On-site Program

New York’s Largest Water Quality Technical Conference & Exhibition!

95th Annual Meeting
NYC Marriott Marquis, February 6-8, 2023

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It’s been 3 years since we had the Annual Meeting in person and I am excited to be presiding over the 95th Annual Meeting! I hope you enjoy everything we have to offer.

Take a look inside, and I hope to see you over the next few days!

– Khris Dodson, NYWEA President
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Solutions for a world in motion
95th Annual Meeting, February 6-8, 2023 at the Marriott Marquis

Monday, February 6, 2023

Opening Session (Marquis Ballroom, 9th Floor)

8:30 am  Welcome, President Khristopher A. Dodson
8:45 am  Rohit T. “Rit” Aggarwala, Commissioner, NYC Department of Environmental Protection
9:00 am  Peter Grevatt, Chief Executive Officer, Water Research Foundation
9:15 am-10:15 am  Justice, Equity, Diversity & Inclusion Panel on Workforce Sustainability
  • Lisa Garcia, Regional Administrator, USEPA Region 2
  • Aimee Killeen, Chief Operations Officer, Providence Engineering; WEF President-Elect
  • Nicole Brown, Client Development Manager, Suburban Consulting Engineers
10:15 am-10:30 am  Breakfast Sandwich Networking Break
10:30 am-10:45 am  NYSEFC Presentation – William Brizzell, Director Division of Engineering
10:45 am-11:00 am  Introduction of InFLOW Scholars
11:00 am-11:15 am  Lucy Grassano Operator Scholarships
11:15 am-11:30 am  Student Scholarships
11:45 am  Ribbon Cutting, 5th Floor Ballroom

Session 1

CONTACT HOURS
2.0 Engineer  2.0 Wastewater  2.0 Water
MODERATORS
Dan Capano, Gannett Fleming; Matt Manchisi, Kimley-Horn
1:30 pm  Smart Pigging of Sewer Force Mains for Condition Assessment
  Bob Jacobsen, Brown and Caldwell
  The City of Bellevue, WA, did not know the condition of sewer force mains, ranging from 2.5 inches to 16 inches in diameter. In an effort to better understand the condition and risk, a prioritization and select inspection was completed. SmartFoam pigging was used to inspect the condition of four metallic sewer force mains to begin to fill in the data gaps. Detailed condition and identification of joints, bends and fittings was achieved.
2:00 pm  The Goldilocks Question: Finding the Right Asset Management Software
  Rachel Osborn, Woodard & Curran
  With the array of asset management software available, how does a utility choose the best option to record vital information, document maintenance process structural aspects, and provide mission-critical information to operators and directors? This presentation breaks down the daunting task by examining how several utilities found the right fit to optimize utility operations, including how to determine whether standard software packages are adequate or if a utility needs a customized platform with business intelligence tools.
2:30 pm  Coffee Break in Exhibit Hall
3:30 pm  Rebuilding a Foundational Asset Dataset to Power Digital Transformation
  Lily Lee, NYC Department of Environmental Protection
  To power digital transformation, qualified and reliable data is indispensable. NYC DEP’s Bureau of Wastewater Treatment (BWT) operates a large and diverse set of facilities that depends on a complex array of physical assets. A complete and comprehensive asset registry/hierarchy is a key dataset for enabling digitization of asset management activities. How to improve and set up a sturdy data foundation that ensures the successful deployment of an updated Computerized Maintenance Management System (CMMS) will be presented.
4:00 pm  Utilities, Inc.: Asset Management Journey
  Dave Sandy, Michael Bisignani, GHD
  Utilities, Inc., (UI) is a privately owned water and wastewater utility. UI owns and operates several systems in the Mid-Atlantic region. UI is confronting increasing expectations to control near- and long-term costs through more efficient operations and capital planning, address aging infrastructure, and manage knowledge loss from impending workforce retirement.
Monday, February 6, 2023

**Session 2**

**Young Professionals** (Marquis C, 9th Floor)

**MODERATORS**

Sara Igielski, Carollo Engineers; Katherine Flores, SUNY-ESF

**1:30 pm (1 Hour)**

**2.1 Young Professional Self-Advocacy Workshop** *(Separate registration required for event. Limited to 50 people.)*

**Moderators**: Sara Igielski, Carollo Engineers; Katherine Flores, SUNY-ESF

**1:30 pm** *(1 Hour)*

Young Professional Self-Advocacy Workshop is focused on identifying self-advocacy challenges and brainstorming tools to overcome them.

- Young Professionals will be sent an anonymous survey so the session facilitators can better understand the challenges and topics that YPs would like to discuss and overall interest in participating:
  - Compensation/Pay Raises
  - Managing Up
  - Office/Working Relationships
  - Workload/Burn-Out
  - Other (We welcome input from you!)

**2:30 pm**

Coffee Break in Exhibit Hall

**3:30 pm (1 Hour)**

Young Professionals will breakout into groups of four.

- Participants will alternate between a “case study presenter” and “feedback giver” over the time-block while practicing their listening, leadership coaching, and communication skills.
- All participants may attend Hour 1 and/or Hour 2.
- Experienced professionals are welcome to attend the session as listeners.

Monday, February 6, 2023

**Session 3**

**Resource Recovery** (Marquis A & B, 9th Floor)

**CONTACT HOURS**

2.0 Engineer 2.0 Wastewater

**MODERATORS**

Amie Lenkowiec, HDR; Noelle Miller, Nussbaumer & Clarke

**1:30 pm** *(1 Hour)*

**3.1 The Opportunity for WRRFs to Advance Regional GHG Reduction Goals**

Jay Surti, Charles Winslow, Jeremy Kraemer, Mohammad Islam, GHD

The need for a circular economy and organic waste diversion regulations aimed at reducing carbon footprint is driving cities and utilities to adopt a holistic resource recovery approach for organic waste streams typically disposed in landfills. Although the benefits of co-processing of organic waste streams with wastewater solids are uncontestable, the adoption of this approach by utilities has been slow. This is primarily due to limited understanding of managing this feedstock, especially pretreatment/conditioning required to make these feedstocks more amenable to process in anaerobic digestion, system design considerations, permitting requirements and plantwide operational impacts. Using case studies, the authors will share their experience and lessons learned assisting early North American adopters with planning, design, construction, commissioning, and operation of organic resource recovery and co-digestion facilities.

**2:00 pm**

**3.2 New York City Biosolids Master Plan**

Paul Knowles, Hazen and Sawyer; Natalia Perez, Jane Gajwani, NYC DEP; Jennifer McDonnell, NYC DOS

The Biosolids Master Plan for New York City Department of Environmental Protection (DEP) supports DEP’s energy and carbon neutrality goals and its Biosolids Management Program guiding principles, which consider diversification, environment, equity and environmental justice, people, economy and innovation on resource recovery. The outcome of the Plan provides a roadmap for DEP’s operational and capital planning over the next three decades to transform its biosolids management from being a carbon source to a carbon sink.

**2:30 pm**

Coffee Break in Exhibit Hall

**3:30 pm** *(1 Hour)*

**3.3 Phosphorus Removal and Recovery: Converting Wastewater Treatment Plants to Water Resource Recovery Facilities**

Joe Husband, Arcadis

The presentation will provide the audience basic fundamentals of phosphorus removal via chemical and/or biological treatment and how phosphorus is being recovered for beneficial reuse.
Sergio Pino-Jelcic, Ovivo
This presentation will address the following design practices: Importance of Volatile Fatty Acids (VFAs). PAOs can’t store other forms of carbon. Competition for VFAs from oxygen and/or nitrate entering the anaerobic selectors. Out-competition of PAOs by glycogen accumulating organisms (GAOs). Tools in the toolbox. Design provisions to address enhanced biological phosphorus removal upsets. Options for Plan B. Watch the sludge blanket to avoid P release in the secondary clarifiers. Manage phosphorus coming back with liquid returns from other processes.

Monday, February 6, 2023
Resiliency 1 (Ziegfeld, 4th Floor)

1:30 pm
Collaboration and Engagement for Effective Regional Resilience Planning
Megan Bushlow, Russ Dudley, Arcadis
Capacity and coordination limitations can be barriers to effective implementation of projects that mitigate flooding and other climate-related hazards. In the Resilient Northeastern NJ program, Arcadis and municipal, county, and state leaders collaborated to develop a regional resilience action plan including recommendations for capital projects (e.g., drainage improvements and green infrastructure expansion) alongside actions for addressing these capacity and coordination challenges. The engagement process empowered community members to be involved in plan development and implementation.

2:00 pm
How Water Utilities are Shifting from Sustainability Reports to ESG Reporting†
Karri Ving, Brown and Caldwell; Matthew Ries, DC Water; Paul Herman, Founder and CEO, HIP Investor; Jane Gajwani, Mikael Amar, NYC DEP
This session will provide an introduction to Environmental, Social, and Governance (ESG), what it is and why ESG reporting is drawing attention throughout the Water Resources Sector. Through case studies, the session will explore how water utilities are using ESG disclosures to increase access to capital, attract and retain talent, improve stakeholder relations and manage risk. Speakers will walk through how to evolve strategic and sustainability plans into ESG disclosures, cover the current ESG frameworks, standards and guidelines relating to the Water Resources Sector, and demonstrate how utilities can translate their water-energy-nutrient progress into investor-ready information that is also accessible to ratepayers and other stakeholders.

2:30 pm
Coffee Break in Exhibit Hall

3:30 pm
Responding to Flash Flooding: Working Together to Improve Flood Resilience across NYC’s Subway System
Heather Breysse, Nick Anderson, Stantec; Beth Capiro, Steven Loehr, MTA
Following major rain events that impacted the NYC subway system in the summer of 2021, Metropolitan Transportation Authority (MTA) initiated a Stormwater Task Force to investigate the root causes of flash flooding and proposed solutions to mitigate flood impacts. The presentation will describe how MTA undertook a rapid 6-month assessment of the flooding experienced at 150 locations, how data was compiled, how MTA prioritized solutions, and how the findings were shared with other NYC agencies.

4:00 pm
Adapting New York City Housing Authority’s (NYCHA’s) Clinton Houses Spaces for Climate Change and Cloudburst Storm Events
David Stahl, Rahul Parab, Dewberry; Adam Benditsky, NYCHA; Alan Cohn, NYC Department of Environmental Protection
NYCHA and NYC DEP collaborated together with input from community stakeholders to develop an innovative multi-functional stormwater flood risk reduction solution that utilizes existing spaces within Clinton Houses. The goal of this project is to divert rainfall runoff from Clinton Houses and surrounding low-lying streets into a series of underground infiltration-based stormwater storage systems located in existing spaces such as basketball courts, parking lots and others while improving these spaces with nature-based planting and amenities such as depressed enclosing seating that can store water during extreme rainfall events.
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### Session 5

**Monday, February 6, 2023**

**Stormwater Management/Green Infrastructure** *(Cantor/Jolson, 9th Floor)*

- **CONTACT HOURS**: 2.0 Engineer 1.0 Wastewater
- **MODERATORS**: Dave Barnes, Jacobs; Mihir Gupta, Hazen & Sawyer

1:30 pm  
**Permeable Paver Use is Growing in New York: How Do We Maintain Them?**
**Kevin Earley**, Oldcastle

New York communities are beginning to use permeable pavers for flood control and to address rising sea levels due to climate change. As the use of permeable pavement expands more attention is being focused on maintenance. This presentation reviews infiltration performance and clogging mechanisms and provides the latest information on research evaluating maintenance methods.

2:00 pm  
**Beyond Resiliency: NYC Department of Environmental Protection's Approach to Green or Solar Green Roof Retrofit Project with New York City Public Schools**
**Faith Barclay**, New York City Environmental Protection; **Courtney Finneran**, Christina Guerrero, **Ryan Mierzwa**, Jacobs

This session will describe how NYC DEP is working in partnership with NYCDOE on rooftop retrofit projects that achieve mutually beneficial goals for rooftop replacement, stormwater management, and solar PV installation.

2:30 pm  
**Coffee Break in Exhibit Hall**

3:30 pm  
**Blue and Green Infrastructure for Climate Resiliency: A New Orleans Case Study**
**Bernadette Callahan**, Stantec Consulting Services

Blue and Green Corridors aims to reduce flood risk, slow land subsidence, and encourage neighborhood revitalization. The goal is to create a network of linear wetlands and canals, green infrastructure, recreational parks, complete streets, and community spaces within three linear miles of the public right-of-way and six vacant parcels. Funded by HUD, the project employs a triple bottom line cost benefit analysis to prioritize treatments that maximize benefits for the community.

4:00 pm  
**Hansen-Ryckman Stormwater Detention, a Triple Bottom Line Project?**
**Neil O’Connor**, City of Albany Water Department; **Seth Watson**, CHA Consulting, Inc.

The City of Albany is a combined sewer community that has areas of historic flooding. The use of a constructed wetland and underground detention controlled by Opti RTC mitigated flooding. The addition of Rainwater Management Systems’ controls and filtration/detention allowed the use of stored stormwater to irrigate the adjacent park. We will take a look at the project and the economics making stormwater an asset.

### Session 6

**Monday, February 6, 2023**

**Panel on PFAS: What’s Next?** *(Wilder, 4th Floor)*

- **CONTACT HOURS**: 1.5 Wastewater
- **MODERATORS**: Vijesh Karatt Vellatt, Stantec; David Railsback, Schnabel Engineering

1:30 pm-3:00 pm

Come to this panel discussion and learn more about the emerging concerns of PFAS. Viewpoints and perspectives regarding the management of PFAS from municipalities and consulting firms in New York state will be shared.

