

Roland E. Powell Convention Center | Ocean City, MD
August 31 – September 3, 2021



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WELCOME TO THE 2021 TRI-ASSOCIATION CONFERENCE

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

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)



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

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

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

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

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

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

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!

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

To access the Exhibit Hall Wi-Fi:

SSID: CTAGuest2021 • Password: Brown&Caldwell

Sponsored by:



CONFERENCE APP

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

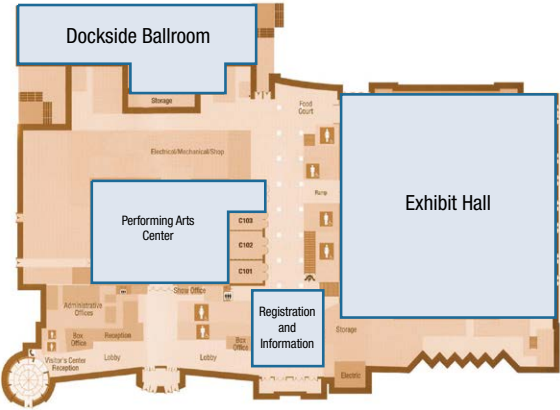
Alan Will, *JMT*
Convention Center Liaison (Chair)

Thank you, committee volunteers!

CONVENTION CENTER MAPS

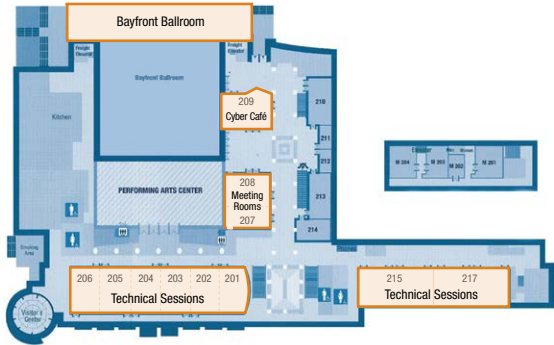


LEVEL 1



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
Registration First Floor 10:00 AM – 4:00 PM
Golf Outing Benefitting WFP Ocean City Golf Club, Berlin, MD Sign-In: 11:00 AM to 12:30 PM; Shotgun Start: 12:30 PM
Exhibitor Move-In Exhibit Hall 8:00 AM – 6:30 PM
Pre-Conference Workshop: PFAS Room 201 8:30 AM – 11:45 AM
Operations Challenge Equipment Set-Up & Team Check-In Exhibit Hall 12:00 PM – 5:30 PM

Wednesday, September 1	
5K Fun-Run/Walk Benefitting WFP Boardwalk at the Grand Hotel 7:00 AM	Break/Visit Exhibitors Exhibit Hall 10:00 AM – 11:00 AM
Registration/Check-In First Floor 7:30 AM – 5:00 PM	Opening Ceremony/Keynote Address Performing Arts Center 11:00 AM – 12:00 PM
Exhibits Open Exhibit Hall 7:30 AM – 6:00 PM	Lunch With Exhibitors Exhibit Hall Noon to 1:00 PM
Continental Breakfast Exhibit Hall 7:30 AM – 9:30 AM	Technical Sessions Rooms 201–206, 215, and 217 1:00 PM – 2:30 PM
Cyber Cafe Room 209 8:00 AM – 6:00 PM	Break/Visit Exhibitors Exhibit Hall 2:30 PM – 3:30 PM
Technical Sessions Rooms 201–206, 215, and 217 8:30 AM – 10:00 AM	Technical Sessions Rooms 201–206, 215, and 217 3:30 PM – 5:00 PM
Operations Challenge Pre-Competition Meeting Exhibit Hall 8:30 AM – 9:00 AM	Pipe Cutting Shootout Exhibit Hall 4:00 PM – 5:00 PM
Operations Challenge Exhibit Hall 9:00 AM – 5:00 PM	Shooters Happy Hour Exhibit Hall 4:00 PM – 5:00 PM
Biosolids Beauty Contest CWEA Table, Outside Rooms 201–206 9:00 AM – 11:00 AM	Women's Networking Event Bayfront Ballroom 5:00 PM – 6:30 PM
Silent Auction Benefitting EWB Exhibit Hall and eBay – Open 9:00 AM	Fun Night! Seacrets® (ticketed event) 7:00 PM – 11:00 PM



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

Friday, September 3
Registration/Check-In First Floor 7:30 AM – 10:30 AM
Continental Breakfast Top of escalator 8:00 AM– 9:30 AM
Cyber Cafe Room 209 8:00 AM – 10:30 AM
Technical Sessions Rooms 201–206, 215, and 217 8:30 AM – 11:30 AM
MDE Operator Certification Exam Bayfront Ballroom, 2nd Floor 9:00 AM – 12:00 PM
Last Chance for Technical Session Attendance Form Signatures Information Desk, 1st Floor 11:30 AM – Noon
Adjourn/Monster Door Prizes 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>Process Credit Water and Wastewater: 6920-21-03</p>



CONFERENCE HIGHLIGHTS

TUESDAY, AUGUST 31, 2021

REGISTRATION/CHECK-IN

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

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.

