



## Research and Innovation

- Next Generation Data Analytics
- Cutting Edge Research on Issues Related to COVID-19 in Wastewater (WEF/AEESP Late-Breaking Research)
- Kinetic Considerations for Granulation and Densification
- Emerging Topics in Microconstituents
- Managing Aqueous Phase PFAS

## Industrial Issues and Treatment Technologies

- Process Modeling and Simulation for Industrial Wastewater Treatment
- Solutions and Ideas From Award Winning Industrial Experts
- Optimization of Petroleum Refinery Wastewater Treatment
- Knowledge Development Forum: Wastewater Treatment Challenges for Petroleum Refineries Processing Opportunity Crude Oils
- Overcoming Water Reuse Challenges in the Food and Beverage Industry
- Selenium and Metals in Electric Power Generation Wastewater and Non-Contact Cooling Water
- Produced Water Treatment and Reuse in the Upstream Oil and Gas Industry
- Management of PFAS, Odor, and Metals in Landfill Liquids
- Selenium, Complex Nitrogen Compounds, and Water Reuse in the Mining Industry
- Advanced Treatment Lessons, Considerations, and Innovative Membrane Brain/Fuel Cell Applications for Pharmaceutical Agents
- Pulp and Paper Wastewater Treatment Issues

## Municipal Wastewater Treatment Process and Design

- Granular Developments: Advancements in Aerobic Granular Sludge Formation
- The Rain Is Coming: Are You Ready for Wet Weather Treatment?
- FUNdamentals: Secondary School on Aeration Blowers, Diffusers, and Process Control
- An Evaluation of What the Future Holds for Nitrogen and Phosphorus Removal
- FUNdamentals: ABCs of BNR, From Conventional to the Next Frontier
- Optimizing Energy Through Advanced Aeration Control
- Effluent Polishing in the Real World
- Strategies to Optimize WRRFs for Nutrient Removal
- Innovative Nitrogen Removal Approaches and Pathways
- No Foul Play! Keep Membranes Working
- Head(works) of the Class: Case Studies and Advancements in Grit Removal
- Settle Down! Case Studies of Secondary Clarifier Improvements

## Facility Operations and Maintenance

- Applying CFD From Primary Treatment Through Disinfection
- Smarts in Linear Asset Management
- Capital Planning Within Asset Management
- Odors in the Greenhouse: Emission Investigation and Modeling for Odors and Greenhouse Gases
- Vertical Asset Management: Big to Small
- What's Brewing? Advancement in EBPR
- Clearing the Air: Odor Mitigation and Treatment
- Process Control and Automation
- Sidestream Phosphorus Removal and Recovery Operations
- Greenhouse Gas Emissions, Sustainability, and Neutrality
- Addressing Low Influent Carbon for EBPR
- Sense and Sensibilities: Odors Fundamentals 101
- Energy Management: Case Studies at Full Scale
- Sidestream Nitrogen Removal



## Residuals and Biosolids Management/Energy

---

- Evolution of Marketing, Technology, and Regulations for Biosolids Beneficial Uses
- Implementing Thermal Hydrolysis: Optimizing the Operations Around Advanced Digestion
- Renewable Natural Gas: Innovations and Policy
- Pretreatment Enhancements and Impacts on Anaerobic Digestion
- Understanding Constituents of FOG and Impacts on Digestion and Dewatering
- DOE: Alternatives to Traditional Anaerobic Digestion and Wastewater Partnerships
- PFAS Management in Biosolids
- Opportunities, Challenges, and Impacts of Codigestion With Source Separated Organics
- Overcoming Dewatering Difficulties
- More than Just the Same Old Mesophilic: Innovations in Advanced Digestion

## Disinfection and Public Health

---

- Conversation and Input on WaSH: Improving Public Health for Changing Communities
- Disinfection on The Edge
- Peracetic Acid (PAA): New Dog, Old Tricks
- Killing Me Softly: Disinfection for Pathogen Control

## Collection Systems and Distribution

---

- Collection Systems Operations and Maintenance: Don't Be Afraid to Be Great!
- Collection System Force Mains
- Collection Systems 101: The Basics
- Let It Flow: Advanced Flow Analysis
- Collection Systems Rehabilitation and Construction
- Collection Systems Top Model
- Sewer System Condition Assessment: From CCTV and 3D Imaging to Drones
- Surviving the Flood: Wet Weather and Impacts on Collection Systems

## Stormwater Management

---

- Show Me the Money: Getting Funding and Spending It Effectively
- Understanding and Responding to Changing Precipitation Patterns: Forecasting and Modeling
- Stormwater Rules! Making Codes and Ordinances Work for You
- #StormwaterData: Using Technology to Inform Program Decisions
- Evaluating Manufactured Treatment Devices
- Is the Water Clean Yet? Measuring BMP Performance
- Stormwater Utility Manager Hot Topics
- Plan to Plan: Integrated and Master Planning Efforts for Green Infrastructure and Stormwater Management
- A Tale of Three Cities: Green Infrastructure Incentives in Urban Areas
- Improving Your BMP Designs From the Ground Up
- A Vision for the Future of Stormwater
- When the Rain Comes Down and the Seas Go Up: Urban and Coastal Flooding
- Stormwater Infrastructure: What Do You Have and How Do You Fix It?



## Watershed Resources Management and Sustainability

---

- Watershed Planning From Yum to Yuck: Focusing on Nutrients and Bacteria
- Stormwater, Watershed, and Receiving Water Quality Modeling: Modeling History, Selection, and Our Future
- Integrated Planning: One Water, Many Solutions
- Resilience Runway: New Trends in Modeling

## Utility Management and Leadership

---

- Toward the Digital Sewershed: What Is in Yours?
- Leveraging Digital Solutions for Linear Assets
- Utility Management: Organizational Culture Change
- Sustainable Infrastructure Decision Making
- How Are Large and Small Communities Facing Infrastructure Challenges?
- What's Hot Now!! Utility Management Trends in 2020
- Life Is Risky: Strategies to Mitigate Risk for Successful Outcomes
- Engineered Equipment Procurement Practices (E2P2)
- Workforce Development: Help Your Employees Love Their Job!
- There's More Than One Way to Cook an Egg: Project Delivery Options to Not Leave You Feeling Fried
- Utilities Innovating to Grease the Skids for Their Core Business
- Community Benefits: How Utilities Build Better Service to Their Communities
- Asset Resiliency in Operations
- Improving Your Utility's Approach to Compliance and Permitting
- Finance Nightmares: Utility Rates and Finance Topics
- Managing Equipment and Facilities

## Water Reclamation and Reuse

---

- MBR for Water Reuse: Giving Credit Where Credit Is Deserved
- Avoid the Brine: Achieving Potable Reuse Without RO
- Validating Potable Reuse Through Large Scale Water Reuse Pilot Programs
- Reuse Water Quality: Control the Source

## Future Issues

---

- Global Perspectives on Integrating Water Reuse and Food Production
- Resilience for the Future: Designing Water and Wastewater Infrastructure for Resilience Against Intensifying Extreme Weather Events
- Major Flood Event Challenges: Self-Help Plus FEMA Funding Responses
- Realities and Impacts of Climate Change on the Water Environment (Climate Change Fundamentals)
- Earth, Wind, and Fire: Natural Disasters Other Than Flooding
- Diversity and Inclusion