ice** 

Opening Day

#### **UCI** cooling towers

UC Irvine's campus landscaping is almost completely irrigated with recycled water. Recently, UCI converted its Central Plant cooling towers to recycled water. Approximately 3,500 feet of new pipe as well as improvements at the Central Plant were constructed to complete this conversion. The entire project will save an estimated 84 million gallons (260 acre-feet) of drinking water annually.

#### **Hyatt House Irvine**

Hyatt House Irvine became the first hotel in the United States to use recycled water to flush every toilet and urinal in its lobby, pool area, offices — and 149 guest rooms. In 2019, the project saved almost 1.3 million gallons of drinking water. Recycled water for irrigation saved an additional 440,000 gallons.

For more information visit IRWD.com/RecycledWater

# Wednesday, September 16

# **PLENARY SESSION** | Wednesday, September 16 | 8:00 am MT



**LIVEO** Morning Plenary

Welcome:

GILBERT TREJO, WateReuse Association President, Chief Technical Officer, El Paso Water





# State Regulator Report Out

**Speakers:** 

**WENDI WILKES**, Association of State Drinking Water Administrators **JAKE ADLER**, Association of State Drinking Water Administrators

Several state associations are conducting a Water Reuse Regulators Summit in conjunction with this Symposium. Representatives will join us to highlight themes and the range of water reuse issues featured at the Summit.





#### **LIVEO** Envisioning the Future: Water Reuse Charrette

This interactive audience experience will explore how communities, businesses, institutions, farmers, and others can begin imagining and constructing a future in which water recycling is a central feature. Scenarios will include water scare communities, water abundant communities, and industrial customers. Breakout room discussions include:

- Vision: What is our vision for water reuse in our community? What elements need to be in place to support our vision?
- Action Agenda: What actions are most important to take (national, state, local) for this vision to emerge?
- Responsibility: Who needs to lead these actions?

#### **Moderator:**

**DAVID ROSS**, Assistant Administrator for Water, U.S. Environmental Protection Agency

#### **Facilitator:**

**ROB GREENWOOD**, Ross Strategic

#### **Panelists:**



PAUL BOWEN, Water/Wastewater Manager Supply Chain, CCNA, Coca-Cola



KATHERINE JASHINSKI, Systems Planning Engineer, **Austin Water** 



**DAVID LIPSKY**, Senior Policy Advisor, New York City Department of **Environmental Protection** 

### **LIVEO Morning Wrap Up and Afternoon Overview**

**CRAIG LICHTY**, WateReuse Association Vice President, Client Director, Black & Veatch



Note: A recording of this session will be available on demand Thursday, September 17, 2020.

#### **TECHNICAL SESSIONS** | Wednesday, September 16 | 2:00 pm MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 2:00 pm MT to chat with the presenters in the following groups of sessions.

#### Session Group: Direct Potable Reuse (DPR)

#### **California Direct Potable Reuse Coalition: Implementation Guide for Utilities** (30 minutes)

Jeff Mosher, Vice President, Carollo Engineers Inc. Andrew Salveson, Water Reuse Technical Practice Director, Carollo Engineers

#### **Low-Income Florida Community Reaches for Potable Reuse** (30 minutes)

Justin deMello, Project Manager 2, Woodard & Curran Inc. Janet Fordunski, Project Manager, Woodard & Curran Inc.

#### Pursuing DPR in the Absence of Regulations: San Diego's Phase 2 Project (30 minutes)

Margaret Llagas, Senior Civil Engineer, City of San Diego Public Utilities Department Douglas Owen, Program Manager, Stantec Inc. Jeffery Pasek, Project Officer, City of San Diego Public Utilities Department Shane Trussell, President, Trussell Technologies Inc.

#### **Smart City Wastewater Management Solution** (30 minutes)

Iris Bigler, Kando Environmental Services Gadi Sharon, Head of Operations, Kando Environmental Services Gilbert Trejo, Chief Technical Officer, El Paso Water

#### **Tackling the Non-Technical Challenges of DPR** (30 minutes)

Hossein Ashktorab, Recycled and Purified Water Unit Manager, Valley Water

#### Session Group: Water Reuse for Agriculture

#### **Drainage Water Recycling to Improve Crop Production and Water Quality (30 minutes)**

Christopher Hay, Senior Manager – Production Systems Innovation, Iowa Soybean Association

#### **UVLEDs for Biofouling Control During Drip Irrigation with Reclaimed Wastewater** (30 minutes)

Tara Randall, Graduate Research Assistant, University of Colorado Boulder

#### Transdisciplinary Approaches to Advancing Agricultural Water Reuse (90 minutes)

Chuck Gerba, Professor, University of Arizona

Kent Messer, Professor, University of Delaware

Rachel Rosenberg Goldstein, Assistant Research Professor, University of Maryland College Park

Amy Sapkota, Professor, University of Maryland School of Public Health

#### Session Group: Membrane Bioreactors Technology Trends

#### MBRs for Reuse - A Comprehensive Look at Implementation Options (30 minutes)

Zeynep Erdal, Vice President, Black & Veatch

#### **Optimization of Nitrogen Removal of Tertiary MBR for Potable Reuse** (30 minutes)

Zakir Hirani, Principal, Stantec Inc.