Sponsored by:



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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) 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.

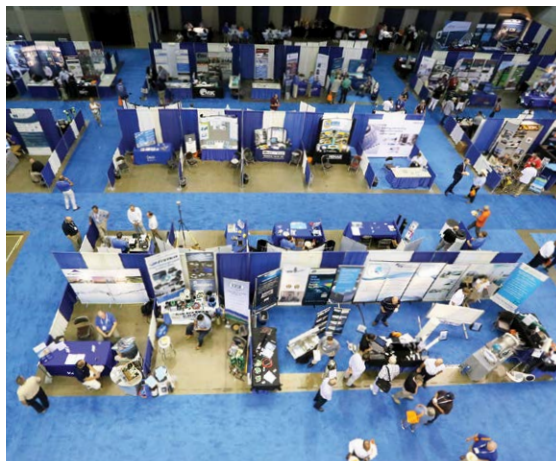
Registration: Register for golf through our online attendee registration system at www.chesapeakeetricon.org/golf.html.

For additional information, Contact Ron Tatariw, Tatariw, Inc., at 703-716-0770 or by email: 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.

EXHIBITOR MOVE-IN

8:00 AM to 6:30 PM • Exhibit Hall





CONFERENCE HIGHLIGHTS

TUESDAY, AUGUST 31, 2021

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



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

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

Sponsored by:



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) 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

REGISTRATION/CHECK-IN

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

EXHIBITS OPEN

7:30 AM to 6:00 PM • Exhibit Hall

CONTINENTAL BREAKFAST

7:30 AM to 9:30 AM • Exhibit Hall

Sponsored by:

**Barton
& Loguidice**

TECHNICAL SESSIONS

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

Sponsored by:



Michael Baker
INTERNATIONAL





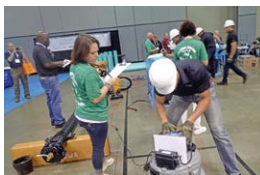
WEDNESDAY, SEPTEMBER 1, 2021

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

Sponsored by:



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).

BIOSOLIDS BEAUTY CONTEST

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

Contact Hahns Hairston at hahns.hairston@wsscwater.com for more information on submitting your entry.



CONFERENCE HIGHLIGHTS

WEDNESDAY, SEPTEMBER 1, 2021

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@brwnncald.com) for more information.

WEDNESDAY MORNING BREAK/VISIT EXHIBITORS

10:00 AM to 11:00 AM • Exhibit Hall

OPENING CEREMONY

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

Sponsored by:





WEDNESDAY, SEPTEMBER 1, 2021

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

LUNCH WITH EXHIBITORS

Noon to 1:00 PM • Exhibit Hall

Sponsored by:



TECHNICAL SESSIONS

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

WEDNESDAY AFTERNOON BREAK/VISIT EXHIBITORS

2:30 PM to 3:30 PM • Exhibit Hall

Sponsored by:



TECHNICAL SESSIONS

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

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

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®!

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!

Sponsored by:





CONFERENCE HIGHLIGHTS

WEDNESDAY, SEPTEMBER 1, 2021

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.

Sponsored by:



CONFERENCE HIGHLIGHTS



THURSDAY SEPTEMBER 2, 2021

REGISTRATION/CHECK-IN

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

EXHIBITS OPEN

7:30 AM to Noon • Exhibit Hall

Move-Out: Noon to 4:00 PM

CONTINENTAL BREAKFAST

7:30 AM to 9:30 AM • Exhibit Hall

Sponsored by:



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.



TECHNICAL SESSIONS

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

Sponsored by:



THURSDAY MORNING BREAK/VISIT EXHIBITORS

10:00 AM to 11:00 AM • Exhibit Hall

Sponsored by:





CONFERENCE HIGHLIGHTS

THURSDAY SEPTEMBER 2, 2021

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) or download the entry form at www.csawwa.org.



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.

Sponsored by:



TECHNICAL SESSIONS

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



THURSDAY SEPTEMBER 2, 2021

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

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

“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.

Sponsored by:



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

Sponsored by:



**REMINGTON
& VERNICK
ENGINEERS**

TECHNICAL SESSIONS

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



CONFERENCE HIGHLIGHTS

THURSDAY SEPTEMBER 2, 2021

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.

Sponsored by:



THURSDAY AFTERNOON BREAK

3:30 PM to 4:00 PM • Top of escalator

Sponsored by:



TECHNICAL SESSIONS

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



THURSDAY SEPTEMBER 2, 2021

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.

Sponsored by:



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

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.

