

# PIPELINE CLARITY

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## WELCOME TO THE 2021 TRI-ASSOCIATION CONFERENCE

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Dear industry colleagues,

It is my distinct pleasure to welcome you back to Ocean City for the 2021 Tri-Association Conference! We are really excited to gather again to help share our experiences within the water industry while getting back to the roots of what makes this conference so special. While we know this year will be a little bit different as we continue to make sense of the lingering impacts of COVID-19, we are extremely proud of the work that our planning committee has done to provide a meaningful and full conference agenda. I want to thank all of the sponsors and exhibitors for their support through the pandemic and their commitment to engage with our conference here in 2021 as we move full steam ahead in offering an in-person experience.

As expected, the conference experience may look a little different this year. I want to provide full assurance to our attendees that your safety is of the utmost importance. Recently, the convention center lifted all COVID restrictions. We'll continue to work with the convention center and the local health department to monitor new guidance or restrictions as we look forward to your arrival in Ocean City. Understandably, there is some uncertainty around whether travel will be permitted or if tightened budgets due to the financial impacts of the pandemic will affect your ability to support our tri-association with your in-person attendance. We remain optimistic and excited for your return, and we look forward to reconnecting with those industry professionals that we have truly missed.

*Jay Kirk, 2021 Tri-Association Conference Committee Chair*

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The Chesapeake Water Environment Association (CWEA), the Chesapeake Section American Water Works Association (CSAWWA), and the Water & Waste Operators Association of MD, DE, and DC (WWOA) are pleased to once again host a combined Annual Conference and Exhibition at the Roland E. Powell Convention Center in Ocean City, Maryland from August 31 – September 3, 2021. The Conference Committee has planned the program and schedule, as well as negotiated blocks of rooms at conference rates with several local hotels. Please check the Tri-Association Conference website ([www.ChesapeakeTricon.org](http://www.ChesapeakeTricon.org))



frequently for updated information regarding the program, hotel accommodations, registration, golf outing, Water For People Fun Run/Walk, and other valuable information.

The Conference Registration, Information Desk, and Exhibits will be located on the first floor of the Convention Center. We are also hosting our Opening Ceremony in the Performing Arts Center, conveniently located across from our Exhibit Hall. This year's Exhibit Hall will include more than 150 booths. Wednesday breakfast and breaks, Wednesday lunch, and Thursday breakfast and morning break will be held in the Exhibit Hall with the exhibitors. In addition, the 13th Annual Operations Challenge will be spotlighted in the Exhibit Hall as will Meter Madness, with the exciting Pipe Cutting Shootout scheduled at the same time as the Wednesday evening Happy Hour. Plus, new for 2021, the Water Taste Test will be held in the Exhibit Hall as well.

Our 2021 Technical Program will include more than 130 presentations in five concurrent technical sessions including a one-hour EPA presentation and two one-hour engineering ethics courses. In addition to the technical presentations, a Pre-Conference Workshop on PFAS will be held on Tuesday, August 31, 2021, offering three hours of process credits for both water and wastewater operators.

## 2021 TRI-ASSOCIATION CONFERENCE COVID COMPLIANCE MEASURES

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At the present time there are no COVID-related restrictions, but that condition could change as we approach the conference. The Tri-Con Committee will continue to touch base on updates and implement the required CDC, state, and local COVID precautionary protocols in effect at the time of the conference. We encourage those not vaccinated or with concerns to continue to wear masks. The technical session room sizes have been increased to allow for social distancing, if warranted. Hand sanitizers, disinfecting wipes, and face masks will be available.

## CYBER CAFÉ

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The Cyber Café will be located in Room 209 and will include PCs and a printer. The Conference Committee has arranged for free wireless internet access at the Convention Center for attendees and exhibitors; however, this service is not guaranteed.



## ROLAND E. POWELL CONVENTION CENTER

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The Convention Center is located at 4001 Coastal Highway, between 40th and 41st streets. Anyone with a 2021 Tri-Association Conference name badge can ride the Ocean City buses at no charge.

Please note there is construction ongoing at the north end of the property. A new exhibit hall is being built, and we can't wait to have access to it in 2022! For now, oversized access to the current exhibit hall is available through the loading door found to the right of the main entrance to the building.

## REGISTRATION

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Registration Location: First Floor Lobby

Tuesday: 10:00 AM to 4:00 PM

Wednesday: 7:30 AM to 5:00 PM

Thursday: 7:30 AM to 4:00 PM

Friday: 7:30 AM to 10:30 AM

## ATTENTION CERTIFIED OPERATORS

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The pre-conference workshop and technical sessions have been submitted for approval by the Maryland Board of Waterworks and Waste System Operators, and course codes have been assigned. Be sure to get your *Technical Session Attendance Form* stamped at the end of each session as this will be the only time to obtain stamps that verify your attendance. DO NOT LOSE THIS FORM – it is your official record of credits earned and Tri-Con does not retain this information.

The Maryland Board of Waterworks and Waste System Operators has again approved **one hour of non-process credit for Exhibitor Product Briefings** by visiting exhibitors in the Exhibit Hall. Operators and superintendents can meet and discuss available technologies with a minimum of 10 exhibitors. Exhibitors can complete and sign the *Exhibitor Product Briefing Form*, which is part of the Technical Session Attendance Form, to receive credit. Operators must obtain signatures from 10 exhibitors to receive the one non-process credit hour as no partial credit will be given.

All operators must get their completed *Technical Session Attendance Form* signed by an authorized committee member at the Information Desk **before you leave the conference**. You will not be able to obtain a signature after noon on Friday, September 3, 2021.



## ATTENTION PROFESSIONAL ENGINEERS

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As part of the continuing education requirements for Professional Engineers, you are required to obtain proof of attendance for professional development hours. The *Technical Session Attendance Form* will be available at the conference to provide proof of attendance. Be sure to get your *Technical Session Attendance Form* stamped at the end of each session. This will be the only time to obtain stamps that verify your attendance. **DO NOT LOSE THIS FORM** – it is your official record of credits earned and Tri-Con does not retain this information.

**Engineering Ethics in 2021:** Two one-hour presentations on engineering ethics will be provided as part of the technical program to assist PEs with meeting the requirement.

All engineers pursuing continuing education credits must get their completed *Technical Session Attendance Form* signed by an authorized committee member at the Information Desk **before you leave the conference**. You will not be able to obtain a signature after noon on Friday, September 3, 2021.

## AWESOME DOOR PRIZES AT EVERY BREAK!

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All registered attendees receive door prize tickets with their badge. Each break has its own ticket, so be sure to get yours into the drawing bin! Location of each drawing is noted on the ticket.

## WI-FI PASSWORD

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To access the Exhibit Hall Wi-Fi:

SSID: CTAGuest2021 • Password: Brown&Caldwell

Sponsored by:

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## CONFERENCE APP

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The Tri-Association Conference app can be downloaded in the Apple and Google Play stores – just search for “Tri-Con.” The Technical Program, Exhibit Hall, Scheduled Events, and Sponsors are all included!

# CONFERENCE PLANNING COMMITTEE



**Raj Arora**, *American Pipe*

Door Prizes; Meter Madness;  
Pipe Tapping; Registration

**Clarence Beverhoudt**, *WSSC*

Convention Center Liaison;  
Moderators – Monitors

**Peter Bozick**,

*George, Miles & Buhr, LLC*

Ad Hoc COVID Compliance (Chair)

**Priscilla Brown-Buchalla**,

*Black and Veatch*

Hotels (Co-Chair);

Opening Ceremony (Chair)

**Prabhu Chandrasekeran**, *Stantec*

YP Committee (Chair)

**Chein-Chi Chang**, *DC Water*

Technical Program;

Opening Ceremony

**Andy Cooper**,

*Whitman, Requardt & Assoc.*

Door Prizes (Chair);

Registration; Silent Auction

**Gian Cossa**, *DC Water*

Arrangements (Chair);

Seacrets (Chair); Opening

Ceremony; Door Prizes;

Technical Program

**Teresa DiGenova**,

*Black and Veatch*

Women's Networking;

Technical Program; Signs

**Mike Emery**, *Retired – DC Water*

Signs (Chair); Exhibits; Convention  
Center Liaison; Door Prizes;  
Silent Auction

**Jegnaw Essatu**, *WSSC*

YP Committee

**Margie Hamner**, *Starfish Consulting*

Silent Auction

**Pono Hanson**, *Brown and Caldwell*

Sponsorships (Chair)

**Eric Held**, *Charles Morrow & Assoc.*

Exhibits (Chair); Pipe Tapping; Meter  
Madness; Door Prizes; Registration;  
Technical Program

**Aaron Hughes**, *WSSC*

Ops Challenge

**Andrew Jakubowitch**,

*Century Engineering Awards*

**Bob Johns**, *Ferguson*

Pipe Tapping (Chair); Exhibits;  
Meter Madness (Chair)

**Islam Khallaf**, *RJN Group*

Ops Challenge

**Jay Kirk**, *Brown and Caldwell*

Tri-Con Committee Chair; Travel/  
Meetings (Chair); Hotels (Co-Chair)

**Carrie Kruger**, *Town of Millsboro*

Brochure (Chair); Fun Run (Chair);  
Golf





## CONFERENCE PLANNING COMMITTEE

**Graeme Lake**, *Penonni*  
Treasurer; Arrangements;  
Seacrets; Moderators – Monitors;  
Awards; Technical Program

**Sophia Liskovich**,  
*Gannett Fleming, Inc.*  
Technical Program (Chair)

**Jonathan Madagu**, *WSSC*  
Technical Program

**Ann McPherson**, *Black & Veatch*  
Technical Program

**Kraig Moodie**, *FloWav*  
Ops Challenge (Chair)

**Karl Ott, Retired**, *Charles Co.*  
Convention Center Liaison;  
Registration; Travel/Meetings;  
Sponsorships

**Rob Penman, Jr.**,  
*Artesian Water Company, Inc.*  
Technical Program

**Charles Poskas**, *CCJM*  
Fun Run; Technical Program

**Barry Price**,  
*Artesian Water Company, Inc.*  
Top Ops

**Kevin Quinn**, *St. Mary's METCOM*  
Awards (Chair); Brochure;  
Golf; Opening Ceremony;  
Technical Program

**Anthony Rocco**,  
*Howard County Bureau of Utilities*  
Top Ops (Chair)

**Matt Roder**, *Arcadis*  
Technical Program

**Ron Tatariw**, *Tatariw, Inc.*  
Golf (Chair)

**Dan Tobocman**, *Ramboll*  
Moderators – Monitors (Chair);  
Technical Program

**Kristin Waller**, *WRA*  
Women's Networking (Chair)

**Erica Whorley**,  
*Brown and Caldwell*  
Promotions/Communications  
(Chair); Silent Auction (Chair);  
Sponsorships

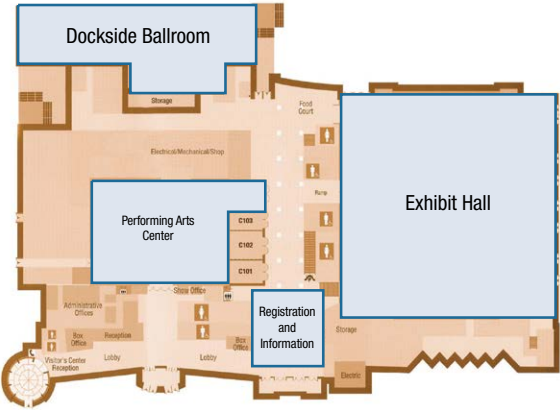
**Alan Will**, *JMT*  
Convention Center Liaison (Chair)

***Thank you, committee volunteers!***

# CONVENTION CENTER MAPS

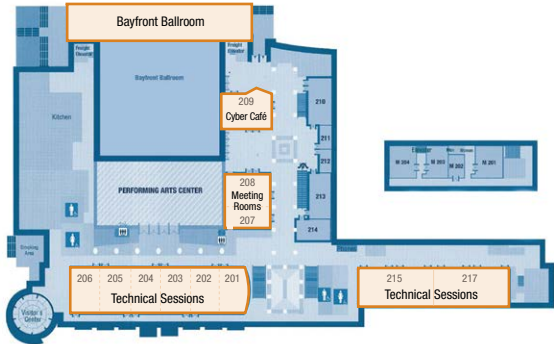


## LEVEL 1



Main Entrance to  
Convention Center

## LEVEL 2



Cyber Café: Room 209  
Technical Sessions: Rooms 201–206, 215, 217  
Meeting Rooms: Dockside Ballroom (1st Floor),  
Bayside Ballroom (2nd Floor), 207–208



Tuesday, August 31		Wednesday, September 1	
<b>Registration</b> First Floor 10:00 AM – 4:00 PM		<b>5K Fun-Run/Walk Benefitting WFP</b> Boardwalk at the Grand Hotel 7:00 AM	<b>Break/Visit Exhibitors</b> Exhibit Hall 10:00 AM – 11:00 AM
<b>Golf Outing Benefitting WFP</b> Ocean City Golf Club, Berlin, MD Sign-In: 11:00 AM to 12:30 PM; Shotgun Start: 12:30 PM		<b>Registration/Check-In</b> First Floor 7:30 AM – 5:00 PM	<b>Opening Ceremony/Keynote Address</b> Performing Arts Center 11:00 AM – 12:00 PM
<b>Exhibitor Move-In</b> Exhibit Hall 8:00 AM – 6:30 PM		<b>Exhibits Open</b> Exhibit Hall 7:30 AM – 6:00 PM	<b>Lunch With Exhibitors</b> Exhibit Hall Noon to 1:00 PM
<b>Pre-Conference Workshop: PFAS</b> Room 201 8:30 AM – 11:45 AM		<b>Continental Breakfast</b> Exhibit Hall 7:30 AM – 9:30 AM	<b>Technical Sessions</b> Rooms 201–206, 215, and 217 1:00 PM – 2:30 PM
<b>Operations Challenge Equipment Set-Up &amp; Team Check-In</b> Exhibit Hall 12:00 PM – 5:30 PM		<b>Cyber Cafe</b> Room 209 8:00 AM – 6:00 PM	<b>Break/Visit Exhibitors</b> Exhibit Hall 2:30 PM – 3:30 PM
		<b>Technical Sessions</b> Rooms 201–206, 215, and 217 8:30 AM – 10:00 AM	<b>Technical Sessions</b> Rooms 201–206, 215, and 217 3:30 PM – 5:00 PM
		<b>Operations Challenge Pre-Competition</b> Meeting Exhibit Hall 8:30 AM – 9:00 AM	<b>Pipe Cutting Shootout</b> Exhibit Hall 4:00 PM – 5:00 PM
		<b>Operations Challenge</b> Exhibit Hall 9:00 AM – 5:00 PM	<b>Shooters Happy Hour</b> Exhibit Hall 4:00 PM – 5:00 PM
		<b>Biosolids Beauty Contest</b> CWEA Table, Outside Rooms 201–206 9:00 AM – 11:00 AM	<b>Women's Networking Event</b> Bayfront Ballroom 5:00 PM – 6:30PM
		<b>Silent Auction Benefitting EWB</b> Exhibit Hall and eBay – Open 9:00 AM	<b>Fun Night!</b> Seacrets® (ticketed event) 7:00 PM – 11:00 PM