- Clement Chung, Monroe County DES
- Christopher Wheland, City of Troy
- Paul Rush, NYCDEP Bureau of Water Supply
- Alexander Emmerson, Buffalo Sewer Authority
- Jay Surti, GHD
- Mehran Andalib, Stantec
**Tuesday, February 7, 2023**

### Session 7
#### Energy Conservation/Generation (Marquis A & B, 9th Floor)

**CONTACT HOURS**
2.0 Engineer 2.0 Wastewater 0.5 Water†

**MODERATORS**
Jeff LeBlanc, Denali; Jamie Johnson, AECOM

**9:00 am**
#### Designing Cogeneration Engines to Maximize Energy Efficiency: Focusing on Heat Recovery
Eric Auerbach, Mariana Costa Tomazelli, Shayla Allen, Arcadis

Insights into Combined Heat and Power (CHP) design strategies to drive projects forward financially, with a focus on heat recovery. Heat recovery is often an afterthought for CHP, but in reality can be the tipping point for positive economics. It also is one of the most site specific and engineering intensive aspects of CHP design. Understanding the types of heat to be generated and matching these sources to existing plant demands are crucial parts of the design process.

**9:30 am**
#### Waste to Energy Realized
Daniel Capano, Lars Augustin, Amily Zhang, Gannett Fleming Engineers & Architects

The Village of Great Neck, NY, has implemented a novel system of energy recovery that has substantially reduced costs for electricity and generates a revenue stream from the processing of food grade grease. This presentation will describe project stages, challenges and solutions, and the expected return on investment (ROI). The District has taken the waste products and turned it into electricity and heat, along with generating a revenue stream, saving the ratepayers money.

**10:00 am**
Coffee Break in Exhibit Hall

**11:00 am**
#### Food Waste: A Source of High Quality Organics for Biogas Production
Sudeep Deb, Shrinivasan Sewgobind, Steven Cubero, NYC DEP

Source-separated organic food waste which is processed into an engineered bioslurry (EBS) can serve as an additional source of high quality organics for biogas production in Wastewater Resource Recovery Facilities (WRRFs). This presentation analyzes the long-term historical data at the Newtown Creek WRRF and demonstrates that the addition of food waste bioslurry to anaerobic digesters can increase the biogas generation rate and overall energy content of the biogas without adversely impacting digester health and performance. Initially, food waste bioslurry was added to the anaerobic digesters at a rate of 12.5% and 18.5% of the total volatile solids during phase 1, and phase 2 ramp up respectively and increased to 40% eventually. The Newtown Creek anaerobic digesters were organically under loaded and operated at a low volatile acid (VA) content and low VA/Alk ratio ranging between 0.02 and 0.03. The pH was adequate in all digesters and the alkalinity was relatively high due to the prolonged Solids Retention Time (SRT) of 30+ days. The addition of EBS to the digesters not only increased the total production of biogas but also the methane content of the biogas. Furthermore, the WRRF plans to inject the high quality biogas in the natural gas pipeline through a partnership with National Grid.

**11:30 am**
#### Political and Technical Tools on the Trajectory to Decarbonizing Water†
Steven Lobo, Nicole Stephens, Stantec

This presentation documents the results of a comprehensive literature review and investigation of (1) the socioeconomic policy pathway to a net-zero 2050 and its impact on the water industry, (2) the technical underpinnings and applicability of existing GHG computational tools for water utilities, and (3) identified gaps and needs to promote meaningful (having a quantifiable environmental impact) GHG emission reduction in water.

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**Tuesday, February 7, 2023**

### Session 8
#### Collection Systems/Distribution (Odets, 4th Floor)

**CONTACT HOURS**
2.0 Engineer 2.0 Wastewater

**MODERATORS**
Nancy Struzenski, Alpha Analytical; Jake Kocic, GHD

**9:00 am**
#### Planning for Sewers: The Carlls River Project
Adriana Restrepo, D&B Engineers and Architects

The presentation covers the development of a sewer project from feasibility through construction and follows the path taken for the completion of the Carlls River in the Town of Babylon sewer project currently under construction. The Carlls River project will connect approximately 2,500 parcels to a new low pressure sewer system and remove the existing on-site disposal system.
9:30 am 20 Years in the Making: Sanitary Sewer Service in the Village of Red Hook
Kathryn Serra, C.T. Male Associates
The densely developed downtown of the Village of Red Hook in Dutchess County does not have public sanitary sewer, a surprise to most public works engineers. This presentation will outline over two decades of work to bring public sanitary sewer to the Village with a focus on the unique characteristics of this project.

10:00 am Coffee Break in Exhibit Hall

11:00 am Winning the War Against Wipes
Joe Clark, JWC Environmental
Our aging wastewater infrastructure was not designed to handle flushable wipes and other non-dispersible fabrics popular in today's market. The presentation will review today's status of the wipes market, PSA and legal efforts to curb disposal of non-dispersible in sewage systems and look at technical options in pumps and grinders to pre-condition these difficult solids in collection systems. The overall goal is to provide information on the various options available to battle these wipes.

11:30 am Smart Water: Is the Technology Ready ... Is the Industry Ready ... Are You Ready?
Mike Bonomo, Kevin Enfinger, ADS
Read the latest blog post, sit in on a conference presentation, or talk to people active in wastewater collection systems. When you do, it does not take long to run across a discussion of Smart Water – a confluence of intelligent technologies designed to put a higher level of insight at your fingertips, allowing you to manage your wastewater collection system with greater efficiency, reliability and peace-of-mind. But where are we today? Is the technology ready? Is our industry ready? Are you ready?

Tuesday, February 7, 2023

Session 9 Operators’ Forum (Ziegfeld, 4th Floor)

9:00 am-10:00 am NYWEA’s Update on the Civil Service Survey
Daniel O’Sullivan, Buffalo Sewer Authority
Come and learn why it is important NYWEA is working with NYS Civil Service to benefit operators in New York state.

9.1.3 The Blizzard of 2022 and Its Impacts in Buffalo and Erie County
Alex Emmerson, Superintendent, Buffalo Sewer Authority, Bird Island Treatment Facility
On December 23, 2022, the City of Buffalo experienced what was described as a once in a generation blizzard. With over 36 hours of white-out conditions, temperatures rapidly falling over 40 degrees in a matter of hours and winds gusting above 75 miles an hour and a Lake Erie seiche of over six feet, the magnitude of the storm–even for a place like Buffalo known for its snow–wreaked a horrific toll with 44 dead and electrical substations throughout the City frozen by the wind, and the snow leaving tens of thousands throughout the city without power for days in below freezing temperatures. Throughout the storm, employees at Buffalo Sewer’s Bird Island Treatment Facility and those who were trapped at outlying stations and answering flooding calls remained on shift and ensured that wastewater treatment continued and that storm damage to the facility was mitigated and minimized. Alex Emmerson, Treatment Facility Superintendent will discuss his personal experiences during the storm, the amazing work that those workers who stayed on the clock accomplished, and lessons learned as we face a future of increasingly severe weather.

10:00 am Coffee Break in Exhibit Hall
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Tuesday, February 7, 2023

**Nitrogen Removal** (Cantor/Jolson, 9th Floor)

**CONTACT HOURS**

2.0 Engineer  2.0 Wastewater

**MODERATORS**

Matt Higgins, LaBella Associates; Gregg Palmer, Koester

**How Low Can You Go? Ammonia Removal Pilot Testing at the Lackawanna WRRF**

Lisa Derrigan, GHD; David Millar, Erie County Department of Environment & Planning, Division of Sewerage Management (ECDSM)

Faced with a new, more stringent ammonia limit at the Lackawanna Water Resource Recovery Facility (WRRF), the ECDSM conducted an ammonia study that recommended pilot testing two technologies for ammonia removal. The ECDSM moved forward with pilot testing in 2020-2021 to evaluate the performance of a tertiary Moving Bed Biological Reactor (MBBR) for nitrification and an Integrated Fixed-Film Activated Sludge (IFAS) to replace the secondary system and provide nitrification. This presentation will discuss the planning, operation and results of the ammonia removal pilot testing, as well as alternatives evaluation for full-scale implementation.

**Denitrification by Using Aircraft Deicing Fluid as the External Carbon Source:**

Aykut Sayin, Alex Rosenthal, Roland Jezek, Krish Ramalingam, John Fillos, Research Foundation of the City University of New York (RFCUNY)

Water resource recovery facilities with low influent biodegradable Chemical Oxygen Demand (COD) that need nitrogen removal typically use a supplemental carbon source to augment the denitrification process to meet effluent permit limits. This study was conducted to evaluate the performance of spent aircraft deicing fluid (ADF) as an external carbon source. Bench-scale denitrification and nitrification experiments were performed to assess denitrification performance with ADF and additionally investigate if it inhibits nitrification process kinetics.

**Secondary Treatment Modifications Improve Efficiency/Lower Costs**

Christopher Pierce, Wright-Pierce

The Stamford, CT WPCF achieved low effluent nitrogen concentrations, however, at a cost. The older aeration control system resulted in over aeration, especially at night. A significant quantity of methanol was added to provide supplemental carbon and compensate for high Dissolved Oxygen (DO) concentrations in the nitrate recycle. Modifications were made including new aeration blowers, DO control system, and supplemental mixing to expand the anoxic zone resulting in a reduction in methanol usage and energy savings.

**Utilization and Practical Optimization Strategies of Full-Scale Ammonia-Based Aeration Control (ABAC) at Bonnybrook Wastewater Treatment Plant**

Danelle Bishoff, Mehran Andalib, Julian Xheko, Stantec; Nisa Jayathilake, City of Calgary, Canada

Three bioreactors at the Bonnybrook Wastewater Treatment Plant, Canada, are programmed with ammonia-based aeration control (ABAC). It can be difficult to maintain partial nitrification when ABAC is enabled in the bioreactors. Savings are still available when comparing to a constant dissolved oxygen (DO) setpoint control. Two strategies for ABAC to achieve partial nitrification were reviewed: feedforward-feedback based on (i) cascading DO setpoints dependent on ammonia load, and (ii) modified DO setpoints based on microbial kinetics.
Tuesday, February 7, 2023

Session 11
Resiliency 2 (Marquis C, 9th Floor)

CONTACT HOURS
2.0 Engineer  2.0 Wastewater  0.5 Water

MODERATORS
Vatche Minassian, HDR; Bonnie Starr, NYSDEC

9:00 am  11.1
A Risk-Based Approach to Prepare Utility Infrastructure for Storms Ahead:
Considerations of a Proactive Utility in Coastal Virginia
Timothy Adams, Lauren Miller, CDM Smith; Rob Martz, Hampton Roads, VA, Sanitation District
This presentation will focus on how flood risk due to climate change can be monetized. We will show how this enables utilities to make resilient, risk-based decisions for the implementation of climate-resilient flood mitigation measures using a dynamic, adaptive, decision-making process.

9:30 am  11.2
How to Manage Rainfall-Driven Flooding behind a Coastal Flood Protection System:
A NYC Case Study on Building Resilience in Historic Sewer Systems
Joel Kaatz, Catherine Moskos, Arcadis; Blake Montieth, New York City Economic Development Corporation
This presentation will explain the approach and lessons learned to upgrade drainage infrastructure in NYC’s Financial District and Seaport neighborhoods to reduce acute and chronic flood risk. The employed hydrologic and hydraulic modeling methodology, proposed solutions (an emergency-use pump station, sewer improvements, and a multi-purpose shoreline extension), and lessons learned can be used as an example to address similar issues across New York City and in other coastal areas.

10:00 am
Coffee Break in Exhibit Hall

11:00 am  11.3
Hurricane Ida Knocks Out Westchester Pump Station – Westchester Executes Emergency Actions to Rebuild Jackson Avenue Pumping Station and Provide Innovative Approaches for Future Flood Mitigation\[1\]
Ray Schofield, Abby Doyle, EDR; Vincent Kopicki, Westchester County, Commissioner, Department of Environmental Facilities; Nat Federici, Westchester County, First Deputy Commissioner, Department of Environmental Facilities
September 1, 2021, tragedy struck the tri-state area when Hurricane Ida swept through Westchester County, causing widespread flooding. The 2.5 mgd Jackson Avenue Pump Station experienced an unprecedented flood, causing damage to the entire station and leaving it inoperable. Floodwater rose in excess of 2 feet above the first floor causing damage to power distribution, motors, control panels and pumps. The County took emergency temporary action to put the station back in service and authorized an expedited design for long-term improvements. Improvements include increased reliability for pumping, increased pumping capacity, relocation of critical equipment and construction of a new elevated superstructure for critical equipment and improved operations.

11:30 am  11.4
Onondaga County Department of Water Environment Protection’s Changing Staff, Changing Climate, and Aging Infrastructure Combined with Tropical Storm Fred Makes for the Perfect Disaster Declaration
James Thayer, Shannon Harty, Kate Tortora, Onondaga County Department of Water Environment Protection
The Onondaga County Department of Water Environment Protection (WEP) manages a complex portfolio of wastewater and stormwater infrastructure and is facing staffing issues, aging infrastructure, and climate change. During the summer of 2021 all these challenges combined to make the “perfect storm.” Tropical Storm Fred inundated WEP’s consolidated sewer district with over six inches of rain. This presentation will outline challenges faced, lessons learned about the FEMA disaster assistance process, and impacts of climate change on WEP’s organization.
**Session 12**

**Tuesday, February 7, 2023**

**Pretreatment/Regulatory** *(O’Neill, 4th Floor)*

**CONTACT HOURS**

2.0 Engineer 2.0 Wastewater 2.0 Water

**MODERATORS**

Craig Hurteau, Albany County; Tania Quesada, Brown & Caldwell

**Best Practices for Attracting New Industry to Your Municipality**

Vera Gouchev, Bob Weinschrott, Paul Marotta, Hazen and Sawyer

As industry looks to re-establish manufacturing in the United States, abundant and cost competitive water and wastewater resources – as a service to the developer – are foundational to attracting investment. Municipalities typically must respond quickly with an attractive offering to achieve investment in their communities. This presentation will present best practices and approaches that allow municipal water and wastewater utilities to respond quickly to developers in a manner that reduces risk and uncertainty.