Sponsored by:



CONFERENCE HIGHLIGHTS



FRIDAY, SEPTEMBER 3, 2021

REGISTRATION/CHECK-IN

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

CONTINENTAL BREAKFAST

8:00 AM to 9:30 AM • Top of escalator

Sponsored by:



TECHNICAL SESSIONS

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

MDE OPERATOR CERTIFICATION EXAM

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

LAST CHANCE FOR TECHNICAL SESSION

ATTENDANCE FORM SIGNING

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

ADJOURN/MONSTER DOOR PRIZES

11:45 AM • Information Desk, First Floor Lobby





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)

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)

9:30 AM – 10:00 AM

Infrastructure Asset Management

Nicole Clarke, Tank Industry Consultants (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)

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)

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)

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)

Allison Dyott, Anne Arundel County DPW



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

The Value of System Control: Lessons Learned
from the Chain Bridge Water Main Break

Ethan Vidal, Pure Technologies, a Xylem brand
(ethan.vidal@xyleminc.com)

Amani Eisa, Arlington County

3:00 PM – 3:30 PM

Break Reduction/Life Extension For Municipal Water Pipelines

Erin Nelson, Corpro Companies (enelson@aegion.com)

Dirk van Oostendorp, Corpro Companies

4:00 PM – 4:30 PM

Keeping an Eye and an Ear on the "Big Inch"

Ethan Vidal, Pure Technologies, a Xylem brand
(ethan.vidal@xyleminc.com)

Kate Zhao, Pure Technologies, a Xylem brand

4:30 PM – 5:00 PM

AlexRenew's "Smart Utility" Monitoring Technology

Michael Perkins, Brown and Caldwell (mperkins@brwnncald.com)

Caitlin Feehan, Alexandria Renew Enterprises

Kelvin Coles, Brown and Caldwell

5:00 PM – 5:30 PM

Underground Utility Protection Considerations and Measures

Lei Fu, Washington Suburban Sanitary Commission

(lei.fu@wsscwater.com)

Rosanna LaPlante, Washington Suburban Sanitary Commission

Haile Yerdaw, Washington Suburban Sanitary Commission





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 (javi.cantu1@gmail.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)

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)

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)
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)
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)
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)
Anuj Jain, Arcadis



THURSDAY SEPTEMBER 2, 2021

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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 Laramee, Stantec (jeannette.laramee@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

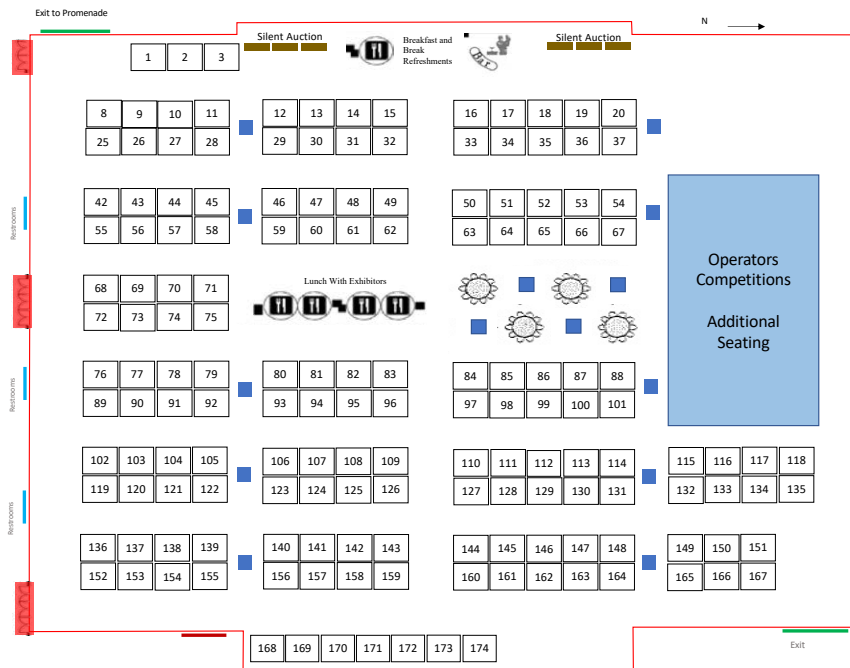


EXHIBIT HALL HOURS:

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.....	33
AMERICAN Ductile & Spiralweld Pipe.....	43	Bingham & Taylor Corp.....	37	Coyne Chemical Environmental Services.....	65
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)*

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

**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.

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

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. 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

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.

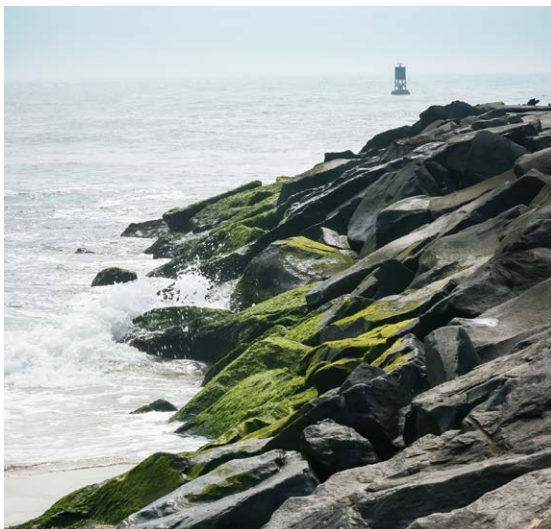
Registration Information

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 or 805-654-0171. For all other general conference information, please contact us at info@ChesapeakeTricon.org. We will respond within one business day.

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



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Hazen and Sawyer is proud
to be a continued supporter
of the Tri-Association
Conference.



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