Thursday, September 2	
<b>Registration/Check-In</b> First Floor 7:30 AM – 4:00 PM	<b>CSAWWA Business Luncheon</b> Dockside Ballroom, 1st Floor (ticketed event) 12:30 PM – 1:45 PM
<b>Exhibits Open</b> Exhibit Hall 7:30 AM – Noon Move Out: Noon – 4:00 PM	<b>CWEA Business Luncheon</b> Bayfront Ballroom, 2nd Floor (ticketed event) 12:30 PM – 1:45 PM
<b>Continental Breakfast</b> Exhibit Hall 7:30 AM – 9:30 AM	<b>WVOA Business Luncheon</b> Rooms 207–208 (ticketed event) 12:30 PM – 1:45 PM
<b>Silent Auction Benefitting EWB</b> Exhibit Hall/Online 7:30 AM – 10:30 AM	<b>Technical Sessions</b> Rooms 201–206, 215, and 217 2:00 PM – 3:30 PM
<b>Cyber Cafe</b> Room 209 8:00 AM – 6:00 PM	<b>Top Ops <i>*New location</i></b> Dockside Ballroom, 1st Floor 2:30 PM – 4:30 PM
<b>Technical Sessions</b> Rooms 201–206, 215, and 217 8:30 AM – 10:00 AM	<b>Break</b> Top of Escalator 3:30 PM – 4:00 PM
<b>Break/Visit Exhibitors</b> Exhibit Hall 10:00 AM – 11:00 AM	<b>Technical Sessions</b> Rooms 201–206, 215, and 217 4:00 PM – 5:30 PM
<b>Meter Madness</b> Exhibit Hall 10:00 AM – 11:00 AM	<b>Awards Program</b> Bayfront Ballroom (upstairs) • Cocktails: 5:30 PM – 5:50 PM • Program: 5:50 PM – 6:30 PM
<b>Water Taste Test <i>New!</i></b> Exhibit Hall 10:00 AM – 11:00 AM	<b>YP Happy Hour</b> Skye Bar on 66th Street (ticketed event) 6:30 PM – 9:00 PM <i>*All are welcome to attend</i>
<b>Technical Sessions</b> Rooms 201–206, 215, and 217 11:00 AM – 12:30 PM	

Friday, September 3
<b>Registration/Check-In</b> First Floor 7:30 AM – 10:30 AM
<b>Continental Breakfast</b> Top of escalator 8:00 AM– 9:30 AM
<b>Cyber Cafe</b> Room 209 8:00 AM – 10:30 AM
<b>Technical Sessions</b> Rooms 201–206, 215, and 217 8:30 AM – 11:30 AM
<b>MDE Operator Certification Exam</b> Bayfront Ballroom, 2nd Floor 9:00 AM – 12:00 PM
<b>Last Chance for Technical Session Attendance Form Signatures</b> Information Desk, 1st Floor 11:30 AM – Noon
<b>Adjourn/Monster Door Prizes</b> Information Desk, 1st Floor 11:45 AM



	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Utility Management	Water System Infrastructure	Wastewater Treatment	Wastewater Collection Systems
8:30 AM	Ensuring New York City's Water Supply: Condition Assessment of an 18-Foot Diameter Tunnel	Design-Build for Large Conveyance Projects: Constructing a Winning Formula for Success	Intelligent Networks: High Quality Water from Source to Tap	Cold and Waterproof Biological Nutrient Removal	Legal Risks to Collection Systems Posed by Clean Water Act Developments
9:00 AM	DC Water's Blueprint for Mobility: Fire Hydrant Application Development and Deployment	Transforming Developer-Built Project Delivery through Trackable Workflow Processes at WSSC Water	Be Water Resilience Ready 1-hour	Concepts & Considerations for Flow Through Aerobic Granular Sludge Processes	ETHICS Ethics and Water Professionals
9:30 AM	Improving the PCCP Condition Assessment Prioritization Method by Incorporating AFO Monitoring Data Record Analysis	AlexRenew's RiverRenew Tunnel System Fixed-Price, Design-Build Procurement in the Time of COVID-19		Municipal Enhanced Nutrient Removal Plant Operations: Common Issues, Remedies, and Opportunities for Operational Efficiency	
	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Utility Management	Water System Infrastructure	Wastewater Treatment	Wastewater Collection Systems
1:00 PM	Flying Blind No More: Using Edge Analytics to Improve Pump Performance	Tap Into Your Data To Improve Your Water System Operations	Converting Quarries into Reservoirs – Geotechnical Design Considerations	New Primary Bio-Filter Achieves High-Rate Treatment for Wet-Weather Inflows	Comparison of Effectiveness and Cost of High- and Low-Pressure Smoke Testing Methods
1:30 PM	Using Technology for Condition Assessments to Promote Safety	Managed Aquifer Recharge: An Emerging Integrated Water Management Tool Along the Coastal Plain	The Fullerton Project: Constructing 63MG of Finished Water Storage for the Baltimore Water System	Aquatic Uranium Removal by Amino-Functionalized Porous Silica with Customizable Pore Characteristic – Efficiency & Mechanism Study	Multi-Jurisdictional Pumping Station Consolidation Addresses Environmental Concerns
2:00 PM	Getting the Big Picture: Digital Mapping of Pipeline Corridors & Assessment of Environmental Conditions as Part of a Complete GIS Map	Rapidly Reducing Unaccounted for Water – Ultrasonic Water Meters that Continually Hear, Measure & Report Data on Potential Leaks	Guilford Finished Water Reservoir Improvements	Back River WWTP Headworks Improvements: A Project of Large-Scale and First-Time Challenges	When Streams and Sewers Collide: Responding to a Sewer Emergency with a Long-Term Vision in a Short Duration
	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Utility Management	Water System Infrastructure	Wastewater Treatment	Wastewater Collection Systems
3:30 PM	Using Geofluvial Principles to Inform the Risk-Based Prioritization of Sewer Stream Crossing Inspections	System Development Charges: Funding Growth in the Chesapeake Region	The Latest in Water Main Condition Assessment Tools & Technology	A Tale of Two Pilots: Comparing a WAS-only Thermal Hydrolysis Process vs. Conventional THP	One Size Does Not Fit All – Finding the Right Balance in Approach to Upgrading a Sewage Pumping Station for a Small Service Area
4:00 PM	Managing Aerial Sewer Crossings in Washington, DC	Data Informed Policy Making for Septic-to-Sewer Connection Program	Unique Challenges of Rehabilitation of 66- and 72-inch Water Main in the Heart of Washington, DC	Thermal Hydrolysis – Lessons Learned from 20 Years of THP Design Integration	Holmes Run Pump Station Rehabilitation Design – The BIM Genesis of a Vertical Infrastructure Digital Asset Lifecycle
4:30 PM	DC Water's Asset Registry: Mapping Service Line and Sewer Lateral using Trimble Technology	Anne Arundel County's Integrated Management Approach to Long-Term TMDL Compliance	Securing Water Service for a Maryland Community's Future	Combining Thermal Hydrolysis and Thermal Drying: Process Optimization, Energy Recovery, and Lifecycle Costs	Rehabilitating a Failing 24" PCCP Forcemain with Fusible PVC



	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Stormwater	Water System Infrastructure	Wastewater Treatment	Wastewater Collection Systems
8:30 AM	Merging Bottom-up Transformation with Top Level Asset Management Strategy... A Case in Organizational Change Management	Federal Funding Supporting Local Priorities: Case Studies involving Chesapeake Bay TMDL & Resiliency	Managing Underground Linear Assets using The Utilis Satellite Based Leak Detection Program	The Most Comprehensive Study by IRSTEA/INRAE' on BDP's Advanced Technology of Low DO & High Efficiency of Biological Nitrogen & Phosphorus Removal	Delivering a Maximum Value in a Compact Footprint: CDCA's 24 MGD Self-Cleaning Wet Well Pump Station
9:00 AM	How Smaller Communities Can Do More With Less	DC Water's Green Infrastructure Design Challenge Parks Project	Proactive Flushing of Water Mains to Improve Disinfectant Residual and Mitigate Water Discoloration	State-of-the-Art Suboxic Nitrate and Phosphorus Removal Treatment in US Cold Climate BNR Facilities	How the COVID-19 Challenge Illuminated Opportunity Transformational Change with Collection System Maintenance
9:30 AM	Infrastructure Asset Management	Construction of Stormwater Management Facilities to Meet Permit Requirements – Not as Easy as it Sounds!	Designed, Bid, Built: Considerations from the Contractor and Consultant on the Clinton Zone Transmission Main	Norman M. Cole Pollution Control Plant Greenhouse Gas Reduction: We Do Our Part	Using Smart Infrastructure for Stormwater Capture
	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Stormwater	Water Treatment	Wastewater Treatment	Wastewater Collection Systems
11:00 AM	Development & Implementation of a Sustainable Condition Assessment Program for Water Distribution and Transmission Mains	Development of a Climate Action Plan to Improve Resilience of Municipal Infrastructure	Treatment of PFAS in Well Water: Assessment of Removal by Granular Activated Carbon and Ion Exchange	Let's Start-Em Up! Efficiently Integrating Digester Start-up into Plant Operations	When Best-Laid Plans Go Awry: Adapting BEM Deployment to Meet Specific Project Challenges
11:30 AM	The Day After Pipe Inspection... What Do I Do With the Data?!	Pluvial Flooding Vulnerability Assessment and Planned Mitigation in Clover Hill, Frederick County, MD	Suspended Ion Exchange Pre-treatment for Dissolved Organic Carbon Removal	Hair Today, Gone Tomorrow!	Comprehensive Force Main Inspection Using Non-Destructive Testing
12:00 PM	Reestablishing the Structural Integrity of Baltimore's Water Transmission System	Safety and Resiliency for the Once Flood-Prone Huntington Neighborhood	Review of Technologies to Mitigate Opportunistic Pathogen Occurrence in Municipal Drinking Water	Design-Build Innovations for the new Port Deposit WWTP	COVID-19 Modern Trash Loading Proves Sewage Pump Clog Resistance Cannot Be Predicted by Impeller Throatlet Size



## TECHNICAL PROGRAM AT-A-GLANCE

THURSDAY, SEPTEMBER 2 • AFTERNOON

	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Utility Management	Water Treatment	Wastewater Treatment	Wastewater Collection Systems
2:00 PM	Elevated Water Storage Tanks & Cellular Antennas: Untangling the Web of Compliance Requirements & Ensuring Long-Term Service	Visualizing Innovative Treatment – Electronic O&M Development for Information Storage and Access... and Better Biosolids	Identification of Lead Service Lines Through Water Testing	Mythbusters – What Can Anaerobic Digestion Really Do?	The HGL Control Structure – “The Heart of the RiverRenew Tunnel System”
2:30 PM	The Value of System Control: Lessons Learned from the Chain Bridge Water Main Break	Journey to DC Water’s High-Performance SCADA Interface: Utilizing Situational Awareness to Encourage Operational Optimization	Using LiDAR Technology to Untangle the Complicated Web of a Water Treatment Plant Pipe Gallery	Using Customer Feedback as a Guide for Selecting a New Solids Handling Technology for Kent County, DE	Mitigating Urban Flooding in a Combined Sewer Area: A Philadelphia Case Study
3:00 PM	Break Reduction/Life Extension For Municipal Water Pipelines	NOT your Average O&M Manual	Algae and Cyanotoxin Source to Treatment Update for Toledo’s Collins Park WTP	Turning Exceptional Quality Biosolids into a Marketable Product	DC Water at Work: Washout Mitigation of Potomac Interceptor from Recent Record-Breaking Flooding Storms
	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Asset/Utility Management	Utility Management	Water Treatment	Wastewater Treatment	Wastewater Collection Systems
4:00 PM	Keeping an Eye and an Ear on the “Big Inch”	Smart Water Utility Improvements with AI, GIS-Data Analysis, Digital Technology	GAC or IX for PFAS Removal: A Side-by-Side Bench-Scale Comparison Using Improved Methodologies	Successfully Building and Commissioning a Biosolids Belt Dryer System – Lessons Learned at the Little Patuxent Water Reclamation Plant	Permitting from A to Z – NEPA EA, ARPA, Section 106, Section 408, JPA, ESC, SUP, FONSI with NPS, USACE, MDE, MHT, SHA, CSX, DNR for the CSO System
4:30 PM	AlexRenew’s “Smart Utility” Monitoring Technology	AI Enabled Utilities Across the Entire Water Cycle	Turning an Aging Lime Softening Water Treatment System into a State of the Art Membrane MF/NF Treatment System	Sludge Conditioning and Renewable Natural Gas at the Capital Region Water AWTF	Will My Pump Stations Flood? A Summary of Baltimore County’s Flood Resiliency Study
5:00 PM	Underground Utility Protection Considerations and Measures	Framework for Becoming the Smart Utility of the Future – Water Research Foundation Project 5039	Ozone Pretreatment – Is It the Best Approach for Improving Membrane Productivity?	Utilizing Progressive Design-Build Delivery to Optimize Capital Spending and Drive Schedule	B Street/New Jersey Avenue Trunk Sewer Rehabilitation and Cleaning Project



	Room 201–202	Room 203–204	Room 205–206	Room 215	Room 217
	Wastewater Treatment & Solids Processing	Utility Management	Water System Infrastructure	Wastewater Treatment	Wastewater Collection Systems
8:30 AM	Pathogen Log-Removal Credits for Membrane Bioreactors in Potable Reuse Systems	Understanding the Risk & Resilience Assessment and Emergency Response Plan Requirements under America's Water Infrastructure Act	Critical Steel Water Main Condition Assessment on the Hill	Using CFD Modeling to Visualize and Improve Granular Sludge Separation	ETHICS Knowing When You're Standing on the Edge of an Ethical Cliff
9:00 AM	Delivering the Benefits of Sidestream RAS Fermentation: Full-scale Experience at Charlotte Water's McAlpine Creek WWMF	Water Contamination Incident Preparedness: Analytical Support Planning	Looking at Lead from a Different Perspective – the Role of Water Quality Profiling/Sequential Sampling	Impact of Thermal Hydrolysis Pretreatment – Anaerobic Digestion on the Formation of Dissolved Organic Nitrogen Recalcitrant to Aerobic Incubation	
9:30 AM	What Did We Learn from the Full-Scale Implementation of the Continuous Flow Aerobic Granular Sludge Process Using an External Selector?	Show Me the Money! Exploring Utility Workforce Retention and Compensation; Harford County, Maryland DWS	An Incentivized Approach to Replacing Lead Water Service Lines	Coagulant/Flocculant 101 – Basic Chemistry, Handling/Storage, Activation/Mixing, and Optimization	Risk Management on the Potomac Interceptor
10:00 AM	Demonstration of Sidestream Enhanced Biological Phosphorus Removal at WSSC Water	Educating Essential Workers Through Healthier Waterways: RiverRenew Training Modules	Soup to Nuts: Evolution of Water Main Replacements to Complete Streets Projects	The Role of Online Instrumentation in Enhanced Nutrient Removal (ENR)	Clearwater Challenge – Pitch Contest to Look for Innovation in Inflow and Infiltration
10:30 AM	Adaptive Mixing and Better Biological Nutrient Removal	Mentoring Youth in Underserved Communities Benefits both Students and Water Sector Workforce	Plan C: When CIPP Lining Fails Under I-95	Benefits & Considerations of External Un-aerated Zones When Upgrading Existing Facilities for Nutrient Reduction	What Lurks Beneath: T-Lock lined Vault and Manholes Condition Assessment and Renewal
11:00 AM	Enhanced Domestic Primary Wastewater Treatment Utilizing Pile Cloth Media Filtration for Operational Savings and Sustainability	Development of an Automatic Dispenser to Supply Water in the Ger Area of Ulaanbaatar, Mongolia	Trust the Process – the Washington Suburban Sanitary Commission's Standardized Evaluation Process for Systemwide PCPC Replacement	Plant Analysis in an Era of Unpredictable Weather	It Still Runs! A Sewer Lift Station Condition Assessment