**9:30 am**

**Leveraging Pretreatment Programs for One Water Initiatives:**

**Findings from the Water Research Foundation Project 4971**

Erica Yarbrough, Beate Wright, Carollo Engineers

Utilities today recognize that their water and wastewater systems are intertwined with environmental health, equity, community wellbeing, economic development, among other values. The Water Research Foundation (WRF) Project 4971 explores how utilities are currently incorporating pretreatment programs into One Water frameworks, and consists of a nationwide survey and case studies, the findings of which resulted in six key recommendations for leveraging the benefits of pretreatment programs more fully within One Water strategies.

**10:00 am**

**Coffee Break in Exhibit Hall**

**11:00 am**

**One Water and Integrated Management Case Study:**

**Chesapeake Bay TMDL Compliance in Anne Arundel County, MD**

Edward Shea, HDR; George Heiner, Anne Arundel County Department of Public Works

Anne Arundel County, Maryland, is navigating a challenging set of both regulatory and non-regulatory requirements to comply with the Clean Water Act. By taking an integrated planning approach, the County determined that it could achieve nutrient reductions through a combination of strategies. The resulting integrated plan provides a flexible, “One Water” approach to achieve successful, cost effective and sustainable long-term compliance.

**11:30 am**

**Clean Water Act Regulatory Definitions Updates and Implications for Municipal Wastewater Projects and Operations**

Gregory Liberman, Scott McBurney, EDR

The definition of Waters of the United States (WOTUS) under the Clean Water Act has changed significantly over the years, including numerous revisions in recent years. Resulting changes have also occurred with the Nationwide Permitting process administered by the United States Army Corps of Engineers and the associated Water Quality Certification process administered by New York State Department of Environmental Conservation. This session will review these changes and outline updated requirements.

**Session 13**

**Tuesday, February 7, 2023**

**Emerging Contaminants** *(Wilder, 4th Floor)*

**CONTACT HOURS**

2.0 Engineer 2.0 Wastewater 2.0 Water

**MODERATORS**

Lina Posso, Carollo; Robert Sharp, Manhattan College

**Alternative Evaluations of Advance Oxidation Technologies for 1,4-Dioxane Removal from Groundwater**

Anne Fung, Kevin Torrens, Brown and Caldwell

Alternative evaluation of oxidation techniques to remove an emerging contaminate from groundwater will be discussed.
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<th>Time</th>
<th>Event</th>
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<tr>
<td>9:30 am</td>
<td><strong>Not All Water is Equal: Advanced Oxidation Systems Can Be Highly Impacted by Nitrate</strong></td>
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<td>and Other Water Characteristics</td>
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<td>Scott Bindner, Trojan Technologies</td>
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<td>This presentation highlights the importance of preliminary water testing as a critical</td>
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<td>first step in the adoption of advanced UV oxidation for 1,4-dioxane. Without it,</td>
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<td>critical influencers in the water matrix such as nitrate might have undetected impacts</td>
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<td>and result in inaccurate system design and operation.</td>
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<td>10:00 am</td>
<td><strong>Coffee Break in Exhibit Hall</strong></td>
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<td>11:00 am</td>
<td><strong>Understanding the Implications of Microplastics on the Entire Water Cycle</strong></td>
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<td>Shirin Estahbanati, Melanie Holmer, Brown and Caldwell</td>
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<td>In this research project, microplastic contamination across the aquatic environment is</td>
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<td>discussed. The goal of this project is to track microplastic from sources to the sinks</td>
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<td>in collaboration with academia and facilities.</td>
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<td>11:30 am</td>
<td><strong>Evaluation of Biological Activated Filter for 1,4-Dioxane Removal</strong></td>
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<td>from Contaminated Groundwater</td>
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<td>Yuyin Tang, Mian Wang, Xinwei Mao, Stony Brook University, New York State Center for</td>
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<td>Clean Water Technology; Arjun K. Venkatesan, New York State Center for Clean Water</td>
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<td>Technology</td>
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<td>The purpose of this study is to investigate the feasibility of using continuous flow</td>
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<td>bioaugmented granular activated carbon filter (BAFs) to treat 1,4-dioxane contaminated</td>
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<td>groundwater at environmental relevant concentrations (&lt; 1mg L⁻¹). A stable and robust</td>
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<td>1,4-dioxane degrading microbial community was enriched from uncontaminated soil and</td>
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<td>bench-scale BAFs were set up to investigate the effectiveness of the temporary adsorption</td>
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<td>by granular activated carbon (GAC) and subsequent metabolic degradation to treat 1,4-dioxane</td>
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<td>at environmentally relevant concentrations.</td>
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<td>1:30 pm</td>
<td><strong>Evaluation of Grit Characteristics and Grit Removal Performance at Full-Scale WRRF</strong></td>
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<td>Using ViCAs Method</td>
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<td>Jared Hartwig, Liz Manning, Hazen and Sawyer; Kendra Sveum, Loudoun Water;</td>
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<td>Sajana Chitrakar, Fairfax County, VA</td>
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<td>The ViCAs grit characterization method was used to evaluate the dynamic variation of</td>
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<td>influent grit and quantify grit removal performance of primary settling tanks in a</td>
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<td>Water Resources Recovery Facility in Fairfax County, VA. The data from this study</td>
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<td>provides insight into the dynamic variation of influent grit and the evaluation of</td>
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<td>grit removal performance in Primary Settling Tanks (PSTs) within full-scale Water</td>
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<td>Resources Recovery Facilities.</td>
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<td>2:00 pm</td>
<td><strong>Screening Technologies in Water and Wastewater Treatment</strong>†</td>
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<td>Brian Serio, SAVÉCO</td>
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<td>Screening technologies and screen selection for water and wastewater treatment</td>
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<td>applications will be discussed.</td>
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<td>2:30 pm</td>
<td><strong>Coffee Break in Exhibit Hall</strong></td>
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<td>3:30 pm</td>
<td><strong>Los Angeles Creates a More Sustainable Water Supply Conversion of the 450 mgd Hyperion</strong></td>
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<td>Water Reclamation Plant (WRP) to the World’s Largest Membrane Bioreactor (MBR)/Potable</td>
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<td>Reuse Facility†</td>
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<td>Roland Pilemalm, PE, Carollo Engineers, PC; Huub Cox, LA Sanitation and Environment</td>
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<td>In an effort to secure a more sustainable water supply portfolio in the face of repeated</td>
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<td>drought and climate change impacts, Los Angeles will treat its wastewater effluent for</td>
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<td>potable reuse by 2035. The centerpiece of the potable reuse system is the 450 mgd</td>
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<td>Hyperion Water Reclamation Plant. This presentation will walk through the current plan</td>
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<td>for modification of Hyperion including a summary of the “Early Out” modifications, MBR</td>
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<td>secondary system modifications design and layout, and the Advanced Water Treatment</td>
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<td>(AWT) potable reuse systems.</td>
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Out with the Old, Integrating the New: Miami-Dade CDWWTP Oxygen Production
Jeff Lowe, Travis Parsons, Jim Penkosky, Wade Trim

Integrating two new vacuum pressure swing adsorption systems with an existing Cryogenic unit resulted in a Cryogenic system which can run at its best efficiency point, while the Vacuum Pressure Swing Adsorption (VPSA) can quickly adjust to demand changes. The systems operate together to maintain system pressure, while the downstream oxygen feed valves regulate flow into the treatment trains. This control approach will ensure efficient use of produced oxygen and provide energy savings for CDWWTP for years to come.

Tuesday, February 7, 2023
Manufacturers' Forum (Wilder, 4th Floor)

Make It Work: Putting Pump Stations in Hard Spaces
Ken Pasco, Oldcastle Infrastructure; Serdar Umer, GA Fleet

This presentation will discuss some difficult real life situations encountered when trying to install new pump stations in the highly developed urban and suburban areas typical in the New York metro area and the innovative and unique designs that were used to make it possible to upgrade the systems. Issues with access, size and availability will be looked at as well as best practices for wet well design. Real examples will serve as the basis for this presentation.

Intensification for Optimal Performance
Dan Dair, Sherri Caneer, World Water Works

Today, modern biological wastewater treatment is conducted through a process requiring the growth and cultivation of beneficial bacteria to consume the organics and nutrients present in the wastewater. As treatment facilities are looking to upgrade from traditional carbon removal to enhanced nutrient removal, there are new leapfrogging approaches for building new, compact plants or upgrading existing plants, making them energy efficient with improved operational ease. Biological processes can become more compact with the transition of the biomass to a more densified or granular sludge, allowing for high solids capacity of existing clarifiers, delaying or potentially eliminating the need for an expense clarifier expansion. Densification concentrates the “good” bacteria resulting in improved BNR, reduced energy costs, lower chemical feed, along with improved dewaterability and disinfection. We will discuss a technology utilizing a selective wasting system with hydrocyclones which enables both small and large WRRF's to classify/de-couple the bacterial population prior to wasting and retain denser, better settling bacteria while removing the poor settling, foam causing filamentous bacteria.

Coffee Break in Exhibit Hall

Thickening WAS: Clean, Quiet and Efficient Solutions
Dan Fronhofer, BDP Industries

Mechanical thickening equipment such as Gravity Belt Thickeners and Rotary Drum Thickeners are often selected for certain performance “design points,” including throughput, polymer dosage, solids capture and discharge concentrations. However, in evaluating the overall costs of operation, what factors truly affect these parameters and the performance of the thickening equipment? This presentation will examine which parameters are linked, which are not, and how they interrelate. In addition to the performance aspects, this presentation will also cover designs that optimize containment and minimize noise generation. Recent design changes have significantly improved the operating space around thickening equipment as well as automation of the entire thickening process.

Belt Drying: Waste Heat Utilization
Dieter Weinert, Huber Technology

The innovative Huber belt dryer BT features heat exchangers underneath the entire belt length. The dryer design is presented in detail with focus on the utilization of different heat sources. In addition the dryer can be operated at different temperature levels. Examples will be presented on how the drying process can be tailored to minimize the need for fossil fuels.
Tuesday, February 7, 2023

CSO/SSO/Wet Weather (Cantor/Jolson, 9th Floor)

CONTACT HOURS
2.0 Engineer
2.0 Wastewater

MODERATORS
Camie Jarrell, GHD; Maryia Spirydonava, Stantec

1:30 pm

Monroe County Pure Waters Combined Sewer Overflow Abatement Program (CSOAP) History
Clement Chung, Michael J. Garland, Monroe County Department of Environmental Services

The Monroe County Pure Waters Master Plan was published in 1969 and presented the vision that ultimately became the CSOAP, which was instrumental in drastically improving water quality in the Genesee River, Irondequoit Bay, and Lake Ontario. Now as we look to update the Master Plan for the next 50 years, we recap the history of the largest planning and engineering project in Rochester.

Gowanus Combined Sewer Overflow (CSO) Program Update
Gui DeReamer, Tania Quesada, Brown and Caldwell; Kevin Clarke, NY Department of Environmental Protection; Peter Young, Hazen and Sawyer

The United States Environmental Protection Agency (USEPA) added the Gowanus Canal to the Superfund Program's National Priorities List in 2010 and the City of New York was named as one of several potentially responsible parties. The City of New York was directed to institute combined sewer overflow (CSO) controls by designing and constructing retention tanks to intercept discharges from the two largest CSO discharges to Gowanus Canal: outfall RH-034 in the Red Hook (RH) Wastewater Resource Recovery Facility (WRRF) drainage area and OH-007 in the Owls Head (OH) WRRF drainage area. Twelve years after EPA designating Gowanus Canal a Superfund site, the project is in various stages of construction and design. This presentation will provide an overview and update on this significant capital program that New York City's Department of Environmental Protection (DEP) has undertaken. This nearly $1.6 billion effort will result in significant CSO reduction to the Canal.

2:30 pm

Coffee Break in Exhibit Hall

3:30 pm

Satellite Treatment for Combined Sewer Overflow (CSO) Control: From Concept to Reality
Sarah Willett, WesTech Engineering, LLC

Charleroi, PA, evaluated options to handle wet weather challenges which included space restrictions within the city limits. The city ultimately determined it best to implement satellite treatment for CSO control utilizing compressible media filtration followed by UV disinfection that meets secondary treatment criteria. The facility has operated automatically and unmanned since its installation in 2020. The presentation will cover the selection, 6-month pilot testing, design criteria and reliability measures, design and construction, and final completion.