Sun Liang, Water Purification Unit Manager, Metropolitan Water District of Southern California

Michael Liu, Supervising Engineer, Los Angeles County Sanitation Districts

Shane Trussell, President, Trussell Technologies

#### **Piloting an MABR for Onsite Reuse of Blackwater to Achieve Larger Reuse Goals** (30 minutes)

Katherine Jashinski, Systems Planning Engineer, Austin Water Utility

#### **Validating Membrane Bioreactors to Remove Pathogens for Water Reuse** (30 minutes)

Amos Branch, Technologist, Carollo Engineers Inc.

#### **TECHNICAL SESSIONS** | Wednesday, September 16 | 3:30 pm MT

#### LIVE SPEAKER AVAILABILITY & CHAT

Unless otherwise noted, Technical Sessions are pre-recorded and available for viewing at your convenience. Join us live at 3:30 pm MT to chat with the presenters in the following groups of sessions.

#### Session Group: Ozone Treatment Considerations

#### **Design and Operational Considerations for Ozone in Water Reuse** (30 minutes)

Hannah Ford, 1Water Senior Engineer, Brown and Caldwell Denise Funk, National Ozone Leader, Brown and Caldwell

#### **Wastewater Ozone/BAF Treatment Performance from Facilities Around the Globe (30 minutes)**

Ayu Sari, Environmental Scientist/Engineer, Stantec Inc.

#### Removal of Emerging Contaminants Through Ozone-BAC: Influence of Activated Carbon **Properties** (30 minutes)

Adam Redding, Technical Director - Drinking Water Solutions, Calgon Carbon, a Kuraray Company

#### Session Group: Managing Regional Water Reuse and Desalination Programs

#### **Enabling Success for Pure Water Soquel: Five P's That Hold the Keys (30 minutes)**

Lidia Gutierrez, President, Gutierrez Consultants Melanie Mow Schumacher, Program Director - Pure Water Soquel, Soquel Creek Water District Anup Shah, Program Manager - Pure Water Soquel, Brown and Caldwell

#### **Overcoming Barriers to Implementing a Regional Recycled Water Program** (30 minutes)

Bruce Chalmers, Program Manager, Metropolitan Water District of Southern California

#### **Programmatic Delivery Considerations for HRSD's SWIFT Program** (30 minutes)

Bohdan Bodniewicz, SWIFT Program Manager, AECOM Lauren Zuravnsky, SWIFT Chief of Design & Construction, Hampton Roads Sanitation District

#### **Salinity Management in an Inland Large-Scale Reuse Project** (30 minutes)

Jack Greene, Water Engineer, Jacobs Erik Jorgensen, Environmental Engineer & Water Program Specialist, South Metro WISE Authority

#### **Silverbell Landfill, Superfund Site Groundwater Treatment for Non-Potable Reuse** (30 minutes)

Deran Pursoo, Senior Engineer, Geosyntec Consultants Inc.



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The Utility of the Future Today Recognition Program honors forward-thinking, innovative water utilities that are providing resilient value-added service to communities, particularly in community engagement, watershed stewardship, and recovery of resources such as water, energy, and nutrients.



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**Clean Water Services** | Oregon

**Eastern Municipal Water District** | California

**Global Water Resources** | Arizona

Hampton Roads Sanitation District | Virginia

**Irvine Ranch Water District** | California

Los Angeles Department of Water and Power (LADWP) | California

Padre Dam Municipal Water District | California

Pima County Regional Wastewater Reclamation Department | Arizona

Water Replenishment District | California

West Basin Municipal Water District | California



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### 2020 WateReuse Symposium Committees

Thank you to the following 35th Annual Symposium committee members.

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Allegra da Silva, Brown and Caldwell

**Donene Dillow**, Colorado Springs Utilities

Damian Higham, Denver Water (Co-Chair)

Craig Lichty, Black & Veatch (Co-Chair)

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Tim Smith, CDM Smith

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**Bart Weiss**, Hillsborough County

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Pam Kenel, Loudoun Water (Chair)

Michah Vieux, Loudoun Water (Vice-Chair)



# **SECURING OUR WATER FUTURE TODAY**

WRD manages two of the most utilized urban groundwater basins in the nation. Groundwater from these basins provides 50% of the total water supply for four million residents within WRD's service area, which includes 43 cities.

Albert Robles Center for Water Recycling & Environmental Learning Robert W. Goldsworthy Groundwater Desalter

Leo J. Vander Lans Advanced Water Treatment Facility



WRD's Albert Robles Center purifies 14 million gallons of water per day for use in groundwater replenishment. This locally sustainable and reliable water source protects the quality and quantity of local groundwater, creating drought-resiliency for the basin. The Goldsworthy Desalter treats 5 million gallons of brackish (salty) groundwater that is trapped inland due to historical seawater intrusion. The salt is removed using Reverse Osmosis and the fresh drinking water is then delivered through the City of Torrance distribution system.

The Vander Lans Treatment Facility purifies 8 million gallons of water per day for use in coastal injection wells. Water from the facility prevents seawater intrusion and provides supplemental groundwater replenishment.



WRD water treatment facilities help reduce demand for water imported from the Bay Delta and the Colorado River by producing locally sustainable water resources. Water Replenishment District's service area in southern Los Angeles County



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