## TUESDAY, AUGUST 30 PRE-CONFERENCE WORKSHOP

	Room 201–202
8:30 AM to 11:45 AM	<p>Pre-Conference Workshop: PFAS</p> <p><b>Process Credit</b> <b>Water and Wastewater:</b> <b>6920-21-03</b></p>





## CONFERENCE HIGHLIGHTS

### TUESDAY, AUGUST 31, 2021

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#### REGISTRATION/CHECK-IN

10:00 AM to 4:00 PM • First Floor Lobby

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#### GOLF OUTING BENEFITTING WATER FOR PEOPLE

11:00 AM Check-In, 12:30 PM Shotgun Start

Format: Captain's Choice



water for people  
EVERYONE • FOREVER

#### Ocean City Golf Club

11401 Country Club Drive, Berlin, MD

Before you arrive in Ocean City, stop in nearby Berlin, Maryland to play on the beautiful and challenging Newport Bay course at the Ocean City Golf Club. Proceeds from the golf outing will benefit Water For People. Prizes will be distributed at the end of the golf outing, and winners announced at the Early Bird Reception. The Captain's Choice outing format will have a 12:30 PM shotgun start (check-in begins at 11:00 AM). Unclaimed prizes will be posted and can be claimed at the Information Booth. An individual golf registration fee of \$100 or a foursome fee of \$400 includes a box lunch, driving range, green fees and cart, and prizes. Proceeds from the golf outing will support Water For People.

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Kimley»Horn

RAMBOLL



A Forterra Company

#### Inclement Weather Cancellation

Ocean City Golf Club staff will make the determination on whether the golf course is unplayable due to inclement weather. Contact OCGC directly at 410-641-1779 if threatening or severe weather is forecasted to determine if the golf outing is cancelled. Credit card refunds will be issued to those who request one in writing directly to Ron Tatariw ([rtatariw@tatariw.com](mailto:rtatariw@tatariw.com)) by 6:00 PM on **September 10, 2021**, if and only if, the golf outing is cancelled due to inclement weather. We will consider the registration fee of those golfers who do not request a refund as a donation, thanking you in advance, to Water For People.



## TUESDAY, AUGUST 31, 2021

### Back Again for 2021 – A Hole-in-One Contest for \$50,000!

The golf tournament will include a Hole-in-One Contest. It will be \$5 to enter and each person can enter only one time. The prize for a hole in one is **\$50,000**. If there is more than one hole-in-one winner, the prize will be split between the winners.

**Registration:** Register for golf through our online attendee registration system at [www.chesapeakeetricon.org/golf.html](http://www.chesapeakeetricon.org/golf.html).

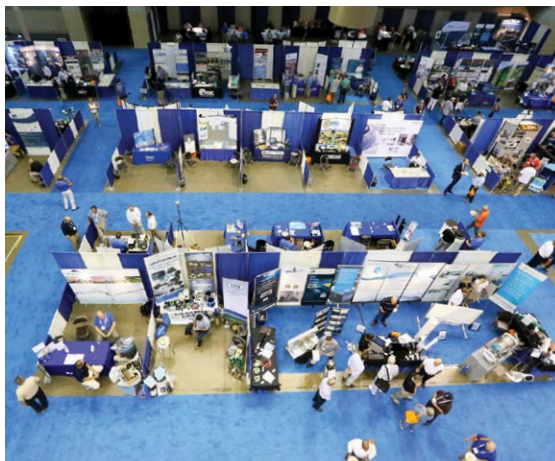
For additional information, Contact Ron Tatariw, Tatariw, Inc., at 703-716-0770 or by email: [rtatariw@tatariw.com](mailto:rtatariw@tatariw.com).

Directions to golf course from Ocean City: Go west on Route 50 to third traffic light and then turn left on Route 611 (Stephen Decatur Highway). Go six miles south on Route 611 to the “Y” in the road. Bear right at the “Y” onto South Point Road. Ocean City Golf Club is one mile on the right.

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### EXHIBITOR MOVE-IN

8:00 AM to 6:30 PM • Exhibit Hall





## TUESDAY, AUGUST 31, 2021

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### PRE-CONFERENCE WORKSHOP

The 2021 Tri-Association Conference Committee is pleased to offer Pre-Conference Workshops focused on **PFAS**. You must register for this workshop as part of your conference registration. *The workshop is subject to cancellation dependent upon the number of registrants. If cancelled, registrants will be notified, and workshop payments will be refunded in full.*

### ***Understanding the Dangers of and Treatment Methods for PFAS Chemicals***

**8:30 AM to 11:45 AM • Room 201**

This session will be covering information and treatment methods for PFAS Chemicals including PFOA, PFOA, and GenX chemicals. We will discuss the history, health effects, and EPA's actions to address this issue and will explore the Best Available Treatment Techniques for treatment and mitigation.

8:30–9:00	Overview of the history of PFAS chemical usage
9:00–9:30	Understanding national and EPA response
9:30–10:00	Laboratory and testing requirements and testing
10:00–10:15	Break
10:15–11:15	Treatment methodology
11:15–11:45	Next steps for mitigation



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### 13TH ANNUAL OPERATIONS CHALLENGE

#### **Set-Up and Team Check-In**

**12:00 PM to 5:30 PM • Exhibit Hall**

See page 20 for full details.

# CONFERENCE HIGHLIGHTS



## WEDNESDAY, SEPTEMBER 1, 2021

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### 5K FUN RUN/WALK

### BENEFITTING WATER FOR PEOPLE

**7:00 AM • Boardwalk at the Grand Hotel (21st Street)**

Cost includes t-shirt, prizes, refreshments,  
and a donation to Water For People.

See page 67 for registration fee and information.



water for people  
EVERYONE • FOREVER

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### Inclement Weather Cancellation

In the event of inclement weather, Fun Run registrants will be contacted by email if the event is cancelled. Credit card refunds will be issued to those who request one in writing directly to Carrie Kruger ([carriek@millsboro.org](mailto:carriek@millsboro.org)) by 6:00 PM on September 10, 2021 if, and only if, the Fun Run is cancelled due to inclement weather. We will consider the registration fee of those runners who do not request a refund as a donation to Water For People.





## CONFERENCE HIGHLIGHTS

### WEDNESDAY, SEPTEMBER 1, 2021

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#### REGISTRATION/CHECK-IN

7:30 AM to 5:00 PM • First Floor Lobby

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#### EXHIBITS OPEN

7:30 AM to 6:00 PM • Exhibit Hall

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#### CONTINENTAL BREAKFAST

7:30 AM to 9:30 AM • Exhibit Hall

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**Barton  
& Loguidice**

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#### TECHNICAL SESSIONS

8:30 AM to 10:00 AM • Rooms 201–206, 215, and 217

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**Michael Baker**  
INTERNATIONAL

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## WEDNESDAY, SEPTEMBER 1, 2021

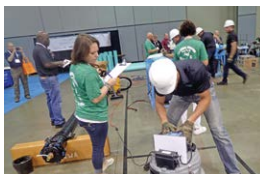
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### 13TH ANNUAL OPERATIONS CHALLENGE

9:00 AM to 5:00 PM • Exhibit Hall

#### Pre-Competition Meeting

8:30 AM to 9:00 AM • Exhibit Hall



Do you ever wonder what transpires behind the scenes during the operation of a water resource recovery facility? Instead of continuing to take these unsung specialists for granted, learn how the best wastewater collection and treatment personnel in the country display their skills at Operations Challenge. In the competition, teams compete to earn the highest score in five different events. Each team includes four members, and often a coach as well. Each event is designed to test the diverse skills required for the operation and maintenance of water resource recovery facilities, collection systems, and laboratories. The five events are collections systems, laboratory, process control, maintenance, and safety. Winners are determined by a weighted points system.

To register your team for this event go to:  
[www.chesapeakeetricon.org/ops-challenge.html](http://www.chesapeakeetricon.org/ops-challenge.html)

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Operations Challenge will conclude with the Pipe Cutting Shootout that happens during the Shooters Happy Hour. This event is open to any registered attendee. There will be a male and a female division and prizes. Please sign up for the event on Wednesday before the event (see page 23 for details).

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### BIOSOLIDS BEAUTY CONTEST

9:00 AM to 11:00 AM • CWEA Table, Outside Rooms 201–206

Contact Hahns Hairston at [hahns.hairston@wsscwater.com](mailto:hahns.hairston@wsscwater.com) for more information on submitting your entry.



## CONFERENCE HIGHLIGHTS

### WEDNESDAY, SEPTEMBER 1, 2021

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#### **SILENT AUCTION BENEFITTING THE UMBC CHAPTER OF ENGINEERS WITHOUT BORDERS**

9:00 AM Open • Exhibit Hall/Online

(Ends at 10:30 AM on Thursday, September 2, 2021.)



#### **Silent Auction Is Going Online!**

Tri-Con's growing Silent Auction will be a hybrid event this year, with items displayed in the Exhibit Hall, but bidding taking place using eBay! We will accept all items donated, large and small, and proceeds will benefit the University of MD-Baltimore County's Chapter of Engineers Without Borders.

To participate, you will need either an eBay account, or you can link your Facebook, Google, or Apple accounts to eBay. The auction will run continuously from Wednesday, September 1 at 10:30 AM, and end on Thursday, September 2, at 10:30 AM. You can pay for your item directly online, then bring your receipt to the Information Desk to pick up any items you win.

Items will be displayed in the Exhibit Hall, and detailed instructions for participating will be posted at the Silent Auction tables, and at the Information Desk. Contact Erica Whorley ([ewhorley@brwnccald.com](mailto:ewhorley@brwnccald.com)) for more information.

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#### **WEDNESDAY MORNING BREAK/VISIT EXHIBITORS**

10:00 AM to 11:00 AM • Exhibit Hall

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#### **OPENING CEREMONY**

11:00 AM to 12:00 PM • Performing Arts Center

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## WEDNESDAY, SEPTEMBER 1, 2021

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### Welcome

Jay Kirk, Tri-Association Conference Committee Chair

### Keynote Speaker



#### **David Gadis**

*General Manager and CEO of DC Water*

As CEO and General Manager of DC Water, Mr. Gadis is responsible for the direction and oversight of the largest advanced wastewater plant in the world. In this capacity, he oversees a \$1 billion annual budget and leads a workforce of approximately 1,100 employees. His leadership includes oversight of DC Water's engineering and construction services, finances, infrastructure systems, supply chain management, government relations, and customer services.

During his tenure as the CEO and General Manager, Mr. Gadis has been particularly focused enhancing DC Water's community relations and its diversity and inclusion initiatives. His accomplishments in this regard include:

- establishing a new "Stake Holder Alliance" giving the community broader access into the operations and planning of DC Water;
- establishing a new (registered) apprenticeship program to give District and local residents a career pathway into DC Water; and
- revising DC Water's Business Development Plan, to increase opportunities for the certified business community.

Mr. Gadis is Chairman of the Board of Blue Drop, DC Water's nonprofit sales and marketing affiliate, and is a frequent presenter at utility and government services conferences, including the U.S. Conference of Mayors, speaking on both Underground Infrastructure and Managing Utilities, as well with the National League of Cities and the National Association of Public Private Partnerships.

Prior to his service at DC Water, Mr. Gadis also served as CEO and President of Veolia Water Indianapolis. He was its first African American CEO/President and the first African American CEO to lead a major utility in Indianapolis.





## CONFERENCE HIGHLIGHTS

### WEDNESDAY, SEPTEMBER 1, 2021

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#### LUNCH WITH EXHIBITORS

Noon to 1:00 PM • Exhibit Hall

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#### TECHNICAL SESSIONS

1:00 PM to 2:30 PM • Rooms 201–206, 215, and 217

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#### WEDNESDAY AFTERNOON BREAK/VISIT EXHIBITORS

2:30 PM to 3:30 PM • Exhibit Hall

Sponsored by:

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#### TECHNICAL SESSIONS

3:30 PM to 5:00 PM • Rooms 201–206, 215, and 217

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#### PIPE CUTTING SHOOTOUT

4:00 PM to 5:00 PM • Exhibit Hall

Operations Challenge will conclude with the Pipe Cutting Shootout that happens during the Shooters Happy Hour. This event is open to any registered attendee. Please sign up to participate in the fastest single pipe cut



competition. There is a men's and women's competition, and many first-time cutters participate annually. Trophies and gift cards will be awarded to the fastest men's and women's cuts! See you Wednesday afternoon!



## WEDNESDAY, SEPTEMBER 1, 2021

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### SHOOTERS HAPPY HOUR

**4:00 PM to 5:00 PM • Exhibit Hall**

Come network and enjoy light fare and drinks with our valued exhibitors while attendees participate in the Pipe Cutting Shootout. Sodas, beer, and wine are complimentary and a cash bar for liquor will be available. After happy hour, spend time with the “Women of Water,” and then come join your fellow attendees for a Fun Night at Seacrets®!

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### WOMEN'S NETWORKING EVENT

**5:00 PM to 6:30 PM •**

**Bayfront Ballroom**

At this year's Women's Networking Happy Hour, our panel of experts at various stages of their career will share their experiences in



the water/wastewater industry and discuss solutions, successes, approaches, and allies. Please join us in the Bayfront Ballroom from 5:00 PM to 6:30 PM to enjoy refreshments and lively discussions!

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## CONFERENCE HIGHLIGHTS

### WEDNESDAY, SEPTEMBER 1, 2021

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#### FUN NIGHT

**7:00 PM to 11:00 PM • Seacrets® (ticketed event)**

Take a break from the conference madness and recharge for an evening on the beach. Seacrets® is the place, and everything is set for a premier networking event. Cool Caribbean vibe plus great food, great music, even free transportation. Appetizers and a full dinner are served starting at 7 PM, and each guest gets two free drink tickets. Chill under the tent on the beach with our DJ, or rock out with Gary Moore and the Shucked Oyster Band, a legend at water and wastewater events. Join us for the evening and let your cares sink into the bay with the setting sun.