4:00 pm

Onondaga County’s 30-Year Construction Project: Closure of the Amended Consent Judgment and Next Steps
Zachary Monge, Jacobs; Shannon Harty, Lauren Livermore, Adam Woodburn, Onondaga County WEP

Since January 1989, Onondaga County’s Combined Sewer Overflow (CSO) discharges to Onondaga Lake and its tributaries have been regulated by the Amended Consent Judgment (ACJ). After more than 30 years of work and $800 million in construction, monitoring, and engineering expenses, the ACJ was officially satisfied and closed by the U.S. Federal Court–Northern District in October 2021. With more than a few paradigm shifts and unexpected obstacles to achieve compliance with the ACJ, the County and its partners made incredible progress in contributing to the clean-up of Onondaga Lake. Over 98% of the County’s pre-abatement CSOs have been eliminated or treated via gray or green infrastructure practices and Onondaga Lake has once again become a thriving aquatic habitat and community asset. However, the work to further reduce the impact of CSOs is not fully complete. The County is now under a short-term State Consent Order to address remaining water quality concerns. Some frequently discharging CSO outfalls remain, and water quality issues related to fecal coliform in the tributaries due to CSO and non-CSO sources exist.
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Tuesday, February 7, 2023

Session 17 Utility Management (Marquis A & B, 9th Floor)

CONTACT HOURS
2.0 Engineer  2.0 Wastewater

MODERATORS
Scott Davis, Carollo; David Stahl, Dewberry

1:30 pm
17.1 Phased Implementation and Startup of the Exeter WWTF Upgrades
Kevin Hickey, Christopher Pierce, Wright-Pierce
In response to declining water quality in Seacoast New Hampshire’s Great Bay, the Town of Exeter received a new NPDES permit from EPA in 2012. This resulted in comprehensive upgrades to its WWTF, Main Pump Station, and forcemains. Exeter’s 3.0-mgd facility was comprehensively upgraded from an aerated lagoon facility to a new activated sludge treatment facility with nitrogen removal.

2:00 pm
17.2 Breathing Life into Retired Infrastructure for Wet Weather Storage
Alexander Mockos, Casey Gish, Brown and Caldwell
This presentation provides an overview of how the City of Everett, WA, plans to convert a decommissioned wastewater treatment plant into a wet weather storage facility to reduce unplanned combined sewer overflow events.

2:30 pm
Coffee Break in Exhibit Hall

3:30 pm
17.3 Effects of the Economy on Facility Improvements
Rose Jesse, Brian Como, Hazen and Sawyer
Over the past 20 years we have been able to readily comprehend and navigate the ins and outs of the cost of construction. The past three years have changed that. What is happening, how do we relate it to the cost of your project, and what are some potential strategies to mitigate the changed risks?

4:00 pm
17.4 Challenges Related to Construction of an Effluent Pump Station and Subaqueous Plant Outfall under an Order of Consent and Grant Funding Deadlines during the COVID-19 Pandemic
Matthew Thogersen, Joseph H. Marturano, D&B Engineers and Architects; Chet Steban, Belgrave Water Pollution Control District; Hiren Shah, Mueser Rutledge Consulting Engineers
The construction of the $25-million Effluent Pump Station and Subaqueous Outfall is explored. A previous paper examined the design of the project which has now reached Final Construction Completion. The design basis of the project will be reviewed before examining the construction process which included three separate prime contractors. The project faced the COVID-19 pandemic, grant funding deadlines, and an Order of Consent from the NYSDEC. The project was successfully completed on time and within budget.

Tuesday, February 7, 2023

Session 18 Public Education/Hydraulic Modeling (O’Neill, 4th Floor)

CONTACT HOURS
2.0 Engineer  2.0 Wastewater

MODERATORS
Kevin Obey, Hazen & Sawyer; Brian Skidmore, Barton & Loguidice

1:30 pm
18.1 Buffalo Creek: Steps to Combat Re-Occurring Flooding
Michelle McEntire, Alexandria Hackford, Ramboll
The Lexington Green Neighborhood, located along Buffalo Creek, has a history of severe flooding events and has been undergoing flood prevention initiatives since 1946. This presentation will highlight flood prevention activities occurring from 2018 to present, provide an overview of the projects identified as part of NYS Governor’s Resilient NY Initiative, discuss public outreach activities that have occurred and summarize the preliminary flood bench design.

2:00 pm
18.2 Yikes! More Clogged Pipes? Using Social Marketing to Improve System Outcomes
Karaline Bridgeford, Rachel Garrett, Brown and Caldwell
Utilities are overwhelmed with competing needs, from system maintenance to capital projects. To compound the issue, system users often contribute to existing problems through detrimental behaviors such as rinsing fats, oils and grease (FOG) down drains and flushing wipes and trash. How can utilities not only increase awareness around problematic behaviors, but motivate behavior change?

2:30 pm
Coffee Break in Exhibit Hall
Keeping Our Feet Dry: Urban Flood Modeling
Grace Huson, Nicholas Anderson, Stantec
Urban flooding is increasing in scale due to climate change and the urban creep in previously pervious areas. Understanding above ground flow path and quantities is essential when assessing flood risk and evaluating flood mitigation solutions. The presentation will demonstrate how 2D hydraulic models can be a valuable tool in meeting the urban flooding challenge.

St. Albans Bay Phosphorus Study: A Simplified Modeling Approach
Andrew Thuman, Mikayla Reichard, HDR
A simplified two-step modeling approach was used to evaluate phosphorus management in St. Albans Bay, VT. A Lake Loading Response Model estimated watershed phosphorus loads and bay response while a sediment flux model was used to estimate internal phosphorus loads. The modeling approach required assumptions that included dispersive exchange between the bay and Lake Champlain. Management scenarios were analyzed to evaluate watershed and sediment load reductions to decrease phosphorus and algal blooms in the Bay.

Session 19
 RESIDUALS/BIO SOLIDS 1 (Marquis C, 9th Floor)

Thermal Processing Resiliency and Sustainability: Comparison of Pyrolysis, Gasification, and Incineration with Real-World Applications
Charles Winslow, Jay Surti, GHD
Thermal processing technologies are experiencing renewed interest as a result of the generally higher quality end product generated with correspondingly more opportunities for disposal and/or beneficial reuse. This presentation examines the fundamental differences between biological and thermal oxidation, with a particular focus on the three most common thermal technologies – pyrolysis, gasification and incineration. These technologies are compared in terms of end product quality, greenhouse gas emissions, fossil fuel demand and bioenergy potential.

Designing for Sludge Management Optimization through Thickening and Dewatering Processes
Rudy Kilian, Brandon Braley, Swagata Biswas, Carollo Engineers
Wastewater residuals management can prove difficult and costly with inefficient thickening and dewatering operations leading to more water remaining in processed solids. Many wastewater facilities look to optimize their operations to achieve drier solids and for efficiency and cost savings. This presentation discusses methods and equipment for thickening and dewatering optimization and highlights projects in Texas and Florida where lessons learned help to drive design and optimization decisions that generate cost savings for treatment utilities.

From Thermal Hydrolysis to Conventional Anaerobic Digestion: What Works Best for Your Facility to Generate Better Biosolids?
Ryan Roberts, Stantec; Darren Finney, Calgary, Canada
With ever increasing attention to cost, biosolids quality, and resource recovery in water resource recovery facilities, it is helpful, if not essential, to conduct a robust selection process to ascertain the appropriate technology for a biosolids treatment project. In this presentation, we review the extensive technology selection journey essential for biosolids treatment to determine the best process for a facility considering the factors specific to the facility and the project. Based on the above, we also examine the transparent, progressive and robust technology selection process conducted for the biosolids treatment as part of a Compliance Maintenance Annual Report (CMAR) project at the 365 mgd cold climate BNR Bonnybrook WasteWater Treatment Plant, Calgary, Canada.
4:00 pm  
**Gasification and Pyrolysis of Sewage Sludge**  
Philip Pedros, Mott MacDonald  
A brief history and description of gasification and pyrolysis and the relevance to the wastewater industry will be given, including a review of sewage sludge biosolids and how they differ from conventional feedstocks that have been used successfully with these processes.

**Tuesday, February 7, 2023**

**Session 20**  
**University Forum (Ziegfeld, 4th Floor)**

**MODERATORS**  
Krish Ramalingam, City College

1:30 pm  
**Does Kelp in the Cow’s Food Ration Impact the Cow’s Manure Biodegradability?**  
Julia George, Philip Hekeler, Stefan Grimberg, Clarkson University  
Kelp is used as a dairy cow feed supplement to suppress their methane emissions. If these cows’ manure is used in an anaerobic digestor, will it also inhibit methane production?

1:50 pm  
**Energy Modeling in Direct Contact Membrane Distillation:**  
**Influence of Heat Exchangers on the Solar Collector Requirements**  
Nicholas Badillo, Manhattan College  
Direct Contact Membrane Distillation (DCMD) is a membrane-based process that utilizes vapor pressure difference as the driving force based on temperature polarization. Utilizing aspects of thermal and membrane-based desalination processes, DCMD is known to be an energetically expensive process. This parametric study observed the energetic efficiency of MD served by low grade thermal energy (such as waste heat and solar energy) may offer insights on its potential application in community or household scale.

2:10 pm  
**Daylighting Harbor Brook**  
Shelby Martin, Katherine Flores, Jane Clark, Lauren Henkler, SUNY ESF  
Harbor Brook is a stream in Syracuse, NY, that is culverted for flood control. It is heavily impacted during wet weather events from combined sewer overflows. The burial of the stream restricts public access, recreation and habitat. A daylighting opportunity for Harbor Brook has been presented at Frazer Park, which is adjacent to an elementary school.

2:30 pm-3:30 pm  
**Coffee Break in Exhibit Hall**

3:30 pm  
**Removal of the Pharmaceutical Molecule Promethazine from Simulated Wastewater by Functionalized Cellulose Nanocrystals**  
Malik Williams, Alexandre H. Pinto, Mahbuboor Rahman Choudhury, Manhattan College  
This presentation will highlight the potential use of cellulose nanocrystals as an adsorbent for removing promethazine from water. Promethazine is an emerging contaminant used as a sedative for pre- and post-surgery treatments. It is expected that the results presented in this study can offer insights and resources for further studies aiming to scale up the application of cellulose nanocrystals as adsorbents for mitigating different pollutants from wastewater.

3:50 pm  
**Phosphorus Removal by a Comparison Study between Existing Phosphorus Removal and Recovery Technologies and NRB in Onsite Domestic Wastewater Treatment Systems**  
Fanjian Zeng, Zahra Maleki Shahraki, Stony Brook University  
Identified current available and prospectively useful technologies for phosphorus (P) removal and recovery with the case study for P removal performance by existing NRBs in Suffolk County, New York.

4:10 pm  
**Performance of Nitrification in Biofiltration Systems for Onsite Wastewater Treatment Using Different Filtration Media**  
Siwei Chen, Danny Lin, Frank M. Russo, Xinwei Mao, Stony Brook University  
In this study, bench scale column tests were conducted to explore alternative filling materials (gravel, marble chip and zeolite) to increase the treatment capacity of biofilters for onsite wastewater treatment. Our preliminary results indicated the zeolite showed higher NH4+ removal than other materials with hydraulic loading of 11.5 gallons d-1 ft-2. The performance of the columns at higher hydraulic loading (16 gallons d-1 ft-2) and the impact of biochar amendment on nitrification are under investigation.
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**Wednesday, February 8, 2023**

**Water Reclamation 2** (Odets, 4th Floor)

2.0 Engineer 2.0 Wastewater

Joseph Polomene, Sherwood Logan; Erin Moore, Tighe & Bond

**Compressed Gas Mixing and Inline Fermentation Enhances Biological Phosphorus Removal**

Fred Kade, Enviromix

The Warren, MI, Water Recovery Facility (WRF), a 36 mgd design flow treatment plant has been performing biological phosphorus removal since 2014 when the facility implemented anaerobic selectors to facilitate biological phosphorus (bio-P) removal to meet a permitted effluent total phosphorus requirement of 1 mg/L. The facility upgrade included the addition of energy efficient compressed gas mixing technology in the anaerobic selectors to maintain complete mix conditions while maintaining a low oxidation reduction potential (ORP) environment. Implementing the anaerobic/oxic (A/O) bio-P process and installing compressed gas mixing resulted in more than $150,000 annual operational savings through reduced ferric chloride addition for phosphorus precipitation.

9:30 am

**Doing More with Less: Enhanced Biological Phosphorous Removal Using Creative Aeration**

Jacob Metch, Rebecca Elwood, HDR; David Ford, Town of Wolfeboro

A historical data review, supplemental sampling and process modeling were used to determine why cyclic aeration at a water resource reclamation facility in Wolfeboro, NH, yielded both nitrogen removal and enhanced biological phosphorus removal.

10:00 am

**Coffee Break**

10:30 am

**Robust Pathogen Removal by a 10-Year-Old Microfiltration Flat Plate MBR**

Larry Morris, Hiro Kuge, Kubota Membrane USA Corporation; Amos Branch, Carollo Engineers; Chad McBride, Nevada County Sanitation (California)

This presentation will highlight the treatment capability of a 10-year-old microfiltration flat plate membrane bioreactor with respect to pathogen (protozoa and virus) and bacteria removal. The outcomes of this project increase the strength of the case for Membrane Bioreactor (MBR) in reuse treatment schemes.

11:00 am

**Verification of Carbon Footprint Reduction with Wastewater**

**State of Good Repair (SoGR) Project**

Edmund Lee, John Scheri, Mott MacDonald; Michael Wynne, Hanover Sewerage Authority

Improving process efficiency and reducing carbon footprint during SoGR projects of wastewater treatment plants are common goals to maximize the benefit of capital improvement projects. Also, preparing for more stringent future regulatory effluent limits is an important project driver during SoGR projects. This presentation will review the selected SoGR components of the nitrification tank upgrade and will compare the as-built process performance to verify the anticipated process outcomes including nitrogen, alkalinity, phosphorus and aeration system energy use at a 4 mgd wastewater treatment plant for the Hanover Sewerage Authority, in Whippany, NJ.

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**Wednesday, February 8, 2023**

**Sustainability** (Cantor/Jolson, 9th Floor)

2.0 Engineer 2.0 Wastewater 0.5 Water†

Sana Barakat, Arcadis; Zachary Wasserman, AECOM

**How Being Green Can Save You Some Green: Do You Inventory Your Greenhouse Gas Emissions?**

Sarah Deslauriers, Carollo Engineers

Wastewater Resource Recovery Facilities (WRRFs) are being recognized for their role in supporting resilient communities. The Metro District envisioned developing a tool that estimates sources of Greenhouse Gases (GHG) emissions and offsets. The result – a GHG emissions inventory tool that can be used to identify key areas for potential improvement in operations and resource recovery, cost savings and projects that could generate new sources of revenue or position them to be eligible for alternative sources of grant funding.
9:30 am  |  Monroe County Climate Action Plan Phase I
Monroe County Climate Action Plan Phase I
Clement Chung, Michael J. Garland, Monroe County Department of Environmental Services; Monroe County adopted Phase I of its Climate Action Plan (CAP) in 2022, focusing on internal government operations, including the Pure Waters wastewater utility. The CAP establishes a baseline greenhouse gas emissions inventory and targets for emissions reduction. The proposed implementation plan will demonstrate the importance and availability of climate solutions that may be included in the Phase II community-wide CAP.

10:00 am  |  Coffee Break

10:30 am  |  Defining Sustainability: Intentional Planning for the Energy, Carbon and Waste Elements of Wastewater Infrastructure Projects
Jennifer Muir, JKMuir, LLC
With a call to action on climate change, there is increasing pressure from the public, regulatory bodies and society to incorporate sustainability in every facet of our work as water professionals. This presentation will endeavor to define sustainability and what sustainable planning, design and construction looks like. Project sustainability elements that will be discussed include tracking of waste and new materials, facility energy usage and greenhouse gas emissions accounting from a life-cycle perspective, as well as the cost aspects over the project life span. The presentation will include an overview of sustainability frameworks such as Envision, and how these tools can help us integrate sustainability into wastewater infrastructure projects and comply with the new standards and local initiatives.

11:00 am  |  Incorporating Environmental Justice into Project Design: Case Studies from Albany Water
Kaitlyn McKitrick, The City of Albany Water Department
The Albany Water Department is responsible for designing water, sewer and stormwater projects that are socially sustainable so that utility work does not harm communities disproportionately impacted by environmental concerns and instead works to reverse these systemic issues. Recent projects, including green infrastructure design and Lead Service Replacement programming, demonstrate what tools and considerations can be used during planning to ensure greater equity and environmental justice in project implementation.

Wednesday, February 8, 2023

Session 23

Odor Control (Ziegfeld, 4th Floor)

9:00 am  |  Vapor Phase Odor Control & System Design
Christopher West, BioAir Solutions
An overview of Vapor Phase Odor Control options will be presented.

9:30 am  |  Odor Dispersion Modeling: An Effective Tool to Help Facilities Meet Standards, Be a Good Neighbor AND Save Money
Phyllis Diosey, Hazen and Sawyer
Odor dispersion modeling has been shown to be an effective and valuable tool to evaluate odor impacts from existing and proposed wastewater facilities. Three case studies are discussed to show how odor dispersion modeling was used to determine problem odor emitters, compare the cost/benefit of proposed controls and provide required documentation for environmental reviews and permitting processes.

10:00 am  |  Coffee Break
Odor and Corrosion Problems: Two Related Issues Requiring Separate Control Strategies
Randy Nixon, Corrosion Probe, Inc.

Odor control systems are critical to handling and treating foul air in wastewater collection systems and treatment plants. However, odor control systems do not stop corrosion related to biogenic sulfide formation of sulfuric acid as many consultants would have you believe. Conversely, if you have an odor problem, you also typically have a corrosion problem and each problem requires separate control strategies. The objective is to explain why odor control ventilation does not mitigate biogenic sulfide corrosion in wastewater treatment plants or pump stations and to explain why corrosion protection is required despite the use of odor control ventilation. In fact, as this presentation will illustrate, odor control ventilation merely reduces the severity of corrosion related to the bacterial metabolism and oxidation of hydrogen sulfide (H₂S) to form sulfuric acid that damages wastewater system infrastructure. Examples will be given to support these findings.

What’s That Smell & How Do I Fix It?! A Guide to Liquid Phase Odor Control Optimization
Calvin Horst, Evoqua Water Technologies

Liquid phase odor control programs are an integral and often expensive part of collection system management. Understanding what appropriate objectives are for an odor control program allows a practitioner to make best use of time and budget resources. This presentation will discuss the art of goal setting and the technical aspects of chemical dose rate optimization and dosing strategies. Finally, the effectiveness of these practices will be demonstrated by evaluating a real life application.

Session 24
Humanitarian Assistance (Harlem, 7th Floor)

9:00 am
Metropolitan Professional Chapter – Engineers Without Borders
Josue Martinez, EWB

Construction projects across New York state have felt the impacts of COVID-19. Costs have escalated dramatically making WWTP upgrades difficult to implement. Lead times for essential equipment and common materials, like piping and valves, have extended project schedules significantly. The City of Oneida’s $50M WWTP upgrade project was optimally positioned as a Design-Build project to react and adjust to the changing construction environment. Additionally, the Design/Build implementation structure allowed for creative solutions to keep WWTP operational during construction.

9:30 am
A Water Supply Project for Two Villages in Guatemala
Katherine Flores, Allysia Yanez, Liya Stein and Lauren Henkler, SUNY-ESF

In collaboration with the Syracuse Professional chapter of Engineers Without Borders, the SUNY ESF-EWB Student Chapter has been working on a water supply project for two small villages in Guatemala. The communities currently receive their water from a municipal water supply well but it is often not enough to meet demand. Students traveled to Guatemala in January to finalize the water distribution line design and speak to the community members about concerns and updates. The goal is to provide Las Majadas and Bella Vista with an independent, reliable and sufficient source of clean water.

Session 25
Design-Build (Wilder, 4th Floor)

9:00 am
Stars Align for Design-Build at City of Oneida Waste Water Treatment Plant (WWTP)
Amy Hait, George Bevington, Nicholas Despart, Barton & Loguidice

Construction projects across New York state have felt the impacts of COVID-19. Costs have escalated dramatically making WWTP upgrades difficult to implement. Lead times for essential equipment and common materials, like piping and valves, have extended project schedules significantly. The City of Oneida’s $50M WWTP upgrade project was optimally positioned as a design-build project to react and adjust to the changing construction environment. Additionally, the Design/Build implementation structure allowed for creative solutions to keep WWTP operational during construction.
The Grove Pond Water Treatment Plant utilizes anion exchange resin (AIX) technology to successfully remove PFAS.

Join us for CDM Smith presentations: Timothy Adams, PE presents on climate resiliency Tuesday, February 7 at 9 AM and Joshua Soper presents on PFAS Wednesday, February 8 at 1:30 PM.
Mitigating the Impacts of Volatile Market Conditions through Progressive Design-Build

Joe Uglevich, Stantec

COVID-19, extreme inflation and staffing shortages have ravaged our industry over the past 18 months. The team currently building the Bio-Energy facility for WSSC Water has mitigated all of these through the benefits of Progressive Design-Build (PDB). Learn how a collaborative team of builders, designers and owner staff have come together to offset overheated market conditions, labor shortages and price volatility within the current budget. The $270 million Bio-Energy facility at the Piscataway WRRF for WSSC Water began construction in late 2019 just months before the COVID pandemic struck the United States. The team was forced to quickly take decisive action to keep the project on course. We will share with you how this highly technical project is now on track to finish on time and on budget.

Out of the Flood and into BNR: Using Alternative Delivery to Expeditiously and Cost Effectively Deliver a 2.9 MGD WWTP for the City of Evans, CO

Patrick Radabaugh, Dewberry

In September 2013, the City of Evans Waste Water Treatment Plant (WWTP) was destroyed in a 500-year flood event and the residents faced a no flush order for three weeks. The City was aware of the need to upgrade the WWTP; however the City had postponed the project due to cost. Utilizing a Construction Manager at Risk delivery model, the City was able to expeditiously design and construct a cost effective new WWTP.

Past the Off-Ramp to a Successful GMP: Big Creek Progressive Design-Build Project

Rod Pope, Kelly Comstock, Brown and Caldwell; David Clark, Director of Public Works, Fulton County, GA; Duane Petersen, The Walsh Group

Fulton County use of progressive Design-Build for a $300 million WRF expansion will be discussed.

What Goes in Must Come Out: An Approach to Developing a Mass Balance Tool Encompassing Three WRRFs and a Biosolids Processing Facility

Jacob Metch, Michael Falk, HDR; Sam O’Connor, Melanie Murphy, Philadelphia Water Department

The Philadelphia Water Department developed an Excel-based solids mass balance tool to better understand plant solids flows, identify optimization opportunities and to support future planning and operations.

The Town of Webster, NY, Biosolids Market Assessment

Nick Hines, Lisa Challenger, Material Matters

The Town of Webster engaged in a Facilities Improvement Project to tackle rising landfill disposal costs for the Town’s unstabilized wastewater solids. The project includes the installation of anaerobic digesters and a belt dryer to create an Exceptional Quality (EQ) product. This presentation will discuss the market assessment completed by Material Matters, including local opportunities and challenges associated with EQ product management from a regulatory, public perception and local market acceptance point of view.

A 20-Year Legacy of Excellence: Rockland Green’s Commitment to Biosolids Composting

Jeffrey Heath, EDR; Gerard M. Damiani Jr., Executive Director, Rockland Green

Since its opening in 2000, Rockland Green has managed their Biosolids Co-composting Facility through changes of operators, capital equipment reinvestments, a roof collapse from excessive snow load, increased local sludge production, economic pressures from competing landfill tip fees, operational cost increases over time, and a growing public and regulatory desire to increase all organics recycling. Sustaining their commitment required overcoming both process and economic challenges, ultimately leading to new opportunities for expanding organics recycling and increasing revenue generation.
Leading the Way in the Age of PFAS: A Tale of Two Maine Utilities
Natalie Sierra, Tracy Chouinard, Brown and Caldwell; Scott Firmin, Portland Water District; Travis Peaslee, Lewiston-Auburn Water Pollution Control District

In the face of increasing restrictions on biosolids management in Maine, two of the state’s largest utilities, PWD and LAWPCA, have completed proactive planning efforts to create management capacity and help minimize risk and rising biosolids fees. Strategies evaluated ranged from proven technologies, like thermal drying, to emerging technologies, like pyrolysis and gasification. Also to be discussed are the way the two utilities have explored regional solutions as a means of collaborating and providing leadership.

Wednesday, February 8, 2023
PFAS (Cantor/Jolson, 9th Floor)

1:30 pm
PFAS Data from over 200 California Wastewater Treatment Plants
Josh Soper, Chris Gurr, CDM Smith

This presentation focuses on a high-level analysis of the publicly available “GeoTracker” PFAS dataset, which reports standardized data for 39 unique PFAS compounds at over 200 wastewater treatment facilities in California. While the dataset is fit for a range of potential studies, this presentation focuses on three topics: (1) a comparison between wastewater influent and effluent concentrations, (2) a discussion of handling data abundant with non-detects, and (3) a comparison to regulatory standards.

2:00 pm
Land to Landfill: How Presque Isle Utilities District Changed Its Handling of PFAS-Containing Biosolids
Julianne Page, Robert Polys, Woodard & Curran; Ross McQuade, Presque Isle Utility District

After years of hauling thickened liquid sludge from its Water Resource Recovery Facility offsite for land application, the Presque Isle Utilities District in remote Aroostook County, ME, halted this practice due to rising concerns surrounding the presence per- and polyfluoroalkyl substances (PFAS) in biosolids leaching into the environment. This presentation will discuss how the District responded with an interim solution and permanent plans for long-term handling of wastewater residuals.

2:30 pm
Coffee Break

3:00 pm
Effective PFAS Removal from Landfill Leachate Using Foam Fractionation Followed by Media Filtration
Martin Bureau, Sanexen Water LLC

A proprietary technology based on foam fractionation (FF) was specifically designed to remove PFAS in landfill leachates as a continuous flow system with zero gaseous emissions. Results from full-scale field demonstration projects on high PFAS concentration leachates will be presented that shows effective removal of most long-chain PFAS and of up to 50% short-chain PFAS at the FF stage and removal to near Non-Detect levels after final media polishing.

3:30 pm
Is It Possible to Remove PFAS from Biosolids? A Review of Different PFAS Removal Technologies
Ramola Vaidya, Mamatha Hopanna, Sebastian Smoot, HDR

Recently PFAS in biosolids has been getting considerable attention due to leaching of PFAS in soils after land application coupled with upcoming regulations. PFAS removal technologies in biosolids are still being developed, with few showing potential for PFAS destruction. This study compared different thermal treatment technologies, such as incineration, pyrolysis, gasification, super critical water oxidation and others, in terms of their development, implementation, and readiness levels for PFAS and biosolids treatment.
Session 28
Research & Innovation (Odets, 4th Floor)

Wednesday, February 8, 2023

CONTACT HOURS
2.0 Engineer  2.0 Wastewater

MODERATORS
Toby Singer, NYCDEP; Fred Kincheloe, Savin

1:30 pm

PowerBI and Piloting: Monitoring Micro-Aeration for H$_2$S Control at Chambers Creek
Christopher Muller, Karina Woodland, Vicky Hollingsworth, Brown and Caldwell; Karla Guevarra, Pierce County, WA
This presentation will describe the implementation of a full-scale micro-aeration project for the in-situ control of hydrogen sulfide at the Chambers Creek Wastewater Treatment Plant. The presentation will discuss the approach the results and the utilization of different data monitoring and evaluation tools to monitor and control the pilot.