***Tickets must be purchased by Tuesday, August 31, 2021.***

***No tickets will be sold at the door or individually on Wednesday at the conference. Bring your name badge to use on the Ocean City buses for a free ride back to your hotel. Must be 21 years old to attend.***

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# CONFERENCE HIGHLIGHTS



## THURSDAY SEPTEMBER 2, 2021

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### REGISTRATION/CHECK-IN

7:30 AM to 4:00 PM • First Floor Lobby

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### EXHIBITS OPEN

7:30 AM to Noon • Exhibit Hall

Move-Out: Noon to 4:00 PM

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### CONTINENTAL BREAKFAST

7:30 AM to 9:30 AM • Exhibit Hall

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### SILENT AUCTION BENEFITTING THE UMBC CHAPTER OF ENGINEERS WITHOUT BORDERS

Ends at 10:30 AM • Exhibit Hall/Online

(continued from Wednesday)

See page 21 for more information.

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### TECHNICAL SESSIONS

8:30 AM to 10:00 AM • Rooms 201–206, 215, and 217

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### THURSDAY MORNING BREAK/VISIT EXHIBITORS

10:00 AM to 11:00 AM • Exhibit Hall

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## CONFERENCE HIGHLIGHTS

### THURSDAY SEPTEMBER 2, 2021

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#### **WATER TASTE TEST** *NEW!*

**10:00 AM to 11:00 AM • Exhibit Hall**

Which utility has the very best tasting tap water in the Chesapeake region? Find out at this annual favorite, typically held in the spring. The winner will compete nationally at AWWA's ACE22 in San Antonio, TX! For more information, contact George Rest ([george.rest@ramboll.com](mailto:george.rest@ramboll.com)) or download the entry form at [www.csawwa.org](http://www.csawwa.org).



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#### **METER MADNESS**

**10:00 AM to 11:00 AM • Exhibit Hall**

The Meter Madness competition is your opportunity to challenge and compete against your fellow conference attendees. The competition is an individual event aimed at measuring an individual's skill at assembling a meter quickly, totally, and accurately. Groups and teams can register and compete under their entities' names; however, each qualified participant is solely responsible for his/her performance. Winner of the local competition will have the chance to go to the national AWWA Meter Madness Competition. For more information, visit the conference website: [www.chesapeaketricon.org/operators.html](http://www.chesapeaketricon.org/operators.html).

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#### **TECHNICAL SESSIONS**

**11:00 AM to 12:30 PM • Rooms 201–206, 215, and 217**



## THURSDAY SEPTEMBER 2, 2021

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### BUSINESS LUNCHEONS

All conference attendees are welcome to attend the association Business Luncheon of their choice (ticket purchase required). A buffet lunch is served as gavels are passed, and our leaders are recognized. Come and give our volunteers a big hand for delivering value to our members.

### CSAWWA LUNCHEON

(ticketed event)

**12:30 PM to 1:45 PM • Dockside Ballroom (first floor, bayside)**

The following awards will be presented at the CSAWWA Luncheon/Forum:

- Past Chair Award
- Life Member Awards
- Silver Drop Awards
- Gold Drop Awards
- Committee Chair Recognition

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### AWWA National Representative



**Joseph G. Jacangelo, Ph.D.**

*President-Elect (2021–2022)*

*American Water Works Association*

Joseph Jacangelo is Vice President and Director of Research for Stantec, in Washington, DC, where he has been employed since 1987. Joe has been an active member since joining AWWA in 1984, including many committee memberships and chairing the International Council. He is currently a member of the Virginia Section.

Joe completed his term as IC Chair in June 2020. He currently serves on the Steering Committee, AWWA Project: Comparing International



### THURSDAY SEPTEMBER 2, 2021

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Drinking Water Regulatory Systems; Innovation Ad Hoc Strategic Planning Committee; and the association-level Strategic Planning Committee. He has served as Vice Chair of the IC, Chair of the Technical and Educational Council, and completed two terms on the Association Board of Directors and Executive Committee. He has served as a member of the Dr. John L. Leal, Outstanding Service to AWWA and Publications Association Award committees. In addition, Joe has served on the Water Utility Council.

Joe was awarded the AWWA Volunteer of the Year Award in 2012 and holds a Bachelor's degree from Rutgers and a Ph.D. from The Johns Hopkins University.

#### **CWEA BUSINESS LUNCHEON**

(ticketed event)

**12:30 PM to 1:45 PM • Bayfront Ballroom (second floor, bayside)**

The following awards will be presented at the CWEA Business Luncheon:

- Golden Manhole Award
- Golden Raindrop Award
- President's Award
- 5S Presentation
- Rising Star Award

#### **WEF National Representative**



##### **Lynn Broaddus**

*2020–2021 President*

Lynn Broaddus, Ph.D, M.B.A. is the 2020–21 president of the Water Environment Federation. Lynn formed Broadview Collaborative Inc. in 2014 as a platform for

advancing sustainable, resilient practices in the water sector. She serves as a strategic adviser and facilitator for private-sector, nonprofit, and philanthropic clients throughout North America, and is known for bringing new ways of thinking to the crucial environmental challenges of our day.

Her prior work includes leading The Johnson Foundation's environment program from 2008–2014, convening hundreds of leaders to address national water sustainability and resiliency under the umbrella of



## THURSDAY SEPTEMBER 2, 2021

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“Charting New Waters.” Earlier she held leadership roles with Milwaukee Riverkeeper®, The Nature Conservancy and NatureServe, and also has experience in energy conservation and teaching. She earned her doctorate from Duke University, her M.B.A. from the University of Wisconsin-Milwaukee, and her bachelor’s degree in environmental sciences from the University of Virginia.

Lynn is past chair of River Network’s board, and member emerita (past chair) of the University of Wisconsin-Madison’s Nelson Institute Board of Visitors. She recently completed three years as a non-resident senior fellow with the Brookings Institution. Lynn is based in Minneapolis.

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### *WWOA BUSINESS LUNCHEON*

(ticketed event)

**12:30 PM to 1:45 PM • Rooms 207–208**

The following award will be presented at the WWOA Business Luncheon:

- Past President Award

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### TECHNICAL SESSIONS

**2:00 PM to 3:30 PM • Rooms 201–206, 215, and 217**





## CONFERENCE HIGHLIGHTS

### THURSDAY SEPTEMBER 2, 2021

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#### **TOP OPS** *New Location!*

**2:30 PM to 4:30 PM • Dockside Ballroom (first floor, bayside)**

Fast action and fun characterize this annual competition as teams of water plant operators square off against each other. The quiz show format tests the understanding and quick thinking of operators as they answer challenging technical, regulatory, and customer service questions. The room will be filled with the spirit of contest as the participants are cheered, judges are booed, and competitors vie for a chance to go to the National Top Ops Challenge at the national AWWA Conference – to be held in San Antonio, Texas in 2022. For more information, contact Anthony Rocco, Howard County Bureau of Utilities, 410-313-4945, or visit the conference website: [www.chesapeakeetricon.org/operators.html](http://www.chesapeakeetricon.org/operators.html).

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#### **THURSDAY AFTERNOON BREAK**

**3:30 PM to 4:00 PM • Top of escalator**

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#### **TECHNICAL SESSIONS**

**4:00 PM to 5:30 PM • Rooms 201–206, 215, and 217**

# CONFERENCE HIGHLIGHTS



## THURSDAY SEPTEMBER 2, 2021

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### AWARDS PROGRAM

**5:30 PM to 6:30 PM • Bayfront Ballroom (2nd floor)**

Everyone is welcome to enjoy refreshments and help recognize this year's award-winning members! Meet and congratulate award winners while enjoying hot and cold hors d'oeuvres. Sodas, beer, and wine are complimentary. Cash liquor bar will be available.

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**5:30 PM to 5:50 PM – Cocktails**

**5:50 PM to 6:30 PM – Program:** Our organizations have a number of prestigious awards to grant members who have demonstrated the very best of attributes that promote our missions. The following awards will be presented:

### *Tri-Association Conference*

- Tri-Association Conference Committee Service Award

### *WWOA*

- The Barry Walter Award for Distinguished Service in Water Distribution
- William McLean Bingley Award for Distinguished Service in Wastewater
- Marlene Patillo Laboratory Award
- Stanley Kappe Training Award
- WWOA Award for Outstanding Personal Service to the Association



## CONFERENCE HIGHLIGHTS

### THURSDAY SEPTEMBER 2, 2021

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#### **CSAWWA**

- Operator Teams Recognition: Top Ops & Meter Madness
- Operator of the Year Award
- Horizon Award
- Carl John Lauter Award
- George Warren Fuller Award

#### **CWEA**

- Laboratory Analyst Award
  - Burke Award
  - WEF Hatfield Award
  - WEF Bedell Award
- 

#### **YOUNG PROFESSIONALS HAPPY HOUR**

**6:30 PM to 9:00 PM • Skye Bar on 66th Street**

Back again this year! All are welcome to join the Young Professionals on Thursday, September 2, 2021 for a fun night of networking! We will be enjoying happy hour and appetizers at Skye Bar on 66th Street from 6:30 PM to 9:00 PM. Registration cost is \$15 and includes one happy hour drink and appetizers. Walk-ins are welcome to come and pay your own way.

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# CONFERENCE HIGHLIGHTS



## FRIDAY, SEPTEMBER 3, 2021

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### REGISTRATION/CHECK-IN

7:30 AM to 10:30 AM • First Floor Lobby

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### CONTINENTAL BREAKFAST

8:00 AM to 9:30 AM • Top of escalator

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### TECHNICAL SESSIONS

8:30 AM to 11:30 AM • Rooms 201–206, 215, and 217

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### MDE OPERATOR CERTIFICATION EXAM

9:00 AM to 12:00 PM • Bayside Ballroom (2nd floor)

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### LAST CHANCE FOR TECHNICAL SESSION

#### ATTENDANCE FORM SIGNING

11:30 AM to Noon • Information Desk, First Floor Lobby

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### ADJOURN/MONSTER DOOR PRIZES

11:45 AM • Information Desk, First Floor Lobby

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# TECHNICAL PROGRAM SCHEDULE

## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold *italics*, Co-speakers' names in bold, Co-authors' names in *italics*.

### ROOM 201/202 • ASSET MANAGEMENT

#### 8:30 AM – 9:00 AM

Ensuring New York City's Water Supply:

Condition Assessment of an 18-Foot Diameter Tunnel

***Kristi Latimer, Mott MacDonald (kristi.latimer@mottmac.com)***

***Cory Dippold, Mott MacDonald***

***Teresa Wong, Mott MacDonald***

#### 9:00 AM – 9:30 AM

DC Water's Blueprint for Mobility:

Fire Hydrant Application Development and Deployment

***Nichol Sowell, DC Water (nichol.bellsowell@dcwater.com)***

***Hari Kurup, DC Water***

#### 9:30 AM – 10:00 AM

Improving the PCCP Condition Assessment Prioritization Method

by Incorporating AFO Monitoring Data Record Analysis

***Dennis Lopez, WSSC Water (dennis.lopez@wsscwater.com)***

#### 1:00 PM – 1:30 PM

Flying Blind No More: Using Edge Analytics to Improve Pump Performance

***Mike Bernard, Specific Energy (mike.bernard@specificenergy.com)***

#### 1:30 PM – 2:00 PM

Title: Using Technology for Condition Assessments to Promote Safety

***Elizabeth Sitter, GHD (elizabeth.sitter@ghd.com)***

#### 2:00 PM – 2:30 PM

Getting the Big Picture: Digital Mapping of Pipeline Corridors & the

Assessment of Environmental Conditions as Part of a Complete GIS Map

***Gwen Sullivan, Engineering Design Technologies, Inc.***

***(gwen.sullivan@edtinc.net)***

***Emily Wilson, Engineering Design Technologies, Inc.***

***John Smith, Engineering Design Technologies, Inc.***

#### 3:30 PM – 4:00 PM

Using Geofluvial Principles to Inform the Risk-Based

Prioritization of Sewer Stream Crossing Inspections

***Russ Dalton, Hazen and Sawyer (rdalton@hazenandsawyer.com)***

***Magdalena Springer, Fairfax County***

***Magdalena Springer, Fairfax County***

***Junaid Malik, Fairfax County***



## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### 4:00 PM – 4:30 PM

Managing Aerial Sewer Crossings in Washington, DC

**Steve Bian**, DC Water (*sbian@dcwater.com*)

**Renni Zhao**, DC Water

*Tahir Qureshi, DC Water*

*Dunbar Regis, DC Water*

### 4:30 PM – 5:00 PM

DC Water's Asset Registry:

Mapping Service Line and Sewer Lateral using Trimble Technology

**Tamrat Bedane**, DC Water (*tbedane@dcwater.com*)

## ROOM 203/204 • UTILITY MANAGEMENT

### 8:30 AM – 9:00 AM

Design-Build for Large Conveyance Projects:

Constructing a Winning Formula for Success

**Mark Johnson**, Jacobs Engineering (*mark.johnson1@jacobs.com*)

### 9:00 AM – 9:30 AM

Transforming Developer-Built Project Delivery

through Trackable Workflow Processes at WSSC Water

**Hala Flores**, WSSC Water (*hala.flores@wsscwater.com*)

**Michael Harmer**, WSSC Water

*Brian Stead, WSSC Water*

*Ray Chicca, WSSC Water*

*Bryan Hall, WSSC Water*

### 9:30 AM – 10:00 AM

AlexRenew's RiverRenew Tunnel System Fixed-Price,

Design-Build Procurement in the Time of COVID-19

**Caitlin Feehan**, Alexandria Renew Enterprises

(*caitlin.feehan@alexrenew.com*)

*Elizabeth Minyard, Brown and Caldwell*

*Justin Carl, Brown and Caldwell*



# TECHNICAL PROGRAM SCHEDULE

## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### 1:00 PM – 1:30 PM

Tap Into Your Data to Improve Your Water System Operations

***Isaias Espinoza, Arcadis (isaias.espinoza@arcadis.com)***

**Aman Tuteja, Arcadis**

*Isaias Espinoza, Arcadis*

*Aman Tuteja, Arcadis*

*Janis Lusco, Arcadis*

### 1:30 PM – 2:00 PM

Managed Aquifer Recharge:

An Emerging Integrated Water Management Tool Along the Coastal Plain

***Andrew Newbold, Hazen and Sawyer (anewbold@hazenandsawyer.com)***

**Aaron Duke, Hazen and Sawyer**

### 2:00 PM – 2:30 PM

Rapidly Reducing Unaccounted for Water –

Ultrasonic Water Meters that Continually Hear, Measure

& Report Data on Potential Leaks that Can't Be Seen

***Jim Kiles, Kamstrup (JDK@kamstrup.com)***

### 3:30 PM – 4:00 PM

System Development Charges: Funding Growth in the Chesapeake Region

***Michael Maker, NewGen (mmaker@newgenstrategies.net)***

### 4:00 PM – 4:30 PM

Data Informed Policy Making for Septic-to-Sewer Connection Program

***Ziwei He, HDR (ziwei.he@hdrinc.com)***

**George Heiner, Anne Arundel County DPW**

*Dmitry Volodin, HDR*

### 4:30 PM – 5:00 PM

Anne Arundel County's Integrated Management Approach  
to Long-Term TMDL Compliance

***Edward Shea, HDR (edward.shea@hdrinc.com)***

**George Heiner, Anne Arundel County DPW**

*Joseph Sowinski, HDR*

*Ziwei He, HDR*

# TECHNICAL PROGRAM SCHEDULE



## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 205/206 • WATER SYSTEM INFRASTRUCTURE

**8:30 AM – 9:00 AM**

Intelligent Networks: High-Quality Water from Source to Tap

***Kevin Flis, Xylem (kevin.flis@xylem-inc.com)***

**9:00 AM – 10:00 AM**

Be Water Resilience Ready

***Karen Edwards-Lindsey, USEPA Water Security Division  
(edwards-lindsey.karen@epa.gov)***

**1:00 PM – 1:30 PM**

Converting Quarries into Reservoirs – Geotechnical Design Considerations

***James Parkes, Schnabel Engineering (jparkes@schnabel-eng.com)***

**1:30 PM – 2:00 PM**

The Fullerton Project: Constructing 63MG of  
Finished Water Storage for the Baltimore Water System

***Nick Lewis, Gannett Fleming (nlewis@gfnet.com)***

**2:00 PM – 2:30 PM**

Guilford Finished Water Reservoir Improvements

***John Boyle, Pennoni (jboyle@pennoni.com)***

***Jeremy Hise, Hazen and Sawyer***

**3:30 PM – 4:00 PM**

The Latest in Water Main Condition Assessment Tools & Technology

***Eric Harold, Carollo Engineers (eharold@carollo.com)***

***Sonia Oton, Mott MacDonald***

**4:00 PM – 4:30 PM**

Unique Challenges of Rehabilitation of 66- and  
72-inch Water Main in the Heart of Washington, DC

***Burak Kaynak, DC Water (burak.kaynak@dcwater.com)***

***Monika Blassino, Whitman, Requardt and Associates, LLP***

**4:30 PM – 5:00 PM**

Securing Water Service for a Maryland Community's Future

***Tiffany Harrison, Gannett Fleming (tharrison@gfnet.com)***





# TECHNICAL PROGRAM SCHEDULE

## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold *italics*, Co-speakers' names in bold, Co-authors' names in *italics*.

### ROOM 215 • WASTEWATER TREATMENT & SOLIDS PROCESSING

#### 8:30 AM – 9:00 AM

Cold and Waterproof Biological Nutrient Removal

***Jim Fitzpatrick, Black & Veatch (fitzpatrickjd@bv.com)***

**Melinda Harger, City of Lawrence**

*Leon Downing, Black & Veatch*

#### 9:00 AM – 9:30 AM

Concepts & Considerations for Flow

Through Aerobic Granular Sludge Processes

***John Fraser, Carollo Engineers (jfraser@carollo.com)***

#### 1:00 PM – 1:30 PM

New Primary Bio-Filter Achieves

High-Rate Treatment for Wet-Weather Inflows

***Jon Liberzon, Tomorrow Water (BKT) (jl@bkt21.com)***

*Joseph Goergen, ARTP, Genesee County Drain Commissioner*

*Glen Daigger, University of Michigan*

*David Rhu, Tomorrow Water (BKT)*

#### 1:30 PM – 2:00 PM

Aquatic Uranium Removal by Amino-Functionalized Porous Silica  
with Customizable Pore Characteristic – Efficiency & Mechanism Study

***Kegang Wei, University of Delaware (kegang@udel.edu)***

#### 2:00 PM – 2:30 PM

Back River WWTP Headworks Improvements:

A Project of Large-Scale and First-Time Challenges

***Paul Deardorff, JMT (pdeardorff@jmt.com)***

*Gurminder Singh, City of Baltimore*

*Misrak Shiferaw, City of Baltimore*

*Mohammed Dohdar, City of Baltimore*

#### 3:30 PM – 4:00 PM

A Tale of Two Pilots:

Comparing a WAS-only Thermal Hydrolysis Process vs. Conventional THP

***Sebastian Smoot, HDR (sebastian.smoot@hdrinc.com)***

*Matthew Higgins, Bucknell University*

# TECHNICAL PROGRAM SCHEDULE



## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

**4:00 PM – 4:30 PM**

Thermal Hydrolysis –

Lessons Learned from 20 Years of THP Design Integration

***Greg Knight, Black & Veatch (knightgj@bv.com)***

*Engin Guven, Black & Veatch*

**4:30 PM – 5:00 PM**

Combining Thermal Hydrolysis and Thermal Drying:

Process Optimization, Energy Recovery, and Lifecycle Costs

***Dian Zhang, Stantec (dian.zhang@stantec.com)***

*Chengyan Zhang, Stantec*

*Michael McWhirter, Stantec*

### ROOM 217 • WASTEWATER COLLECTION SYSTEMS

**8:30 AM – 9:00 AM**

Legal Risks to Collection Systems Posed by Clean Water Act Developments

***Andrew Silton, Beveridge & Diamond PC (asilton@bdlaw.com)***

*Timothy Sullivan, Beveridge & Diamond PC*

### ROOM 217 • ENGINEERING ETHICS

**9:00 AM – 10:00 AM**

Ethics and Water Professionals

***S. Rao Chitikela, RC-WEE Solutions (rao.chitikela@RCWEEsolutions.com)***

*William Ritter, University of Delaware*





# TECHNICAL PROGRAM SCHEDULE

## WEDNESDAY, SEPTEMBER 1, 2021

Speakers' names in bold *italics*, Co-speakers' names in bold, Co-authors' names in *italics*.

### ROOM 217 • WASTEWATER COLLECTION SYSTEMS

#### 1:00 PM – 1:30 PM

Comparison of Effectiveness and Cost of  
High- and Low-Pressure Smoke Testing Methods  
***Emily Sadowsky, Arcadis (emily.sadowsky@arcadis.com)***

#### 1:30 PM – 2:00 PM

Multi-Jurisdictional Pumping Station Consolidation  
Addresses Environmental Concerns

***Thor Young, GHD Inc. (thor.young@ghd.com)***

**Mark Yoder, Allegany County DPW**

*David Woolley, GHD Inc.*

*Steven Carter, GHD Inc.*

#### 2:00 PM – 2:30 PM

When Streams and Sewers Collide: Responding to a  
Sewer Emergency with a Long-Term Vision in a Short Duration  
***Chris Mata, Fairfax County DPWES (christopher.mata@fairfaxcounty.gov)***  
**Travis Davis, Arcadis**  
*Akshay Kumar, Arcadis*

#### 3:30 PM – 4:00 PM

One Size Does Not Fit All – Finding the Right Balance in Approach  
to Upgrading a Sewage Pumping Station for a Small Service Area  
***Vincent Maillard, GHD (vincent.maillard@ghd.com)***  
*Steven Carter, GHD*

#### 4:00 PM – 4:30 PM

Holmes Run Pump Station Rehabilitation Design –  
The BIM Genesis of a Vertical Infrastructure Digital Asset Lifecycle  
***James Peaco, Arcadis-US, Inc. (james.peaco@arcadis.com)***  
*Adam Taylor, Arcadis-US, Inc.*

#### 4:30 PM – 5:00 PM

Rehabilitating a Failing 24" PCCP Forcemain with Fusible PVC  
***Daniel String, KCI Technologies, Inc. (daniel.string@kci.com)***



## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 201/202 • ASSET MANAGEMENT

#### 8:30 AM – 9:00 AM

Merging Bottom-up Transformation with Top Level Asset Management Strategy... A Case in Organizational Change Management

**Michael Mulcare, Mott MacDonald** ([michael.mulcare@mottmac.com](mailto:michael.mulcare@mottmac.com))

*Charles Sweeney, Mount Pleasant Waterworks*

*Jesse Rothkopf, Life Cycle Engineering*

#### 9:00 AM – 9:30 AM

How Smaller Communities Can Do More With Less

**Mark Grabowski, ITpipes** ([markg@itpipes.com](mailto:markg@itpipes.com))

#### 9:30 AM – 10:00 AM

Infrastructure Asset Management

**Nicole Clarke, Tank Industry Consultants** ([clarke@tankindustry.com](mailto:clarke@tankindustry.com))

#### 11:00 AM – 11:30 AM

Development & Implementation of a Sustainable Condition Assessment Program for Water Distribution and Transmission Mains

**Laura Khoulvilay, Carollo Engineers** ([lkhouvilay@carollo.com](mailto:lkhouvilay@carollo.com))

**Chris Caro, WSSC Water**

*Felicia James, Carollo Engineers*

*Dennis Lopez, WSSC Water*

#### 11:30 AM – 12:00 PM

The Day After Pipe Inspection... What Do I Do With the Data?!

**Sonia Oton, Mott MacDonald** ([sonia.oton@mottmac.com](mailto:sonia.oton@mottmac.com))

**Richard Luettchau, Mott MacDonald**

#### 12:00 PM – 12:30 PM

Reestablishing the Structural Integrity of Baltimore's Water Transmission System

**Dave Caughlin, Structural Technologies** ([dcaughlin@structuraltec.com](mailto:dcaughlin@structuraltec.com))

**Golnaz Khorsha, Baltimore City Department of Public Works**

#### 2:00 PM – 2:30 PM

Elevated Water Storage Tanks & Cellular Antennas: Untangling the Web of Compliance Requirements and Ensuring Long-Term Service of the Asset

**Kenneth Guttman, Gannett Fleming** ([kguttman@gfnet.com](mailto:kguttman@gfnet.com))

**Allison Dyott, Anne Arundel County DPW**



Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

*Haile Yerdaw, Washington Suburban Sanitary Commission*



# TECHNICAL PROGRAM SCHEDULE



## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold *italics*, Co-speakers' names in bold, Co-authors' names in *italics*.

### ROOM 203/204 • STORMWATER

**8:30 AM – 9:00 AM**

Federal Funding Supporting Local Priorities:

Case Studies Involving Chesapeake Bay TMDL and Resiliency

***Pratik Desai, HDR, Inc. (pratik.desai@hdrinc.com)***

**Karl Kerr, USACE Baltimore District**

**9:00 AM – 9:30 AM**

DC Water's Green Infrastructure Design Challenge Parks Project

***Stephen Tursi, Jacobs Engineering (stephen.tursi@jacobs.com)***

**9:30 AM – 10:00 AM**

Construction of Stormwater Management Facilities

to Meet Permit Requirements – Not as Easy as it Sounds!

***Ashton Rogers, GHD, Inc. (ashton.rogers@ghd.com)***

**11:00 AM – 11:30 AM**

Development of a Climate Action Plan

to Improve Resilience of Municipal Infrastructure

***Ben Wright, Hazen and Sawyer (bwright@hazenandsawyer.com)***

***Matt Zelin, Hazen and Sawyer***

***Radu Zamfirache, Baltimore County DPW***

**11:30 AM – 12:00 PM**

Pluvial Flooding Vulnerability Assessment and

Planned Mitigation in Clover Hill, Frederick County, MD

***Jessica Seipp, Dewberry Engineers (jseipp@dewberry.com)***

**Siva Sangameswaran, Dewberry Engineers**

***Angelia Miller, Frederick County Office***

***of Sustainability & Environmental Resources***

***Dano Wilusz, Dewberry Engineers***

**12:00 PM – 12:30 PM**

Safety and Resiliency for the Once Flood-Prone Huntington Neighborhood

***Fernando Pasquel, Arcadis (fernando.pasquel@arcadis.com)***

***Chris Soldan, Arcadis***



# TECHNICAL PROGRAM SCHEDULE

## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold *italics*, Co-speakers' names in bold, Co-authors' names in *italics*.

### ROOM 203/204 • UTILITY MANAGEMENT

**2:00 PM – 2:30 PM**

Visualizing Innovative Treatment – Electronic O&M Development for Information Storage and Access... and Better Biosolids

***Nadia Shebaro, HDR (nadia.shebaro@hdrinc.com)***

**2:30 PM – 3:00 PM**

Journey to DC Water's High-Performance SCADA Interface: Utilizing Situational Awareness to Encourage Operational Optimization

***Karen Green, DC Water and Sewer Authority (Karen.Green@DCWater.com)***

**Aaron Warrick, DC Water and Sewer Authority**

**3:00 PM – 3:30 PM**

NOT Your Average O&M Manual

***Michael Skeritt, Mott MacDonald (michael.skeritt@mottmac.com)***

**Kenrick St.Louis, DC Water**

***Gert Van Der Walt, DC Water***

***Devang Prajapati, Mott MacDonald***

**4:00 PM – 4:30 PM**

Smart Water Utility Improvements with AI,

GIS-Data Analysis, Digital Technology

***Daniel Jeon, Gannett Fleming, Inc. (djeon@gfnet.com)***

**Luis Casado, Gannett Fleming, Inc.**

**4:30 PM – 5:00 PM**

AI Enabled Utilities Across the Entire Water Cycle ***Javier Cantu,***

***Innovyze (javier.cantu@innovyze.com)***

**5:00 PM – 5:30 PM**

Framework for Becoming the Smart Utility of the Future –

Water Research Foundation Project 5039

***Prabhushankar Chandrasekeran, Stantec Consulting Services Inc.***

***(cprabhushankar@gmail.com)***

**Carla Cherchi, Stantec Consulting Services Inc.**

# TECHNICAL PROGRAM SCHEDULE



## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 205/206 • WATER SYSTEM INFRASTRUCTURE

**8:30 AM – 9:00 AM**

Managing Underground Linear Assets using  
the Utilis Satellite-Based Leak Detection Program  
***Gadi Kovarsky, Utilis Corp. (gadi.k@utiliscorp.com)***

**9:00 AM – 9:30 AM**

Proactive Flushing of Water Mains to improve  
Disinfectant Residual and Mitigate Water Discoloration  
***Fikremariam Tesfai, DC Water (fikremariam.tesfai@dcwater.com)***  
*Maureen Schmelling, DC Water*

**9:30 AM – 10:00 AM**

Designed. Bid. Built: Considerations from the Contractor  
and Consultant on the Clinton Zone Transmission Main  
***Nick Lewis, Gannett Fleming (nlewis@gfnet.com)***  
*Clay Greene, Garney Construction*

### ROOM 205/206 • WATER TREATMENT

**11:00 AM – 11:30 AM**

Treatment of PFAS in Well Water:  
Assessment of Removal by Granular Activated Carbon and Ion Exchange  
***Joseph Jacangelo, Stantec and the Johns Hopkins University***  
*(joseph.jacangelo@stantec.com)*  
*Henry Croll, Stantec*  
*Steven Chow, Johns Hopkins University*  
*Kellogg Schwab, Johns Hopkins University*

**11:30 AM – 12:00 PM**

Suspended Ion Exchange Pre-treatment  
for Dissolved Organic Carbon Removal  
***Antony Gibson, Ramboll (agibson@ramboll.com)***  
*Vince Hart, Carollo Engineers*

**12:00 PM – 12:30 PM**

Review of Technologies to Mitigate Opportunistic  
Pathogen Occurrence in Municipal Drinking Water  
***Kris Mapili, Stantec (kris.mapili@stantec.com)***  
*Joe Jacangelo, Stantec*





# TECHNICAL PROGRAM SCHEDULE

## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold *italics*, Co-speakers' names in bold, Co-authors' names in *italics*.