2:00 pm

Impacts of Low Temperature Thermal Hydrolysis (THP) on Anaerobic Digestion (AD) Biogas Production and Dewaterability of Digested Sludge
Roland Jezek, Krish Ramalingam, Alex Rosenthal, Roland Jezek, City College of New York; Natalia Perez, New York City Environmental Protection
Thermal hydrolysis is a pretreatment technology for anaerobic digestion to improve production of methane, enhance dewatering, and significantly decrease pathogens to expand the options for biosolids utilization. Experiments were conducted to assess the impact of a THP temperature of 120°C on AD biogas production and digested sludge dewaterability. Three laboratory-scale mesophilic digesters were operated to compare biogas production and dewaterability performance for a common feedstock without THP, with THP at 120°C, and with THP at 160°C.

2:30 pm

Coffee Break

3:00 pm

The Role of an Adequate Anaerobic Mass Fraction on RAS Hydrolysis/Fermentation for Sustainable EBPR Process
Parnian Izadi, Danelle Bishoff, Mehran Andalib, Julian Xheko, Stantec
The significance of anaerobic mass fraction in an Enhanced Biological Phosphorus Removal (EBPR) system is discussed in this presentation in terms of the anaerobic hydrolysis/fermentation rate and based on whether it verifies the default values proposed in literature and modeling simulations. Experimenting Bonnybrook Wastewater Treatment Plant, Calgary, Canada, and laboratory-scale batch tests identifies and validates the effect of proper anaerobic design on anaerobic hydrolysis and fermentation and calculates the hydrolysis rate to reach the desirable limit of carbon source availability.

3:30 pm

Attenuation and Mobilization of Phosphorus in Biofilters Treating Onsite Wastewater
Mian Wang, Siwei Chen, Christopher J. Gobler, Xinwei Mao, Stony Brook University
On-site wastewater treatment systems (OWTS) can contribute to the excess of phosphorus in watershed. Due to the unique characteristics of on-site wastewater and soil-based OWTS, it is critical to understand the phosphorus attenuation level, removal mechanisms, and leaching potential within the systems, which can help design and implement phosphorus removal/recovery units. The goal is to investigate the phosphorus attenuation and leaching process within the nitrogen removal biofilters when treating onsite wastewater under different environmental conditions.
Session 29

Wednesday, February 8, 2023

**Wastewater in a Digital World/Utility of the Future**
(Wilder, 4th Floor)

**CONTACT HOURS**
2.0 Engineer  2.0 Wastewater

**MODERATORS**
Vin Rubino, Wade Trim; Peter Petriccione, Gannett Fleming

**1:30 pm**

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**Digital Transformation for Water and Wastewater**
Reginal Joseph, Anthony Campanella, NYCDEP–Bureau of Wastewater Treatment

Digital transformation for the water and wastewater industry centers around the adoption and integration of digital technologies to fundamentally address challenges such as increased operating cost, climate change, the “gray tsunami”, and knowledge retention. Within NYC’s Department of Environmental Protection (DEP), the Bureau of Wastewater Treatment (BWT) is currently engaged in various improvement initiatives with the goal of transitioning to a data driven organization. Based on the framework published by the S.W.A.N institute, the Bureau’s efforts are focused on: Sensing/Control (Sensors, Actuators, Advanced Monitoring); Data Collection and Sources (Business & Operational Systems, Automation Systems); Data Integration (Data centralization and management); Analytics (Data Driven Models, Physics Based Models, What-if Scenarios, Real-time Performance Dashboards); Visualization (Simulation and Decision Support Tools); Advanced tools (Digital Twins, A.I. and Machine Learning models).

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**2:00 pm**

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**What Can You Do to Digitally Transform Your Utility and Become a Smart Water Utility?**
John Abrera, Vijesh Karatt Vellatt, Stantec

Water utilities continue to face the numerous challenges and are continually looking for strategies, initiatives, and solutions to address them. Water utilities have been testing and trying new approaches to leverage innovation and technology to improve their organizational performance and gain resource effectiveness and efficiencies. This presentation will focus on developing a digital transformation plan to implement smart and intelligent water solutions, and present case studies of common use cases and quick win projects.

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**2:30 pm**

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**Coffee Break**

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**3:00 pm**

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**What Have We Learned from AI?**
Sue Guswa, Woodard & Curran

Water reclamation facilities routinely collect vast quantities of data. Combined with other data sources, this provides an opportunity to apply emerging artificial intelligence and machine learning techniques to support operational and business decisions. This presentation will discuss the experience of staff and managers at facilities that have implemented machine learning techniques. It will illustrate the challenges and potential of these approaches, share lessons learned in fostering staff buy-in, and describe the outcomes of these efforts.

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**3:30 pm**

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**Reality Capture Technologies: Bringing Value to Owners (Making the Inaccessible Accessible)**
Rory Ball, Neil Wakeman, Wade Trim

A Reality Capture data collection approach uses a combination of digital hardware and software technology to quickly and cost-effectively make an accurate record of existing surroundings for design, construction, and related purposes. Data collected with drones, terrestrial laser scanning equipment, and mobile capture equipment can be published and used for site planning and coordination between owners, designers, contractors, and the public.
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ARE YOU A NEW MEMBER?
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Tuesday Feb. 7 at 7:30 am
Juniors Restaurant (1515 Broadway at 45th)
Come and welcome a new member!

RSVP: carolyn@nywea.org

Women of Water Networking Event
All Are Welcome! The Event is Free!
The Water Woman Project
Featuring Silvan Schlecter
Monday, February 6, 2023, 4:45pm-5:45 pm
Location TBA
Moderated by President Khristopher Dodson

New York is facing two water crises at once: Aging water infrastructure and a retiring water workforce. The current water workforce is approximately 20% women, while the current pipeline lacks talent to fill the growing list of open positions, including water tech jobs to come as utilities make the digital transition. The WaterRising Institute believes that we need to rebuild our infrastructure and invest in the people to run it – with equal access to career opportunities for all genders, especially women and people of color within communities that are absorbing the greatest impacts of climate change.

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Network & Build Relationships
NYWEA members help each other develop and grow professionally while building valuable relationships within the industry.

Impact the Future
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Special Events

Monday, February 6, 2023

4:45 pm-5:45 pm  
Women’s Networking (Location TBA) (Sign-up sheet at Registration.) (FREE)
The Women’s Networking Event is meant to be a time for women in the water industry to get together, get to know each other and share stories. This year we will kick off the event with a discussion led by Silvan Schlecter about the Water Woman Project, a new program of WaterRising Institute. We hope to see you there!

Tuesday, February 7, 2023

7:30 am-8:30 am  
New Member Meet ‘n Greet Breakfast (Junior’s Restaurant, 1515 Broadway at 45th)
New members, come join your NYWEA contemporaries.
RSVP: carolyn@nywea.org.

7:30 am-9:00 am  
Collection Systems Breakfast, Brecht, 4th floor (Registration required.)

1:30 pm-4:30 pm  
Student Paper Competition
During the University Forum
Awards will be presented in four categories:
  1st Place – $600 and a plaque
  2nd Place – $250 and a plaque
  3rd Place – $150 and a plaque
  Finalist – Plaque

4:30 pm- 6:30 pm  
YP Reception (Marriott Marquis, 9th Floor, Upper Terrace Promenade) Registration required. (FREE)
All are welcome to attend!

Wednesday, February 8, 2023

7:30 am-9:00 am  
Water Ambassadors Breakfast (Juniors Restaurant)

12:00 pm-1:30 pm  
Awards Ceremony (Registration required.)
Come and enjoy lunch and celebrate deserving individuals and utilities!

NYWEA YP Reception – Tues., Feb. 7, 4:30 pm-6:30 pm
Students, professionals of all experience levels are welcome to attend! Conference registration is not required.
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John Sansalone
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2013 Inductee
Keneck Skibinski

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Robert Butterworth
William J. Grandner

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Robert J. Kukenberger

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Henry J. Chlupsa
Janice Jijina
Jerry Lasthenos
Norm R. Melbinger

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Fotios Papamichael
Nicholas S. Ilijic

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Gerry Fleet
Donald Stevens
James Brown
William Larkin
Ralph Sweeney
John D. Cameron

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Earl Devendorf
Robert MacCrea
Donald Aulenbach

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Morrell Vrooman
George O’Keefe

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2003 Inductees
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**Booth 28**

**Booth 107**

**Booth 32 & 33**

**Booth 45**

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www.jagerinc.com  www.haarslev.com  Booth 10

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GP Jager Inc./AERZEN  AERZEN manufactures Positive Displacement Blowers, Hybrid Compressors, Screw Compressors, and Turbo Blowers. The high-quality machines are used for air and gas applications in wastewater treatment, pneumatic conveying of bulk materials, and process gas conveying. scott.trail@aerzen.com  www.aerzenusa.com  Booth 3


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Booth 84

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https://www.hymaxusa.com/

Booth 49

Infiltrator Water Technologies is a market leader within the onsite wastewater treatment industry, Infiltrator manufactures a variety of revolutionary products and innovative, environmentally friendly alternatives to traditional stone and pipe leachfield and concrete septic wastewater system components. In recent years, Infiltrator has expanded into the active wastewater treatment market with the acquisition of Delta Treatment Systems. Delta manufactures residential, commercial and small municipal aerobic wastewater treatment solutions from 1,000 GPD up to 250,000 GPD.
edalton@infiltratorwater.com www.infiltratorwater.com

Booth 96

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Booth 121

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Booth 65

INVENT Environmental Technologies, Inc. is a leader in mixing and aeration equipment. The supply of high-quality water and the treatment of wastewater is one of the most important goals of our time. INVENT Environmental Technologies, Inc. develops, produces and distributes innovative mechanical equipment, process technology and systems for the treatment of water and wastewater throughout the world. pdonnell@invent-et.com www.invent-et.com

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Koester Associates, Inc. is a manufacturers’ representative firm supplying water and wastewater treatment and pumping equipment to municipalities throughout New York state and New Jersey with a strong emphasis on field service and customer support. swilliams@koesterassociates.com  www.koesterassociates.com  Booth 105

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Kubota Membrane USA Corporation is an MBR system supplier based on the Kubota Submerged Membrane Unit® (SMU). The Kubota SMU was pioneered to treat municipal, commercial and industrial wastewater simply and successfully. A Membrane Bioreactor (MBR) in which Kubota flat sheet SMUs are installed is very compact and enables you to get high quality effluent with low environmental impact. kevin.crane@kubota.com  koesterassociates.com  Booth 104

Lakeside/GA Fleet Experts in treatment equipment and process solutions since 1928 Lakeside Equipment Corporation is a proven provider of reliable, efficient, cost-effective equipment for the treatment of municipal and industrial wastewater. With a wide range of systems and products for virtually all stages of wastewater treatment, from influent to discharge, Lakeside offers consulting engineers and plant operators the assurance of the highest quality performance. When Lakeside equipment is specified for their projects they know they will receive the correct equipment to meet their plant’s requirements in all phases of water treatment. be@lakeside-equipment.com  https://www.gafleet.com/  Booth 115

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Marine & Industrial Hydraulics, Inc. (MIH) custom designs and builds Trident electro-hydraulic actuators and control panels for the critical operation of valves and gates in municipal water and wastewater treatment facilities, pumping stations and combined sewer overflow (CSO). MIH has installations of its Trident actuators throughout North America (with many located in New York City) and Hong Kong. MIH was established in 1968. MIH’s Trident actuators can operate any type of valve or gate and can be submersible and explosion proof. MIH supplies Trident actuators that are fail-set (remain in place on power loss), fail-safe (open or close automatically on power loss), or fail-safe on command (open or close on power loss after initiated by an operator). d.oflynnobrien@mihtrident.com  Booth 79

McWane Plant & Industrial Combining the immersive expertise from eight key water infrastructure brands in the McWane family of companies, McWane Plant & Industrial (MPI) provides a singular access point for the essential products and service required for any water or wastewater plant project. We provide a primary source for best-in-class products from time-tested brands; offer veteran specialists as resources for any plant project of any scale; and increase the ease and efficiency of the planning and completion of our clients’ projects. Our dedicated team is comprised of dozens of treatment plant specialists with decades of experience designing and building complex water treatment and delivery solutions. We work cooperatively with industry partners to give each project the attention it deserves, providing unprecedented levels of communication, access and collaboration. Stephen.MacDonald@Mcwanepi.com  www.mcwanepi.com  Booth 44
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North East Technical Sales Instrumentation products such as water quality monitors, flow meters, gas detection and level products. Manufacturers include Xylem YSI for DO, TSS, pH, ORP, Ammonia, Nitrate and sludge level, Hach Flow, Vega level (replace ultrasonic and bubblers with radar), Scott gas detection, Toshiba mag meters (no straight run required), Sierra Instruments (thermal mass flow meters that don't need calibration or to be sent back to factory) and Ayyeka wireless data monitoring. jhampson@netechsales.com  www.netechsales.com

Novinfra inc. as a distributor, offers innovative solutions for water infrastructures in the pursuit of creating revolutionary standards for sustainable underground infrastructure, putting longevity features as the most important criteria when proposing new solutions to our clients. Novinfra works in partnership with worldwide-known manufacturers to provide tailored solutions for new infrastructures, their replacement or structural rehabilitation. We supply fiberglass reinforced polymer (FRP) pipes and fittings for applications such as portable water, irrigation, wastewater and drainage, sea water intake and discharge and trenchless technologies. Novinfra offers products accompanied by a service and an approach adapted to its clients needs and reality in the field. We accompany our clients from the planning stage definition to the projects realization to help prevent potential problems and make our collaborator's life easier. abouchard@novinfra.com  https://novinfra.com/
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Oldcastle Precast/GA Fleet  Oldcastle’s OneLift pump station is a prepackaged system for sewage and stormwater transfer that provides to time/cost savings. OneLift is “Turnkey”, provided with all interior equipment including pumps and controls. ken.pasco@oldcastle.com www.oldcastleprecast.com

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Booth 63

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Booth 129

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Booth 125

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Site Specific Design – Pump Sales and Service On-Site Wastwater Solutions. scameron@sitespecificsales.com http://sitespecificsales.com/

Booth 181

Booth 20

Booth 14

Booth 18

Booth 19

Booth 42

Booth 15

Booth 17

Booth 16

Booth 41

Booth 182
Long-Standing Members (Will be recognized during the Awards Ceremony, Wednesday, February 8, 2023)

We celebrate the following environmental professionals who have dedicated their time, talents and attention to working on water quality.