### 2:00 PM – 2:30 PM

Identification of Lead Service Lines Through Water Testing

**Anjuman Islam, DC Water** ([anjuman.islam@dcwater.com](mailto:anjuman.islam@dcwater.com))

### 2:30 PM – 3:00 PM

Using LiDAR Technology to Untangle the Complicated  
Web of a Water Treatment Plant Pipe Gallery

**Jessica Hou, Gannett Fleming** ([jhou@gfnet.com](mailto:jhou@gfnet.com))

### 3:00 PM – 3:30 PM

Algae and Cyanotoxin Source to Treatment

Update for Toledo's Collins Park WTP

**Paul Hargette, Black & Veatch** ([hargettePH@bv.com](mailto:hargettePH@bv.com))

*Nick Burns, Black & Veatch*

*Amanda Canida, Black & Veatch*

### 4:00 PM – 4:30 PM

GAC or IX for PFAS Removal:

A Side-by-Side Bench-Scale Comparison Using Improved Methodologies

**Samantha Black, HDR** ([samantha.black@hdrinc.com](mailto:samantha.black@hdrinc.com))

**Christina Alito, HDR**

*Gwen Woods-Chabane, HDR*

*Peter D'Adamo, HDR*

### 4:30 PM – 5:00 PM

Turning an Aging Lime Softening Water Treatment System  
into a State-of-the-Art Membrane MF/NF Treatment System

**Craig Benson, Mott MacDonald** ([craig.benson@mottmac.com](mailto:craig.benson@mottmac.com))

**Daniel Pomeroy, Mott MacDonald**

*John Civardi, Mott MacDonald*

### 5:00 PM – 5:30 PM

Ozone Pretreatment –

Is It the Best Approach for Improving Membrane Productivity?

**Ufuk Erdal, Arcadis** ([ufuk.erdal@arcadis.com](mailto:ufuk.erdal@arcadis.com))

**Anuj Jain, Arcadis**



## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 215 • WASTEWATER TREATMENT & SOLIDS PROCESSING

#### 8:30 AM – 9:00 AM

The Most Comprehensive Study by IRSTEA/INRAE' on  
BDP's Advanced Technology of Low DO and High Efficiency  
of Biological Nitrogen & Phosphorus Removal

***Eric Li, BDP EnviroTech LLC (info@bdpenvirotech.com)***

#### 9:00 AM – 9:30 AM

State-of-the-Art Suboxic Nitrate and Phosphorus  
Removal Treatment in US Cold Climate BNR Facilities

***Tanja Rauch-Williams, Carollo Engineers (trauch-williams@carollo.com)***

*Natalie Beach, Carollo Engineers*

#### 9:30 AM – 10:00 AM

Noman M. Cole Pollution Control Plant Greenhouse Gas Reduction:  
We Do Our Part

***Teresa DiGenova, Black & Veatch (digenovatm@bv.com)***

*Khis Suravallop, Fairfax County, VA*

#### 11:00 AM – 11:30 AM

Let's Start-Em Up!

Efficiently Integrating Digester Start-up into Plant Operations

***Christopher Moline, HDR (christopher.moline@hdrinc.com)***

*Robert Hindt, Howard County Bureau of Utilities*

*Jeff Sparks, Hampton Roads Sanitation District*

*Stephanie Spalding, HDR*

#### 11:30 AM – 12:00 PM

Hair Today, Gone Tomorrow!

***Tiff Bradshaw, Maryland Environmental Service (tbradshaw@menv.com)***

**Ezgi Kurdoglu, Maryland Environmental Service**

*Partha Tallapragada, MES*

*Kirk Parks, MES*

#### 12:00 PM – 12:30 PM

Design-Build Innovations for the New Port Deposit WWTP

***Mike Cecil, American Contracting & Environmental Services, Inc.***

*(mike.cecil@aceservinc.com)*

**Dan String, KCI Technologies**



# TECHNICAL PROGRAM SCHEDULE

## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### 2:00 PM – 2:30 PM

Mythbusters – What Can Anaerobic Digestion Really Do?

***Bob Wimmer, ESG (sypcgeek@gmail.com)***

### 2:30 PM – 3:00 PM

Using Customer Feedback as a Guide for Selecting  
a New Solids Handling Technology for Kent County, DE

***Lisa Challenger, Material Matters, Inc. (lchallenger@materialmatters.com)***

*David (DJ) Wacker, RK&K*

### 3:00 PM – 3:30 PM

Turning Exceptional Quality Biosolids into a Marketable Product

***Malcolm Taylor, WSSC Water (malcolm.taylor@wsscwater.com)***

*Trudy Johnston, Material Matters Inc.*

*Robin Brandt, Material Matters Inc.*

*Mike Hile, Penn State University*

### 4:00 PM – 4:30 PM

Successfully Building and Commissioning a Biosolids Belt Dryer System –  
Lessons Learned at the Little Patuxent Water Reclamation Plant

***Joshua Gliptis, Howard County Government, DPW – Utilities***

*(jgliptis@howardcountymd.gov)*

**Benjamin Miller, Clark Construction**

*Brian Balchunas, HDR Engineering*

### 4:30 PM – 5:00 PM

Sludge Conditioning and Renewable Natural Gas  
at the Capital Region Water AWTF

***Eric Auerbach, Arcadis (eric.auerbach@arcadis.com)***

*Jess Rostentel, Capital Region Water*

### 5:00 PM – 5:30 PM

Utilizing Progressive Design-Build Delivery  
to Optimize Capital Spending and Drive Schedule

***Peter Schuler, Brown & Caldwell (pschuler@brwnncald.com)***

*Kit Eller, Charlotte Water*

*Luke Cobb, Garney Construction*

*Morgan Young, Black and Veatch*



## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 217 • WASTEWATER COLLECTION SYSTEMS

**8:30 AM – 9:00 AM**

Delivering a Maximum Value in a Compact Footprint:

CDCA's 24 MGD Self-Cleaning Wet Well Pump Station

***Anthony Elberti, Gannett Fleming (aelberti@gfnet.com)***

**9:00 AM – 9:30 AM**

How the COVID-19 Challenge Illuminated Opportunity

Transformational Change with Collection System Maintenance

***Jay Boyd, ADS Environmental Services (jboyd@idexcorp.com)***

**9:30 AM – 10:00 AM**

Using Smart Infrastructure for Stormwater Capture

***Kevin Flis, Xylem (kevin.flis@xylem-inc.com)***

**11:00 AM – 11:30 AM**

When Best-Laid Plans Go Awry:

Adapting BEM Deployment to Meet Specific Project Challenges

***Seth Finnicum, Arcadis (seth.finnicum@arcadis.com)***

*Viktor Cieslik, Arcadis*

*Martin Roubal, Rock Solid Group*

*Paul Batman, Arcadis*

**11:30 AM – 12:00 PM**

Comprehensive Force Main Inspection Using Non-Destructive Testing

***Christopher Wilson, Brown and Caldwell (cwilson@brwn-cald.com)***

*Venedra Whigham, WSSC Water*

*Peter Buehlmann, Brown and Caldwell*

**12:00 PM – 12:30 PM**

COVID-19 Modern Trash Loading Proves Sewage Pump

Clog Resistance Cannot Be Predicted by Impeller Throatlet Size

***Robert Domkowski, Xylem, Inc. (bob.domkowski@xylem-inc.com)***

**2:00 PM – 2:30 PM**

The HGL Control Structure – “The Heart of the RiverRenew Tunnel System”

***Kelvin Coles, Brown and Caldwell (kcoles@brwn-cald.com)***

*Caitlin Feehan, Alexandria Renew Enterprises*

*Justin Carl, Brown and Caldwell*

*Edward Cronin, Brown and Caldwell*



# TECHNICAL PROGRAM SCHEDULE

## THURSDAY SEPTEMBER 2, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### 2:30 PM – 3:00 PM

Mitigating Urban Flooding in a Combined Sewer Area:

A Philadelphia Case Study

***Elise Ibendahl, Jacobs Engineering Group, Inc.***

*(elise.ibendahl@jacobs.com)*

**Erik Haniman, Philadelphia Water Department**

### 3:00 PM – 3:30 PM

DC Water at Work: Washout Mitigation of Potomac

Interceptor from Recent Record-Breaking Flooding Storms

***shikui Bian, DC Water (sbian@yahoo.com)***

**Eyasu Yilma, DC Water**

*Renni Zhao, DC Water*

*Getachew Melsew, DC Water*

### 4:00 PM – 4:30 PM

Permitting from A to Z –

NEPA EA, ARPA, Section 106, Section 408, JPA, ESC, SUP, FONSI  
with NPS, USACE, MDE, MHT, SHA, CSX, DNR for the CSO System

***Andrew Cooper, WRA (acooper@wrallp.com)***

**Robert Smith, City of Cumberland, MD**

### 4:30 PM – 5:00 PM

Will My Pump Stations Flood?

A summary of Baltimore County's Flood Resiliency Study

***Monty Simon, Johnson, Mirmiran & Thompson, Inc. (msimon@JMT.com)***

**David Cox, Johnson, Mirmiran & Thompson, Inc.**

*Lisa Eicholtz, Baltimore County DPW*

*John Krysztofiak, Baltimore County Department of Public Works*

*Ben Asavakarin, Johnson, Mirmiran and Thompson, Inc.*

### 5:00 PM – 5:30 PM

B Street/New Jersey Avenue Trunk Sewer Rehabilitation and Cleaning Project

***Scott Stangle, Arcadis (scott.stangle@acradis.com)***

**Peter Tinubu, DC Water**



## FRIDAY SEPTEMBER 3, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 201/202 • WASTEWATER TREATMENT & SOLIDS PROCESSING

#### 8:30 AM – 9:00 AM

Pathogen Log-Removal Credits for

Membrane Bioreactors in Potable Reuse Systems

***Prarthana Pradhan, Carollo Engineers (ppradhan@carollo.com)***

*Nicola Fontaine, Carollo Engineers*

*Larry Morris, Kubota Membrane USA Corp.*

*Amos Branch, Carollo Engineers*

#### 9:00 AM – 9:30 AM

Delivering the Benefits of Sidestream RAS Fermentation:

Full-Scale Experience at Charlotte Water's McAlpine Creek WWMF

***Greg Knight, Black & Veatch (knightgj@bv.com)***

*Kit Eller, Charlotte Water*

*Kristin Frederickson, Black & Veatch*

*James Barnard, Black & Veatch*

#### 9:30 AM – 10:00 AM

What Did We Learn from the Full-Scale Implementation of the Continuous Flow Aerobic Granular Sludge Process using an External Selector?

***Pusker Regmi, Brown and Caldwell (pregmi@brwnncald.com)***

*Jose Jimenez, Brown and Caldwell*

#### 10:00 AM – 10:30 AM

Demonstration of Sidestream Enhanced

Biological Phosphorus Removal at WSSC Water

***Yerman Saavedra, WSSC Water (yerman.saavedra@wsscwater.com)***

*Caroline Nguyen, WSSC Water*

*George Johnson, WSSC Water*

*Mike Hanna, Black and Veatch*

#### 10:30 AM – 11:00 AM

Adaptive Mixing and Better Biological Nutrient Removal

***Chris Stanton, Xylem Inc. (chris.stanton@xylem.com)***

#### 11:00 AM – 11:30 AM

Enhanced Domestic Primary Wastewater Treatment Utilizing

Pile Cloth Media Filtration for Operational Savings & Sustainability

***John Dyson, Aqua-Aerobic Systems, Inc. (jdyson@aqua-aerobic.com)***



# TECHNICAL PROGRAM SCHEDULE

## FRIDAY SEPTEMBER 3, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 203/204 • UTILITY MANAGEMENT

#### 8:30 AM – 9:00 AM

Understanding the Risk & Resilience Assessment and Emergency Response Plan Requirements under America's Water Infrastructure Act  
***Patti Kay Wisniewski, EPA Region 3 (wisniewski.patti-kay@epa.gov)***

#### 9:00 AM – 9:30 AM

Water Contamination Incident Preparedness: Analytical Support Planning  
***Angela Leersnyder, ORISE Fellow at U.S. EPA (leersnyder.angela@epa.gov)***  
*Veronica Aponte-Morales, U.S EPA, Water Security Division*

#### 9:30 AM – 10:00 AM

Show Me the Money! Exploring Utility Workforce Retention and Compensation; Harford County, Maryland DWS  
***Robert Ryall, Arcadis (robert.ryall@arcadis.com)***  
**William Bettin, Harford County, MD**  
*Zakiya Seymour, Arcadis*  
*Isaisa Espinoza, Arcadis*

#### 10:00 AM – 10:30 AM

Educating Essential Workers Through Healthier Waterways: RiverRenew Training Modules  
***Caitlin Feehan, Alexandria Renew Enterprises (caitlin.feehan@alexrenew.com)***  
*Justin Carl, Brown and Caldwell*  
*Sarah Gohier, Brown and Caldwell*

#### 10:30 AM – 11:00 AM

Mentoring Youth in Underserved Communities Benefits both Students and Water Sector Workforce  
***Kayla Yingst, Alexandria Renew Enterprises (kayla.yingst@alexrenew.com)***

#### 11:00 AM – 11:30 AM

Development of an Automatic Dispenser to Supply Water in the Ger Area of Ulaanbaatar, Mongolia  
***Jeannette Laramée, Stantec (jeannette.laramée@stantec.com)***

# TECHNICAL PROGRAM SCHEDULE



## FRIDAY SEPTEMBER 3, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 205/206 • WATER SYSTEM INFRASTRUCTURE

#### 8:30 AM – 9:00 AM

Critical Steel Water Main Condition Assessment on the Hill

***Bisrat Abebe, DC Water (bisrat.abebe@dcwater.com)***

**Kris Embry, PICA**

*Jennifer Howells, Arcadis*

#### 9:00 AM – 9:30 AM

Looking at Lead from a Different Perspective –

The Role of Water Quality Profiling/Sequential Sampling

***John Civardi, Mott MacDonald (john.civardi@mottmac.com)***

*Kemal Niksic, Mott MacDonald*

#### 9:30 AM – 10:00 AM

An Incentivized Approach to Replacing Lead Water Service Lines

***Teresa Wong, Mott MacDonald (teresa.wong@mottmac.com)***

**John Deignan, DC Water**

*Gian Cossa, DC Water*

*Deidre Saunders, DC Water*

#### 10:00 AM – 10:30 AM

Soup to Nuts: Evolution of Water Main

Replacements to Complete Streets Projects

***David Kerr, Barton & Loguidice DPC (dkerr@bartonandloguidice.com)***

**Thora Burkhardt, City of Annapolis**

#### 10:30 AM – 11:00 AM

Plan C: When CIPP Lining Fails Under I-95

***Evan Andrews, Michael Baker International***

*(evan.andrews@mbakerintl.com)*

**Paul DiMarco, Howard County DPW, Utility Design Division**

#### 11:00 AM – 11:30 AM

Trust the Process – The Washington Suburban Sanitary Commission's  
Standardized Evaluation Process for Systemwide PCCP Replacement

***Scott Pendergrass, Mott MacDonald (scott.pendergrass@mottmac.com)***

**Abiola Akin-Ajayi, Washington Suburban Sanitary Commission**





# TECHNICAL PROGRAM SCHEDULE

## FRIDAY SEPTEMBER 3, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 215 • WASTEWATER TREATMENT & SOLIDS PROCESSING

8:30 AM – 9:00 AM

Using CFD Modeling to Visualize and Improve Granular Sludge Separation

***Beate Wright, Carollo Engineers (bwright@carollo.com)***

**Tanja Rauch-Williams, Carollo Engineers**

*Sudhir Murthy, NEWhub*

*Haydee De Clippeleir, DC Water*

*Ed Wicklein, Carollo Engineers*

9:00 AM – 9:30 AM

Impact of Thermal Hydrolysis Pretreatment & Anaerobic Digestion on the Formation of Dissolved Organic Nitrogen Recalcitrant to Aerobic Incubation

***Dian Zhang, Stantec (dian.zhang@stantec.com)***

*Mary Strawn, Arlington County*

*Zhaohui An, Virginia Tech*

*Zhiwu Wang, Virginia Tech*

9:30 AM – 10:00 AM

Coagulant/Flocculant 101 –

Basic Chemistry, Handling/Storage, Activation/Mixing, and Optimization

***Yong Kim, UGSI Solutions, Inc. (ykim@ugsicorp.com)***

10:00 AM – 10:30 AM

The Role of Online Instrumentation in Enhanced Nutrient Removal (ENR)

***Benjamin Barker, YSI Inc., a Xylem brand***

***(benjamin.barker@xyleminc.com)***

**Martin Johnson, Washington Suburban Sanitary Commission**

10:30 AM – 11:00 AM

Benefits & Considerations of External Un-aerated Zones

When Upgrading Existing Facilities for Nutrient Reduction

***Garrett Sheehan, Carollo Engineers (gsheehan@carollo.com)***

11:00 AM – 11:30 AM

Plant Analysis in an Era of Unpredictable Weather

***Lee Tharps, Jacobs (lee.tharps@jacobs.com)***

*Malcolm Taylor, WSSC*

*Megan Brown, Jacobs*



## FRIDAY SEPTEMBER 3, 2021

Speakers' names in bold italics, Co-speakers' names in bold, Co-authors' names in italics.