**60 YEARS**
- John De Zuane
- James Mueller
- Donald Schwinn

**50 YEARS**
- Richard Crist
- Charles DeFazio

**40 YEARS**
- Van Bartlett
- Glenn Curtis
- Steven Devan
- Walter Dobkowski
- Paul Drof
- Keith Kelly
- Robert Raab
- Richard Roll
- Stuart Spiegel

**30 YEARS**
- Thomas Babcock
- Keith Cataldo
- Philip Derrenbacher
- Richard Dunning
- Daniel Durfee
- Kim Emmons
- James Farr
- Brian Farrelly
- Christopher Gardner
- Timothy Gottlieb
- Carl Horne
- Yumei Li
- John Manahan
- Michael Manning
- John Mele
- Franco Montalto
- Jonathan Ruff
- William Schutt
- Yvonne Tucker

**20 YEARS**
- Brian Blouin
- J. Jeffrey Cook

John Corkery
William Doubleday
Joseph Fiteni
Russell Galati
David Laporta
Jeffrey Leblanc
Lauren Livermore
Mark Maimone
Timothy Mc Donald
Janice Mc Govern
Vanessa McPherson
Kathleen O’Connor
John Petito
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That’s 1,690 years of Knowledge!
SNF Polydyne Inc. is a wholly-owned subsidiary of SNF Holding Company and is responsible for the direct marketing of products, equipment, applications expertise, and related services to the municipal potable water and wastewater markets in the United States. Polydyne is the market leader in supplying water-soluble polymers for the most demanding municipal solids-liquids separation processes.

Spectraserv Inc. is a family-owned waste disposal/construction company operating as a wastewater mechanical contractor, as well as a residuals processing and transfer facility.

Technical Devices Inc. is a Manufacturers’ Representative covering southeast New York, New York City, Long Island, New Jersey, eastern Pennsylvania, Delaware and Maryland. TDI represents the finest manufacturers of flow, level, analytical, gas detection and telemetry products for sales, application support and service.

Tek-Sales, Inc. has been an industry leader in the municipal and industrial valve market since 1967. As one of the oldest and best Dezurik representatives in the world, our valves are in every water and wastewater plant in New York and New Jersey as well as in many industrial applications. Tek-Sales represents additional quality flow control and actuation manufacturers such as Fontaine-Aquanox, Red Valve, AUMA, Troy Valve, OCV and ACME Engineered Products.

Tetra Tech, Inc. began providing engineering services in New York City in 1952. We have grown to become a recognized leader in the engineering design market as the #4 ranked design firm in the most recent 2022 Engineering News Record (ENR) rankings. Tetra Tech also ranked #1 in Water (19 years in a row), #1 in Environmental Management (14 years in a row), #1 in Water Treatment/Desalination, #3 in Sewer & Waste, and #5 in the Top 100 Green Design Firms in the nation. We have 21,000 employees in more than 450 offices worldwide, including 426 professionals in our seven offices throughout New York.

Tetra Tech, Inc.

Thermal Process/World Water Works/GA Fleet. Thermal Process Systems works alongside water reclamation facilities to reduce biosolids, odors and operating costs through a revolutionary ecosystem of biosolids management solutions that deliver high solids destruction with low energy consumption. World Water Works is an industry leader in advanced wastewater treatment processes, focusing on mainstream media-based biological treatment, Anammox side-stream treatment and sludge densification. With over 25 years’ experience in the municipal and industrial markets, World Water Works excels with strong partnerships, cutting edge engineering and value based products.

Trillium/Wemco/GA Fleet. Trillium Pumps has over 50 years’ experience in the design and manufacturing of solids handling pumps, pump systems, and grit removal equipment, with installations and proven results in some of the most demanding solids handling and municipal applications.

Trojan Technologies/GA Fleet. Trojan serves performance-driven municipal, industrial, and residential water treatment professionals by engineering solutions that enable our customers to meet their water quality objectives and improve the lives of more than one billion people globally. Our products and services play vital roles in making the various stages of the water treatment process more effective and efficient.

Troup Environmental Alternatives LLC represents Wet Well Wizard aerators for the elimination of FOG and odors in collection systems; Lagoon Master water-moving sludge activating aerators; and Turbo-Disc automatic self-cleaning disk filters.

Tully Environmental Inc. dba Clearbrook Wastewater management Services.

Turtle & Hughes, established in 1923, is one of the nation’s largest independent electrical and industrial distribution companies serving the industrial, construction, commercial, electrical contracting, export and utility markets.
Varec Biogas/GA Fleet The Vapor Recovery Systems Co. (VAREC) began business in the early 1930’s at its manufacturing plant in Compton, California. While in its infancy, the biogas market of the early 1950’s experienced rapid growth. This led to Varec’s focus on delivering quality biogas handling products, specifically designed with each customer in mind. That focus led to the creation of Varec Biogas. Our focus remains – delivering quality products specific to our customers’ needs. Our greatest asset is the continued support of our loyal customers. We will constantly strive to create solutions that will meet and exceed our customers’ expectations and future needs. elizabeth.zita@ovivowater.com https://www.varec-biogas.com/ Booth 112

VEGA Americas, Inc. for more than 70 years has provided industry-leading products for the measurement of level and pressure. VEGA’s full product line of level and pressure measurement instrumentation allows us to provide one of the most complete ranges of measurement solutions in the industry. Using radar, pressure, differential pressure, electronic differential pressure, and point level switches, VEGA has helped municipalities around the world improve their processes with reliable, maintenance-free measurements. Using VEGA instrumentation, our solutions provide accurate measurements in processes from collections systems to the wastewater treatment plant and drinking water supply systems. c.groom@vega.com www.vega.com Booth 54

Victaulic Company, headquartered in Easton, PA, Victaulic is the leading producer of mechanical pipe joining solutions. We build technologies and provide engineering services that address the most complex piping challenges faced by engineers, site owners, contractors and distributors. We are vertically integrated with engineering, research, product development, and manufacturing all controlled from within, ensuring quality throughout all our global manufacturing facilities. Engineered with confidence, our solutions put people to work faster, while increasing safety, ensuring reliability and maximizing efficiency. daniel.thompson@victaulic.com https://www.victaulic.com/ Booth 69

Walker Process Equipment, since 1946, has been a manufacturer of a broad line of water and wastewater treatment equipment for both the municipal and industrial marketplace. This being our sole endeavor, we are truly “Dedicated to the Water and Wastewater Industry!” As a Division of McNish Corporation, Walker Process is dedicated to providing quality equipment at the lowest cost through innovative production techniques and total utilization of our facilities and manpower. jthomas@walker-process.com http://www.walker-process.com/ Booth 106

Wastecorp Pumps LLC is an OEM manufacturer of solids and slurry handling pumps for municipal/industrial applications. Wastecorp’s brands include America’s favorite diaphragm pump the Mud Sucker, Sludge Master plunger pumps, Sludge Pro double disc pumps, Trash Flow self priming trash pumps and of course our new Super Duty vacuum pump brand. Wastecorp’s pump products are available worldwide. Contact Wastecorp Pumps toll-free at 1-888-829-2783 or by e-mail: info@wastecorp.com. Be sure to visit https://www.wastecorp.com mdomingos@wastecorp.com Booth 64

Westech/GA Fleet Westech Engineering, LLC provides process solutions for water and wastewater treatment, liquid/solids separation, and biological treatment needs in municipal, industrial and minerals markets worldwide. Founded in 1973, we have over 500 employees around the world who deeply value the trust our customers place in us when they choose Westech. gpayne@westtech-inc.com https://www.gafleet.com/ Booth 50

World Water Operator Training Company The WWOTC is a Canadian-based water and wastewater operator training company that has trained over 50,000 students, at more than 4,500 training events, over 20 years. ctaylor@wwotc.ca www.wwotc.com Booth 180

Xylem-Godwin is the world leader in manufacturing tough, portable and reliable pumps. We are fully dedicated to delivering pumping solutions for our customers, with more than 100 years of heritage behind our Godwin brand. We design, manufacture, service, sell and rent products that are efficient, reliable and targeted to the specific needs of our customers. Our rental fleet, world-class application engineering, and proven 24/7 service and support are ready to meet your emergency pumping needs. john.baird@xylem.com www.xyleminc.com Booth 111
**NYWEA's Avril D. Woodhead “Grit” Scholarship**

**Grit** is defined in the dictionary as courage and resolve; strength of character; possessing an indomitable spirit; having a passion for a personal goal; earning success through hard work. And so much more!

This scholarship was created in Dr. Avril D. Woodhead’s name, as she exemplified the characteristics of grit in both her personal and professional life.

The $2,500 scholarship can be used for expenses or activities that would move the applicant closer to achieving their stated goal in a science, technology, engineering and math (STEM) field.

It is for persons 17 or older who identify as female or nonbinary, and have demonstrated grit – maintaining effort and interest – despite setbacks as they work towards their goals, and are interested in, or already participating in, a STEM field. This can include, but is not limited to: operators, engineers, field staff, accountants, administrators, scientists, or other organizational functions that advance the protection of our environment. **You do not need to be a student to apply!**

The deadline has been extended to **February 28, 2023**!

Visit NYWEA.org to learn more and apply!
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<td><a href="mailto:cmuller@brwncald.com">cmuller@brwncald.com</a></td>
<td>Brown and Caldwell</td>
<td>28.1</td>
</tr>
<tr>
<td>Randy Nixon</td>
<td><a href="mailto:nixonr@cpengineering.com">nixonr@cpengineering.com</a></td>
<td>Corrosion Probe, Inc.</td>
<td>23.3</td>
</tr>
<tr>
<td>Neil O’Connor</td>
<td><a href="mailto:noconnor@albanyny.gov">noconnor@albanyny.gov</a></td>
<td>City of Albany Water Department</td>
<td>5.4</td>
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<tr>
<td>Rachel Osborn</td>
<td><a href="mailto:rosborn@woodardcurran.com">rosborn@woodardcurran.com</a></td>
<td>Woodard &amp; Curran</td>
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<tr>
<td>Julianne Page</td>
<td><a href="mailto:jpage@woodardcurran.com">jpage@woodardcurran.com</a></td>
<td>Woodard &amp; Curran</td>
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<tr>
<td>Ken Pasco</td>
<td><a href="mailto:ken.pasco@oldcastle.com">ken.pasco@oldcastle.com</a></td>
<td>Oldcastle Infrastructure</td>
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<tr>
<td>Philip Pedros</td>
<td><a href="mailto:philip.pedros@mottmac.com">philip.pedros@mottmac.com</a></td>
<td>Mott MacDonald</td>
<td>19.4</td>
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<tr>
<td>Christopher Pierce</td>
<td><a href="mailto:chris.pierce@wright-pierce.com">chris.pierce@wright-pierce.com</a></td>
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<tr>
<td>Roland Pilemalm</td>
<td><a href="mailto:RPilemalm@carollo.com">RPilemalm@carollo.com</a></td>
<td>Carollo Engineers, PC</td>
<td>14.3</td>
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<tr>
<td>Sergio Pino-Jelicc</td>
<td><a href="mailto:sergio.pino-jelicc@ovivowater.com">sergio.pino-jelicc@ovivowater.com</a></td>
<td>Ovivo</td>
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<td>Rod Pope</td>
<td>r <a href="mailto:pope@brwncald.com">pope@brwncald.com</a></td>
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<tr>
<td>Patrick Radabaugh</td>
<td><a href="mailto:pradabaugh@dewberry.com">pradabaugh@dewberry.com</a></td>
<td>Dewberry</td>
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</table>