### ROOM 217 • ENGINEERING ETHICS

8:30 AM – 9:30 AM

Knowing When You're Standing on the Edge of an Ethical Cliff

***Rebecca Bowman, National Society of Professional Engineers***

***(rbowman@nspe.org)***

Susan Sprague, Johnson, Mirmiran & Thompson, Inc.

### ROOM 217 • WASTEWATER COLLECTION SYSTEMS

9:30 AM – 10:00 AM

Risk Management on the Potomac Interceptor

***Eyasu Yilma, DC Water (eyasu.yilma@dcwater.com)***

**Abhiram Satyadev, DC Water**

*Kenrick StLouis, DC Water*

*Monique Mirabeau, DC Water*

*Abhiram Satyadev, DC Water*

10:00 AM – 10:30 AM

Clearwater Challenge –

Pitch Contest to Look for Innovation in Inflow and Infiltration

***Pat Burke, Ferguson Waterworks (pat.burke@ferguson.com)***

**Keith Tyson, WSSC Water**

10:30 AM – 11:00 AM

What Lurks Beneath:

T-Lock lined Vault and Manholes Condition Assessment and Renewal

***Kartik Radhakrishnan, Black & Veatch (kartik012345@gmail.com)***

*Brian Ball, Black & Veatch*

*Ian Fitz-James, Loudoun Water*

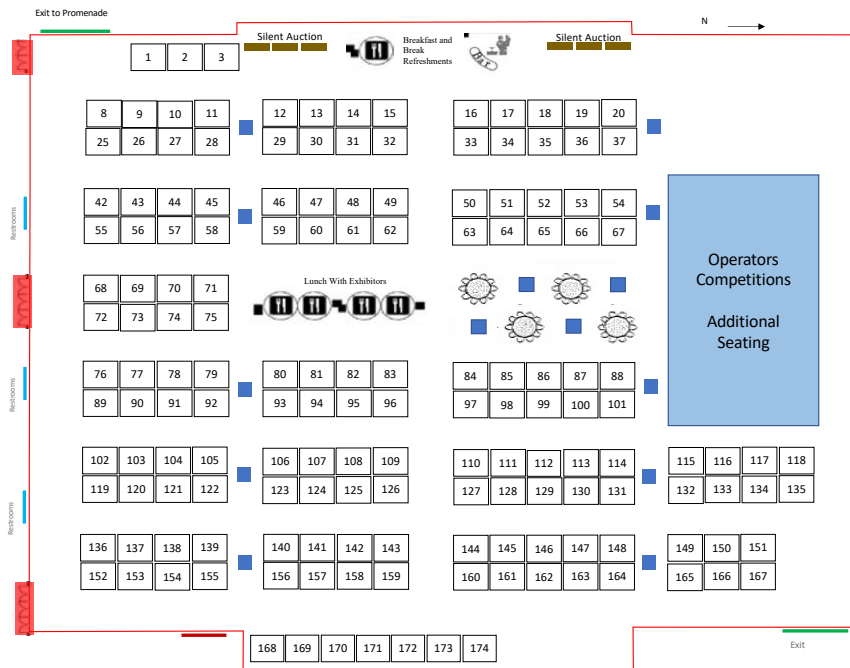
11:00 AM – 11:30 AM

It Still Runs! A Sewer Lift Station Condition Assessment

***Michael Ariante, Mott MacDonald (michael.ariante@mottmac.com)***



## EXHIBIT HALL LAYOUT



### EXHIBIT HALL HOURS:

**Tuesday, August 31**

Exhibitor Move-In  
8:00 AM – 6:30 PM

**Wednesday, September 1**

7:30 AM – 6:00 PM

**Thursday, September 2**

7:30 AM – Noon

**Thursday, September 2**

Exhibitor Move-Out  
Noon – 4:00 PM

**\*No entry into the Exhibit Hall  
without a Conference Badge.**

## EXHIBITOR LIST

Company Name	Booth No.	Company Name	Booth No.	Company Name	Booth No.
A.C.Schultes, Inc.....	123	Atlantic Machinery, Inc. ....	32	Chesapeake Environmental Equipment .....	157
ADS LLC.....	79	Atlantic Valve & Equipment .....	50	Cintas .....	11
Aegion .....	2	Avanti International .....	35	CJGeo .....	48
Airvac – A brand of Aqseptence Group .....	171	Badger Meter, Inc.....	20	Cla-Val Co. ....	140
ALS Environmental.....	51	Barton & Loguidice.....	98	Core and Main.....	10
American Contracting & Environmental Services, Inc. (ACE) .....	112	BCR Environmental Corporation .....	87	Cornell Pump Company.....	63
AMERICAN Ductile & Spiralweld Pipe.....	43	Bingham & Taylor Corp.....	37	Coyne Chemical Environmental Services.....	85
AMES, Inc. /OverWatch™.....	95	Bioworks .....	170	Coyne Chemical Environmental Services.....	66
AMES, Inc./Barnes Pump.....	94	Borger Pump .....	82	CUES, Inc. ....	100
Aqueous Sales Inc.....	44	Bowen.....	160	Davis, Bowen & Friedel, Inc.....	165
ASCO Power Technologies by Schneider Electric .....	12	CB&I Storage Tank Solutions LLC .....	119	Denali Water Solutions, LLC.....	45
		Charles Morrow and Associates .....	54	Dennis Sales & Service Inc.....	42
		Charles Morrow and Associates .....	67	DIS Diversified Infrastructure Services .....	34



Company Name	Booth No.	Company Name	Booth No.	Company Name	Booth No.
Dixon Engineering, Inc.	89	Innovative Treatment Products, Inc.	85	Preload, LLC	90
DN Tanks	97	Innovyze	145	Pureflow Filtration	149
Ductile Iron Pipe Research Association	57	Intercoastal Trading Inc.	31	Pureflow Filtration	150
Duke's Root Control, Inc.	122	IPEX USA LLC	33	Pureflow Filtration	151
Duncan Parnell	17	ITpipes	148	PVC Pipe Association	18
Dutchland, Inc.	156	JDV/Alfa Laval	154	Pyrz Water Supply Co., Inc.	108
EA Engineering, Science, and Technology, Inc., PBC	49	JET BLAST Inc.	114	RedZone Robotics	62
Eastern Controls, Inc.	146	Kaeser Compressor/Franklin Miller	60	RF Valves	158
EBA Engineering, Inc.	93	Kamstrup Water Metering	8	Riordan Materials	61
ECS/Hydro-Dyne	138	Kappe Associates, Inc.	69	Rockacy and Associates, Inc.	141
Engineering Design Technologies Inc.	113	Kappe Associates, Inc.	70	Rockacy and Associates, Inc.	142
Envirep, Inc.	76	KCI Technologies	26	Sandblast Solutions Inc.	25
Environmental Solutions-CBR, Inc.	161	Kemira Water Solutions Inc.	101	SANEXEN/LOGISTEC Environmental Inc.	105
EOS	134	Kershner Environmental Technologies, LLC	84	Sekisui SPR Americas, LLC	132
Evoqua Water Technologies	59	Keystone Engineering Group, Inc.	88	Sherwood-Logan and Associates	136
Exeter Supply Co Inc.	99	LaBella Associates	131	Sol Systems	52
Ferguson Waterworks	102	Landmark Structures	28	Southern Design	71
Flow Assessment Services, LLC	15	LB Water/Sensus	63	Southern Design	75
FlowCam by Yokogawa Fluid Imaging Technologies, Inc.	29	LB Water/Sensus	64	Spiniello Companies	27
Fluid Solutions, Inc.	16	Madewell Products Corporation	3	Standard Solar	169
Freemire & Associates	30	Magyar and Associates	128	STH Inc.	13
Gardner O'Connor	121	Maryland Chemical Company, Inc.	47	SUEZ Advanced Solutions	9
Garney Construction	74	Maryland Industrial Trucks Inc.	127	Suez- Zenon/Inflico/Ozonla	139
Geiger Pump & Equipment Co.	68	Maryland Rural Water Association	162	Sulzer	159
Geiger Pump & Equipment Co.	72	MLK & Assoc.	124	Swan Analytical USA	174
George, Miles & Buhr, LLC	143	MLK & Assoc.	125	Sydnor Hydro, Inc.	56
GeoTree Solutions	118	MLK & Assoc.	126	Tank Industry Consultants	92
GF-URECON Ltd	129	Mobile Dredging & Video Pipe	147	Tnemec Company	14
Golden Harvest	62	Mr. Rehab, Inc.	111	Town of Millsboro	36
Granite Inliner	130	Mueller Co.	103	Trihedral	167
Gwin Dobson & Foreman, Inc.	166	Mueller Systems	104	Trinity Subsurface	117
Hayward Flow Control	164	Mumford-Bjorkman Assoc.	144	Trumbull Mfg.	46
Herbert, Rowland & Grubic, Inc.	19	Neo Water Treatment	163	U.S. EPA Water Security Division	133
Heyward, Inc.	80	Neptune Technology Group	135	Ulliman Schutte	58
HOBAS Pipe USA	96	North East Technical Sales, Inc.	107	Utility Cloud	53
Hungerford & Terry, Inc.	91	Northwest Pipe Co.	78	Valve Tech Sales	168
Hydra-Stop	115	Parkson Corporation	86	Vaughn Company	81
HydroCorp	110	PC Construction Company – South Burlington, VT1		Victaulic	116
Hydrostructures	109	PEER Consultants, P.C.	120	Wachs Utility Products	173
Induron Protective Coatings	55	Penn Valley Pump	137	Watson-Marlow/Weston	155
Infrastructure Solutions Group	73	Pennoni	77	Xylem Flygt.	152
		Pleasants Construction	106	Zurn	172
		Poly Processing	153		



# BOARD MEMBERS & COMMITTEE CHAIRS

## CSAWWA 2020–2021 OFFICERS & COMMITTEE CHAIRS

Chair, Awards Chair, Finance Chair .....	Jonathan Madagu
Past Chair, Nominations, Strategic Planning .....	Rob Penman
Chair Elect, Conference Mgmt. Co-Chair, Program Chair .....	Ann McPherson
Secretary/Treasurer, Tri-Con Committee Voting Member .....	Jay Kirk
Asst. Secretary/Treasurer, By-Laws Chair .....	Elford Jackson
Trustee – Events and Communications .....	Andrew Fuller
Trustee – Community Relations and Partnerships .....	Anna Kazasi
Trustee – Membership and Demographics .....	Nick Lewis
Trustee – Technical Committees .....	Benjamin Thompson
Director, 2020–2023 .....	Angela Ballard-Landers
Executive Director .....	Rachel Ellis
Bylaws .....	Andy Cooper
Community Engagement .....	Nicole Horvath
CTA Board Liaison .....	Eric Held
Public Relations .....	George Rest
Diversification Management .....	Becc Jimenez
Government Affairs .....	J. Scott Shipe
Chesapeake Magazine Editor .....	Teresa DiGenova
Manufacturers/Engineers Resource Council, Tri-Con Committee Voting Member .....	Eric Held
Membership .....	Niccole Boulay
Spring Meeting .....	Abbie Smith
Operations Co-Chair .....	James (JC) Langley
Operations Co-Chair .....	Robert Swann
Safety .....	J. Michael Lewis
Student Activities Chair .....	Annie Ding
Communications, e-newsletter Editor .....	Rebecca Jimenez
Strategic Outreach .....	Aaron Duke
Asset Management .....	Prabhushankar Chandrasekeran
Water Distribution .....	Patrick Burke
Water Distribution Vice Chair .....	James LeMire
Water Quality .....	Jeremy Hise
Water ReUse (joint with CWEA) .....	Kelly Landry
Young Professionals .....	Chris Caro
Young Professionals Vice Chair .....	Michael Skerritt
MDE Liaison .....	Jay Price
US EPA, USDA Small Systems Training .....	John Moore
Water For People .....	Carrie Kruger
Delaware Events .....	Joe Nattress
Utilities .....	Chein-Chi Chang
Source Water Protection .....	Clark Howells
Short Courses Committee .....	Rob Swann
Short Courses Committee .....	J. Michael Lewis
Short Courses Committee .....	Angela Ballard-Landers
Short Courses Committee .....	Dave Wilkins
Short Courses Committee .....	Dinesh Bahadurshingh



## CWEA 2020–2021 OFFICERS & COMMITTEE CHAIRS

Past President .....	Aaron Hughes
President.....	Laura Oakes
President Elect.....	Gian Cossa
Vice-President .....	Cece Nguyen
Treasurer.....	Alan Will
Secretary.....	Cheryl Paulin
Trustee – MD.....	Clarence Beverhoudt
Trustee – DC .....	Gary Moore
Trustee – DE.....	Rebecca Winer-Skonovd
WEF Delegate .....	Ellen Frketic
WEF Delegate .....	Tim Wolfe
CTA Representative .....	Kraig Moodie
Utility Member Representative.....	Jessica Shiao
Audit Chair .....	Kraig Moodie
Awards Chair .....	Eric Held
Budget & Finance Chair.....	Ellen Frketic
Business Practices Chair .....	Gary Moore
Bylaws Chair.....	Alan Will
Nominations Chair.....	Gian Cossa
Publications Chair .....	Aaron Hughes
Publications Co-Chair.....	Chaka Kamran
Publications Co-Chair.....	Islam Khallaf
Sponsorship Chair.....	Mike Cecil
Sponsorship Vice-Chair .....	Cheryl Paulin
Strategic Planning & Implementation.....	Burt Curry
Membership Chair .....	Charles Poskas
Membership Vice-Chair .....	Damion Lampley
Public Communications & Outreach Chair.....	Pamela Rowe
Student Activities Liaison .....	Pono Hanson
Student Activities Co-Chair .....	Chris Overcash
Student Activities Co-Chair .....	Jessica Shiao
Young Professionals Co-Chair .....	Alana Gildner
Young Professionals Co-Chair .....	Sanyukta Gokhale
Asset Management Chair .....	Ed Shea
Collection Systems Chair .....	Mike Hoffmaster
Collection Systems Vice-Chair.....	Madeleine Driscoll
Fly-In Chair.....	J. Scott Shipe
Government Affairs Chair.....	Marlou Gregory
Laboratory Practices Chair.....	Jegnaw Essatu
Laboratory Practices Vice-Chair .....	Dale Baker
Plant Operations, Maintenance, and Safety Chair .....	Kenrick St Louis
Plant Operations & Maintenance and Safety Vice-Chair .....	Gregory Stephens
Residuals & Biosolids Management Chair .....	Hahns Hairston
Residuals & Biosolids Management Vice-Chair.....	Mark Ramirez
Spring Meeting Chair .....	Chein-Chi Chang
Spring Meeting Vice-Chair .....	Chrissie Swann



## BOARD MEMBERS & COMMITTEE CHAIRS

### CWEA 2020–2021

#### OFFICERS & COMMITTEE CHAIRS *(CONTINUED)*

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Stormwater Chair .....	Jessica Seipp	
Technical Education Chair .....	Matt Zelin	
Technical Education Vice-Chair .....	Chike Monwuba	
Water Reuse Chair .....	Peter Buehlmann	
CWEA Short Course Committee ...	Scott Harmon, Bill Farrell, Noelle Anuszkiewicz, Darryl Noakes .....	, Wayne Reed
CWEA Tri Association Conference Committee Reps .....	Gian Cossa, Clarence Beverhoudt, Pono Hanson, Islam Khallaf	
MDE W/WW Board Liaison.....	Clark Howells	
Mentorship Co-Chair .....	Kraig Moodie	
Mentorship Co-Chair .....	Dennis Hasson	
Mentorship Vice-Chair .....	Sophia Liskovich	
SJWP Committee Chair .....	Jennifer A Kaberline	
Training, Review, & Evaluation Chair .....	Clark Howells	
Howard Student Chapter Advisor .....	Jeseth DelGado	
UDC Student Chapter Advisor.....	Azam Hossain	
CWEA Executive Administrator .....	Traci Storm	



## WWOA 2020–2021 OFFICERS & COMMITTEE CHAIRS

President.....	Tara Jones
President Elect.....	Cori Cameron
Vice President.....	Scott Getchell
Past President .....	Bob Johns
Secretary.....	Kristy McAndrew
Treasurer.....	Mike Emery
Assistant Treasurer.....	Karl Ott
Trustee, Delaware .....	Paul Hignutt
Trustee, District of Columbia .....	Chris Cusic
Trustee, Maryland .....	Jim Robey
Eastern Shore Director .....	Jeff Lambert
Central Section Director.....	Frank Owens, Jr./Wanda Proctor
Southern Section Director .....	Brad Washington/Tom Spalding
Western Section Director .....	Bruce Darner
Awards Committee Chair .....	Kevin Quinn
By-Laws Committee Chair .....	Karl Ott
Certification Liaison, District of Columbia .....	Gregory Stephens
Certification Liaison, Delaware .....	Sarah Smith
Certification Liaison, Maryland .....	Bruce Darner
Ecoletter Magazine.....	Floyd Johnson
Education Committee Chair .....	Sharita Lyle
Membership .....	Jessalyn Cockrell
Nominations .....	Cori Cameron
Public Relations Committee Chair.....	Winfield McKell
Short Course Committee Chair.....	Winfield McKell
TRE Committee Representative .....	Ed Hogan
Tri-Association Conference .....	Mike Emery
Chesapeake Tri-Association .....	Karl Ott
Website.....	Anthony Rocco
Executive Administrator .....	Rachel Ellis
Administration .....	Louisa McMorow





## BOARD MEMBERS & COMMITTEE CHAIRS

### **CSAWWA 2021–2022 Slate of Officers**

Chair – Ann McPherson  
Past-Chair – Jonathan Madagu  
Chair-Elect – Jay Kirk  
Secretary-Treasurer – Elford Jackson  
Assistant Secretary-Treasurer – Anna Kazasi  
Director – Angela Ballard-Landers  
Trustee – Ben Thompson  
Trustee – Nick Lewis  
Trustee – Annie Ding  
Trustee – Pat Burke

### **CWEA 2021–2022 Slate of Officers**

#### ***Automatic Advancements***

President – Gian Cossa  
President Elect – Cece Nguyen  
Past President – Laura Jo Oakes

#### ***Continuing Term in Office***

Secretary – Cheryl Paulin  
DC Trustee – Gary Moore  
WEF Delegate – Tim Wolfe  
WEF Delegate – Ellen Frketic  
CTA Director – Kraig Moodie

#### ***New Term in Office***

Vice President – Clarence Beverhoudt  
Treasurer – Alan Will  
MD Trustee – Jegnow Essatu  
Utility Member Representative – Jessica Shiao

### **WWOA 2020–2021 Slate of Officers**

President – Cori Cameron  
Past President – Tara Jones  
President Elect – Scott Getchell  
Vice President – Bob Johns  
Secretary – Kristy McAndrew  
Treasurer – Mike Emery  
Maryland Trustee – Jim Robey  
Delaware Trustee – Paul Hignutt  
District of Columbia Trustee – Chris Cusic



### 2021 CONFERENCE HOTELS

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*\*Rates do not include tax*

The Conference Committee has negotiated blocks of rooms at Ocean City Hotels for the 2021 Tri-Association Conference. Conference rates are available Monday, August 30 through Thursday, September 2, 2021 (Friday checkout). Room blocks at each hotel are limited and most close by July 30, 2021, or when the block is filled, so make your reservations early (see specific hotel dates below). **To obtain the Conference rate, you must call the hotel directly and ask for the “Tri-Association Conference” rate.**

#### **Aloft Ocean City**

4501 Coastal Highway, Ocean City, MD 21842

Phone: 888-236-2427

\$249 per night

Cut-off: 7/30/2021

Two-night minimum

#### **Best Western Ocean City Hotel and Suites**

5501 Coastal Highway, Ocean City, MD 21842

Phone 443-664-4001

\$139–\$159 per night

Cut-off: 7/31/2021

#### **Best Western Plus Ocean City**

6007 Coastal Highway, Ocean City, MD 21842

Phone: 410-524-6100

\$150–170 per night

Cutoff: 7/31/2021

#### **Clarion Resort Fontainebleau Hotel**

10100 Coastal Highway, Ocean City, MD 21842

Phone: 800-638-2100

\$165–\$365 per night

Cut-off: 8/1/2021

Two-night minimum

### **Dunes Boardwalk Suites**

2716 Atlantic Avenue, Ocean City MD 21842

Phone: 410-289-1100

\$199 per night

Cut-off: 8/9/2021

### **Dunes Manor Hotel**

2800 Baltimore Avenue, Ocean City, MD 21842

Phone: 410-289-1100

\$219 per night

Cut-off: 8/9/2021

### **Grand Hotel**

2100 Baltimore Avenue, Ocean City, MD 21842

Phone: 800-447-6779

\$140–\$170 per night

Cut-off: 7/30/2021

### **Princess Royale (Conference Hotel)**

9100 Coastal Highway, Ocean City, MD 21842

Phone: 410-524-7777

\$199–\$499 per night

Cut-off: 7/30/2021

### **Princess Bayside**

*\*Under New Management\**

4801 Coastal Highway, Ocean City, MD 21842

Phone: 888-622-9743

\$109–\$149 per night

Cut-off: 7/31/2021

Two-night minimum



## EARLY BIRD REGISTRATION RATES

Early Bird Registration ends August 10, 2021 at 11:59 PM, after which time Standard Rates apply. Standard Rates are \$75.00 more than Early Bird rates shown in the table.

Registration Options	Member	Certified Operator	Non-Member	Full-Time Student	Retiree
Full Conference: Complete Package	\$300	\$250	\$370	N/A	N/A
Full Conference: No Ticketed Events	\$250	\$200	\$320	\$65	\$125
One-Day Registration: Wednesday	\$200	\$150	\$270	\$25	N/A
One-Day Registration: Thursday	\$200	\$150	\$270	\$25	N/A
One-Day Registration: Friday	\$100	\$100	\$160	\$25	N/A

*To get the Member rate, you or your utility must be a current member of one of the three associations (CWEA, CSAWWA, or WWOA). Your membership in AWWA or WEF must be with the Chesapeake affiliate/section.*

*To get the Retiree rate, you must not be working in the industry at this time. All attendees must register for the 2021 Tri-Association Conference online. You can access registration through the conference website: [www.ChesapeakeTriCon.org](http://www.ChesapeakeTriCon.org).*

### Early Bird Registration ends: August 10, 2021 at 11:59 PM (\$75 savings)

Standard Conference Registration pricing begins at the close of Early Bird Registration. Full payment is required at the time of registration.

### Full Conference: Complete Package

Includes access to Technical Sessions, Exhibit Hall, non-ticketed Social Events, one ticket to Wednesday Night Seacrets Event, and one ticket to an Association Luncheon/Meeting (CSAWWA, CWEA, or WWOA).



## REGISTRATION INFORMATION

### Full Conference: No Ticketed Events

Includes access to Technical Sessions, Exhibit Hall, and non-ticketed Social Events.

### One-Day Registration

Includes access to Technical Sessions, Exhibit Hall (Wednesday or Thursday only), and non-ticketed Social Events for that day.

## ADDITIONAL SELECTIONS

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### Golf at the Ocean City Golf Club – Tuesday, August 31, 2021

The Pre-Conference Golf Outing will be held on Tuesday at the Ocean City Golf Club. Sign-In 11:00 AM to 12:30 PM with Shotgun Start at 12:30 PM. Golf registration is handled separately from conference registration. Register online at: [www.chesapeakecon.org/registration.html](http://www.chesapeakecon.org/registration.html). Cost: \$100 per individual and \$400 for a foursome.

### 5K Water For People Fun-Run/Walk – Wednesday, September 1, 2021

The 5K WFP Fun-Run/Walk will be held on Wednesday at 7:00 AM on the Boardwalk at the Grand Hotel (21st Street). Early Bird Registration Cost: \$30/Standard Registration Cost: \$40.

### Women's Networking Event – Wednesday, September 1, 2021

At this year's Women's Networking Happy Hour, our panel of experts at various stages of their career will share their experiences in the water/wastewater industry and discuss solutions, successes, approaches, and allies. Please join us in the Bayfront Ballroom from 5:00 PM to 6:30 PM to enjoy refreshments and lively discussions!

### Fun Night at Seacrets – Wednesday, September 1, 2021

Note: Seacrets tickets must be purchased by Tuesday, August 31, 2021. NO INDIVIDUAL TICKETS WILL BE SOLD AT THE CONFERENCE ON WEDNESDAY OR AT THE DOOR. Must be 21 years or older to enter. Cost: \$70 per ticket.

### Business Luncheons/Meetings – Thursday, September 2, 2021

All three organizations (CSAWWA, CWEA, and WWOA) will hold their annual business luncheons/meetings concurrently on Thursday. Tickets are required for attendance at the business lunch. Cost: \$45 per ticket.

# REGISTRATION INFORMATION



## **Young Professionals Happy Hour – Thursday, September 2, 2021**

All are welcome to join the Young Professionals on Thursday for a fun night of networking! We will be enjoying happy hour and appetizers at Skye Bar on 66th Street from 6:30 PM to 9:00 PM. Registration includes one happy hour drink and appetizers. Registration cost: \$15.

## **Guest Badges**

All guests who wish to attend the non-ticketed Social Events, including breakfasts, breaks, receptions and other social events, will need to purchase a Guest Badge. Cost: \$135 per guest. Guest tickets are intended for those persons accompanying an attendee for non-business-related purposes. All attendees wishing to conduct business must register for the conference.

## **Free Rides on Ocean City Buses!**

All conference attendees, exhibitors, and registered guests (with a name badge) can ride the Ocean City buses free of charge by showing their 2021 Tri-Association Conference name badge between Tuesday August 31, 2021 at 2 PM and Friday September 3, 2021 at noon.

# THE FINE PRINT

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## **Payment Methods**

Registration can only be purchased using a credit card – no cash or checks will be accepted for registration either in advance or at the conference. Upon completion of your registration, you will receive a confirmation that will show what was purchased, the type of payment used, and the amount paid.

## **Cancellations**

All cancellation requests must be made in writing (see next page for contact information) and received by the Registrar no later than August 10, 2021 at 11:59 PM. Refunds will be issued minus a 20% administrative fee for cancellations received before August 10, 2021 at 11:59 PM. No refunds will be issued for requests received after August 10, 2021 at 11:59 PM.



## REGISTRATION INFORMATION

### On-Site Registration

On-site registration will be available at the convention center. On-site registration can be done at the Cyber Café or at the On-Site Registration Desk. Note: Lines may be long for on-site registration so allow plenty of time to register before the sessions.

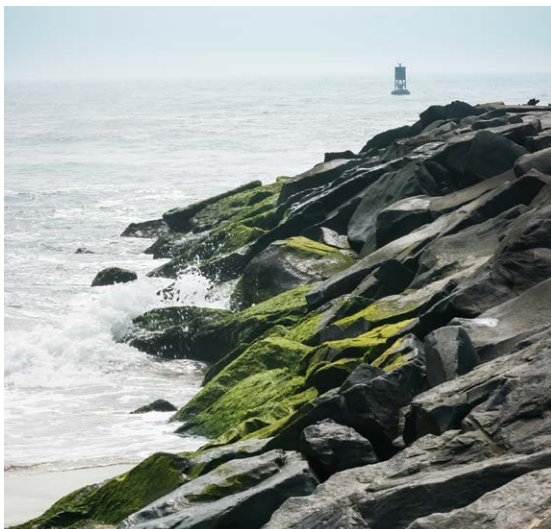
### Registration Information

Registered attendees can pick up their conference badge and tickets at the Registration Desk. Technical Session Attendance Forms, Conference Brochure, and any updates to conference information will be available at the Information Desk.

### Contact the Registrar

If you have questions about the online registration process or systems, please contact RCS at [tricon2021@rcsreg.com](mailto:tricon2021@rcsreg.com) or 805-654-0171. For all other general conference information, please contact us at [info@ChesapeakeTricon.org](mailto:info@ChesapeakeTricon.org). We will respond within one business day.

***CWEA, WWOA, AND CSAWWA thank you for your support!***



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