**KEY: OS = Opening Session**
<table>
<thead>
<tr>
<th>SPEAKER</th>
<th>EMAIL</th>
<th>COMPANY</th>
<th>SESSION#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adriana Restrepo</td>
<td><a href="mailto:arestrepo@db-eng.com">arestrepo@db-eng.com</a></td>
<td>D&amp;B Engineers an Architects</td>
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</tr>
<tr>
<td>Ryan Roberts</td>
<td><a href="mailto:ryan.roberts@stantec.com">ryan.roberts@stantec.com</a></td>
<td>Stantec Consulting</td>
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<tr>
<td>Paul Rush</td>
<td><a href="mailto:prush@dep.nyc.gov">prush@dep.nyc.gov</a></td>
<td>NYCDEP</td>
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<tr>
<td>Dave Sandy</td>
<td><a href="mailto:dave.sandy@ghd.com">dave.sandy@ghd.com</a></td>
<td>GHD</td>
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<tr>
<td>Gregory Santoro</td>
<td><a href="mailto:gsantoro03@manhattan.edu">gsantoro03@manhattan.edu</a></td>
<td>EnTech Engineering, PC</td>
<td>20.5</td>
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<tr>
<td>Aykut Sayin</td>
<td><a href="mailto:asayin000@citymail.cuny.edu">asayin000@citymail.cuny.edu</a></td>
<td>Research Foundation of the CUNY (RFCUNY)</td>
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<tr>
<td>Ray Schofield</td>
<td><a href="mailto:rschofield@edrdpc.com">rschofield@edrdpc.com</a></td>
<td>EDR</td>
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<tr>
<td>Brian Serio</td>
<td><a href="mailto:brian.serio@savecowaterna.com">brian.serio@savecowaterna.com</a></td>
<td>SAVÉCO</td>
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<tr>
<td>Kathryn Serra</td>
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<td>C.T. Male Associates</td>
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<tr>
<td>Edward Shea</td>
<td><a href="mailto:edward.shea@hdrinc.com">edward.shea@hdrinc.com</a></td>
<td>HDR</td>
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<td>Natalie Sierra</td>
<td>nsierra@brwn Cald.com</td>
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<td>Josh Soper</td>
<td><a href="mailto:soperjj@cdmsmith.com">soperjj@cdmsmith.com</a></td>
<td>CDM Smith</td>
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<td>David Stahl</td>
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<tr>
<td>Liya Stein</td>
<td><a href="mailto:Liyastein5339@gmail.com">Liyastein5339@gmail.com</a></td>
<td>SUNY-ESF</td>
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<td>Jay Surti</td>
<td><a href="mailto:jay.surti@ghd.com">jay.surti@ghd.com</a></td>
<td>GHD</td>
<td>3.1, 6</td>
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<tr>
<td>Yuyin Tang</td>
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<td>Stony Brook University</td>
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<td>James Thayer</td>
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<td>City of Troy</td>
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<td>20.6</td>
</tr>
</tbody>
</table>

KEY: OS = Opening Session

Remember to Fill Out Your Speaker Evaluations!  
Speaker Evaluation link on Whova App.  
https://tinyurl.com/EvalW23  
(Speaker Evaluation link through Google.)
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Tarrytown, NY 10591
914.292.1810

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The upcoming Joint NYWEA/NEWEA Spring Technical Conference & Exhibition is taking place at the historic and centrally located Saratoga Hilton in Saratoga Springs, NY. The meeting is scheduled to take place June 7-9, 2023. This every-five year event features three days of technical presentations as well as the Operations Challenge competition, exhibits and tours.

The meeting topics are intentionally broad to allow for focus on timely issues that may span multiple technical sessions and regions.

Visit nywea.org for details.

VOLUNTEER FOR A COMMITTEE:

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NYWEA’s volunteer committees are the driving force behind the organization’s work, get involved and make a difference now and for the future! We are currently looking for participation on the following committees:

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- Conference Management
- Energy/Research
- Government Affairs
- Humanitarian Assistance
- Member Education
- Public Outreach
- Publications
- Scholarship
- Stormwater
- Utility O&M
- Watershed

Fill out an application today at www.nywea.org. You can make a difference.

“Leave your comfort zone!
Go stretch yourself for a good cause!”

Kobi Yamada
Do You Have a Child Who Wants to Follow Your Career Path?

NYWEA Members:
Did you know your child could receive a scholarship to pursue an environmental career?

The application period is open now for "Children of NYWEA Members Scholarship", with awards up to $4,000!

ELIGIBILITY REQUIREMENTS:
• A parent who has been a member in good standing of the NYWEA for at least one year prior to application;
• The applicant must enroll as a full-time student in an environmentally related program that allows them to pursue a professional career in the environmental field;
• High school senior and must enroll at a college or university by September 2023, or a student in good standing at a college or university and will begin the Sophomore, Junior or Senior year by September 2023.
• Deadline: February 28, 2023, 5 PM (EST).

Visit nywea.org for scholarship details and online application!

Seeking N.G. Kaul Scholarship Applications. Do You Know Someone Eligible to Apply?

N.G. Kaul was a highly respected engineer, an immigrant from India who fulfilled the American dream of opportunity realized. He had a distinguished career in public service, first with New York City and then with the New York State DEC, rising to the position of Director of the Division of Water in 1992. That service was capped, upon his retirement in 2002, by his appointment as Director of the USEPA effort to implement the dredging of PCB-polluted sediments in the Hudson River. He died in February of 2004, however, his memory lives on in these scholarships.

The N.G. Kaul Memorial Scholarship Fund will be offering up to $5,000 in scholarships to students pursuing graduate or doctoral degrees in environmental/civil engineering or environmental science concentrating on water quality who show a commitment to government service.

Scholarship application is available on the NYWEA website (www.nywea.org). The deadline for application is February 28, 2023 (5:00 pm EST).

Are you interested in serving as a member of the review team to evaluate applications? If so, please email Madison Quinn at madison@nywea.org.
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95TH ANNUAL MEETING & EXHIBITION
FEBRUARY 6-8, 2023
MAKING WAVES

NYWEA 95th Annual Meeting and Exhibit

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<thead>
<tr>
<th>Sunday</th>
<th>Committee Meetings and Special Events</th>
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<td>February 5, 2023</td>
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</tr>
<tr>
<td>9:00 am-12:00 pm</td>
<td>Executive Committee Meeting</td>
</tr>
<tr>
<td>12:30 pm-3:30 pm</td>
<td>Board of Directors, O'Neill, 4th Floor</td>
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<tr>
<td>Monday</td>
<td>February 6, 2023</td>
</tr>
<tr>
<td>8:30 am-11:30 am</td>
<td>Opening Session, Marquis Ballroom 9th Floor</td>
</tr>
<tr>
<td>10:00 am-6:00 pm</td>
<td>Exhibit Hall Open, 5th Floor</td>
</tr>
<tr>
<td>12:00 pm-1:00 pm</td>
<td>Metropolitan Chapter Board, Harlem, 7th Floor</td>
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<tr>
<td>12:15 pm-1:30 pm</td>
<td>Governance Council, Brecht, 4th Floor</td>
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<tr>
<td>12:15 pm-1:30 pm</td>
<td>Wastewater Operator Certification Governance Council, Brecht, 4th Floor</td>
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<td>1:30 pm-2:30 pm</td>
<td>Humanitarian Assistance Committee, Barrymore, 9th Floor</td>
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<td>2:30 pm-3:30 pm</td>
<td>Stormwater Committee, O'Neill, 4th Floor</td>
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<tr>
<td>2:30 pm-1:30 pm</td>
<td>Diversity &amp; Inclusion, Gilbert, 4th Floor</td>
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<tr>
<td>2:30 pm-3:30 pm</td>
<td>Program Committee, Harlem, 7th Floor</td>
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<td>2:30 pm-3:30 pm</td>
<td>Asset Management, Brecht, 4th Floor</td>
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<tr>
<td>3:00 pm-4:00 pm</td>
<td>Utility O&amp;M, Barrymore, 9th Floor</td>
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<td>4:30 pm-5:30 pm</td>
<td>Certification Committee, O'Neill 4th Floor</td>
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<td>4:00 pm-6:00 pm</td>
<td>Exhibitor Reception, Exhibit Hall, 5th Floor</td>
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<tr>
<td>4:45 pm-5:45 pm</td>
<td>Women's Networking, Location TBA (Sign-up sheet at Registration.)</td>
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<tr>
<td>Tuesday</td>
<td>February 7, 2023</td>
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<tr>
<td>7:30 am-9:00 am</td>
<td>Collection Systems Breakfast, Brecht, 4th Floor (Sign-up at Registration.)</td>
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<tr>
<td>7:30 am-8:30 am</td>
<td>New Member Meet and Greet, Juniors Restaurant, across the Street</td>
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<tr>
<td>8:30 am-4:00 pm</td>
<td>Exhibit Hall Open, 5th Floor</td>
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<tr>
<td>10:00 am-11:00 am</td>
<td>Residuals &amp; Biosolids Committee, Brecht, 4th Floor</td>
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<tr>
<td>10:00 am-10:00 am</td>
<td>Government Affairs Committee, Gilbert, 4th Floor</td>
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<td>10:00 am-11:00 am</td>
<td>Member Education Committee, Julliard, 5th Floor</td>
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<tr>
<td>10:00 am-4:00 pm</td>
<td>Student Chapter Activities, Broadhurst, 5th Floor</td>
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<td>11:00 am-12:00 pm</td>
<td>YP Committee, Gilbert, 4th Floor</td>
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<td>Committee Leaders, Brecht, 4th Floor</td>
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<tr>
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<td>Student Design Challenge &amp; Student Luncheon, Broadhurst, 5th Floor</td>
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<td>Utility Executive Roundtable, Brecht, 4th Floor</td>
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<td>Environmental Science &amp; Metro Chapter Environmental Science Committee, Gilbert, 4th Floor</td>
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<td>Sustainability Committee, Brecht, 4th Floor</td>
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<td>4:30 pm-6:30 pm</td>
<td>Young Professionals (YP) Reception, Promenade, Upper Terrace, 9th Floor</td>
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<tr>
<td>Wednesday</td>
<td>February 8, 2023</td>
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<tr>
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<td>Water Ambassadors B’fast, Juniors Restaurant, across the Street (Sign-up at Registration.)</td>
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<td>Scholarship Committee, Brecht 4th Floor</td>
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<td>11:00 am-12:00 pm</td>
<td>Select Society of Sanitary Sludge Shovelers (SSSSS), Lobby Marquis Ballroom, 9th Floor</td>
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<tr>
<td>12:00 pm-1:30 pm</td>
<td>Awards Celebration, Marquis Ballroom, 9th Floor</td>
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REGISTRATION INFORMATION:
Registration area will be located on the 5th Floor outside the Westside Ballroom, except on Wednesday.

THE REGISTRATION DESK HOURS:
- Sunday, Feb. 5 10:00 am-5:00 pm (5th Floor)
- Monday, Feb. 6 8:00 am-5:00 pm (5th Floor)
- Tuesday, Feb. 7 8:00 am-4:30 pm (5th Floor)
- Wednesday, Feb. 8 8:30 am-1:00 pm (9th Floor)

EXHIBIT INFORMATION:
A listing of Exhibitors starts on page 46. Interactive map on the Whova app

EXHIBIT HOURS:
- Monday, February 6
  10:00 am-6:30 pm Exhibition Open
  11:45 am – Opening Ceremony–Ribbon Cutting
  4:00 pm-6:00 pm Exhibitor Reception
  Exhibit Hall closes 6:30 pm (after Reception)

  Tuesday, February 7
  8:30 am-4:00 pm Exhibition Open

MEETING ROOM LOCATIONS AND HOTEL INFORMATION

4 / Fourth Floor
- Brecht
- Gilbert
- Hart
- Ziegfeld

5 / Fifth Floor
- Westside Ballroom
- Alvin
- Belasco
- Booth
- Broadhurst

7 / Seventh Floor
- Astor Ballroom
- Chelsea/Gotham
- Columbia
- Duffy
- Empire/Hudson
- Soho/Herald

9 / Ninth Floor
- Barrymore
- Marquis Ballroom
- Marquis Ballroom
- Salon A, B, C
- Upper Terrace/Promenade

Restaurants
- Broadway Lounge, 8th Floor
- La Petite Chef, 47th Floor
- Revel & Rye, 8th Floor

Guest Response
- Dial 55

Business Center
- 7th Floor
- Dial 6641
- New York City
- Marriott Marquis
- 1535 Broadway
- New York City, NY 10036
- 212-398-1900

Sharpen the Saw!
Thomas J. Lauro Member Education Training in 2023

Sharpen your saw with Member Education Training throughout the coming year! NYWEA’s 2023 Thomas J. Lauro Member Education Program will offer both virtual and in-person training opportunities! Topics include:

- Wastewater Microbiology
- Biohazards of Water/Wastewater Work
- Confined Space Awareness
- Mathematics for Water & Wastewater Operators
- Strategic Energy Management
- Emergency Preparedness and Crisis Management
- Fundamentals of Occupational Chemical Exposure
- The Importance of Upfront Project Planning
- Biosolids Management
- And more!

The calendar kicks off February 23, 2023 with a webinar on:

Visit NYWEA.org for details and to register!
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Hayduk Engineering, LLC
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Wright-Pierce
WSP USA Inc.

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NY Water/Wastewater Agency Response Network (NYWARN)

NYWARN is Looking for Municipal Volunteers to Serve as Regional Representatives.

Are You Interested?

Please contact Carolyn Steinhauer at carolyn@nywea.org

NYWARN’s Mission is to support and promote statewide emergency preparedness, disaster response, and mutual assistance matters for public and private water and wastewater utilities. NYWARN helps members before, during and after an emergency with planning, response and recovery.
LOWER COST. BIGGER REACH.
Nationwide rail transport – it’s a safe, efficient and budget-savvy method of delivering waste and recyclable materials to treatment, beneficial reuse or disposal facilities. The costs are low and the benefits high including reducing carbon footprints, streamlining fossil fuel use and minimizing the impact on community traffic.

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Utilizing the vast experience and history of our Environmental Protection & Improvement Company, LLC (EPIC) team, Synagro’s nationwide rail transportation solutions provide the most straightforward, reliable and cost-effective way to transport.

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- Industrial/special wastes;
- Municipal solid waste;
- Construction and demolition debris (C&D);
- Industrial general commodities;
- ISO tank containers; and
- Drilling waste (cuttings and water).

For more information, contact Elliot Pomeranz at 973-856-4418 or by email at epomeranz@synagro.com.