



Day Three: Thursday, June 23

Technical Program

**June 20-23
Hyatt Regency Miami
Miami, Florida, USA**

#WEFProcessEng

This conference is held by the Water Environment Federation and in cooperation with the Florida Water Environment Association.

Session 22: PdNA: What's in it for me? Part 1

Thursday, June 23, 2022

8:30 a.m. - 10:00 a.m.

8:30 a.m. Moderator Introduction

8:45 a.m. Partial-denitrification/Anammox as a Path to Infrastructure and Operational Savings for WWRFs Facing Stringent Nitrogen Limits

Kester McCullough, Stephanie Klaus, Michael Parsons, HRSD; Ahmed Al-Omari; Christopher Wilson, Charles Bott, HRSD

9:00 a.m. Current State of Knowledge on Operation and Implementation of Partial Denitrification — Anammox (PdNA) Filters

Rahil Fofana, DC Water; Megan Bachmann, HRSD; Kimberly Jones; Jeseth Delgado Vela, Howard University; Benay Akyon; Wenjun Liu, Xylem; Stephanie Klaus, HRSD

9:15 a.m. Success at Pilot-Scale leads to the Full-Scale Application of PdNA in MBBR and IFAS and the Inadvertent Development of Mainstream PNA Along the Way

Megan Bachmann, Stephanie Klaus, Justin Macmanus, Michael Parsons, HRSD; Haydee De Clippeir, DC Water; Charles Bott, HRSD

9:30 a.m. Facilitated Discussion

10:00 a.m. Session adjourns for networking break

Session 23: Treatment of Emerging Contaminants

Thursday, June 23, 2022

8:30 a.m. - 10:00 a.m.

- 8:30 a.m. Virtual Full-scale Ozonation Plant to Minimize Piloting Efforts and Efficient Micropollutant Removal for Safe Water Discharge**
Giacomo Bellandi, AM-Team; Roberta Muoio; Miguel Daza, AM-Team; Usman Rehman; Peter van Dijk, Ruud Schemen, Tom Weijtmans, Waterboard De Dommel
- 8:45 a.m. Anoxic Granular Activated Sludge Process Bioreactor for the Simultaneous Reduction of Perchlorate and Nitrate**
Nathaniel Stein; Ramesh Goel; Aditi Podder
- 9:00 a.m. Design and Implementation of a Moving Bed Bioreactor for Sulfolane Treatment**
Srinivasa Varadhan, Richard Hodges, Geosyntec Consultants; Janet Goodfellow; Scott Forbess, Geosyntec Consultants
- 9:15 a.m. Development of BioLargo Water's innovative AOS technology for disinfection and removal of pharmaceutical products from municipal wastewater**
Rimeh Daghrir, Centre des Technologies de l'eau; Jenny Boutros, Richard Smith, Laura Patterson-Fortin, Biolargo Water Inc
- 9:30 a.m. Facilitated Discussion**
- 10:00 a.m. Session adjourns for networking break**

Session 24: Invited Session (DE&I)
Thursday, June 23, 2022
8:30 a.m. - 10:00 a.m.

More information about this session is coming soon.

Session 25: PdNA: What's in it for me? Part 2
Thursday, June 23, 2022
10:15 a.m. - 11:45 a.m.

- 10:15 a.m. Smart System Automation of Modified 4-Stage Bardenpho Process by Incorporating Partial Nitrification/Denitrification/Anammox (Pdna/PANDA) for Mainstream Municipal Wastewater Treatment with Frequent Storm-Related Fluctuation**
Yewei Sun, Hazen and Sawyer; Jiefu Wang; Wendell Khunjar, Hazen & Sawyer; Mari Winkler; Ramesh Goel; Zhiwu Wang
- 10:30 a.m. Developing Application Guidelines for Mainstream Partial Denitrification-Anammox Application with Raw Fermentate**
Mojolaoluwa Ladipo-Obasa; Alexander Seidel, Rumana Riffat, George Washington University; Charles Bott, HRSD; Christine Debarbadillo, Haydee De Clippeleir, DC Water
- 10:45 a.m. Polishing Tertiary Effluent Nitrogen via the Synergy Between Methanol-Driven Partial Denitrification and Anaerobic Ammonia Oxidation in Moving Bed Biofilm Reactors**
Jiefu Wang; Wendell Khunjar, Hazen & Sawyer; Gregory Pace, Manhattan College; Ankit Pathak; Michael McGrath, Fairfax County; Mujahid Ali; Yewei Sun, Hazen and Sawyer
- 11:00 a.m. R-Strategy Taken by Glycerol-Driven Partial Denitrification in Moving Bed Biofilm Reactors Applied for Anaerobic Ammonia Oxidation of Tertiary Effluent**
Jiefu Wang; Wendell Khunjar, Hazen & Sawyer; Gregory Pace, Manhattan College; Ankit Pathak; Michael McGrath, Fairfax County; Mujahid Ali; Yewei Sun, Hazen and Sawyer
- 11:15 a.m. Facilitated Discussion**
- 11:45 a.m. Conference adjourns**

Session 26: Advanced Treatment in Potable Reuse

Thursday, June 23, 2022

10:15 a.m. - 11:45 a.m.

- 10:15 a.m. Enhancing 1,4-Dioxane Removal Through Co-Metabolic Biofiltration in Advanced Water Treatment Systems for Potable Reuse**
Hannah Stohr, HRSD; Ramola Vaidya, HDR; Germano Salazar-Benites, HRSD; Amy Pruden, Virginia Tech; Christopher Wilson, Charles Bott, HRSD
- 10:30 a.m. Identification and Removal of Performance- and Health-Based Indicator Chemicals in a Mobile, Carbon-Based Direct Potable Reuse Pilot**
Kyle Thompson; James Rosenblum, Colorado School of Mines; John Rehring, Jason Assouline, Carollo; Tzahi Cath, Colorado School of Mines; Christophus Bellona; Kirk Olds, Colorado Springs Utilities
- 10:45 a.m. Leveraging Process Intensification and Next Generation Nutrient Removal within an Integrated Advanced Water Treatment Facility for Large-Scale Potable Reuse**
Bryce Danker, Hazen and Sawyer; Paul Pitt; Wendell Khunjar, Ron Latimer, Yewei Sun, Hazen and Sawyer; Nikos Melitas, Michael Liu, LA County Sanitation District
- 11:00 a.m. Technical Brief: Blended Reuse Biofiltration Treatment Plant Startup and Process Monitoring, a City's Approach to Continuous Improvement of Drinking Water Treatment Processes**
Jonathan Campos, Jackie Solis Armenta, John Meyers, City of Thornton
- 11:15 a.m. Facilitated Discussion**
- 11:45 a.m. Conference adjourns**

Session 27: Invited Session
Thursday, June 23, 2022
10:15 a.m. - 11:45 a.m.

Facilitators: Jeanette Brown, Dru Whitlock, Adam Parmenter

This is a Technology Spotlight session. Format of this session will include quick, in-depth reviews on various technologies, presented by technical experts and utility representatives. Facilitated discussion with audience participation will follow in the remaining time at the end of the session, with additional time during breaks to continue those conversations.

Technology Reviews

GEA - Granulator Technology
Todd Marshall

Centrisys - Centrifugation technology
Josh Benoit

Anaergia - Sludge Screw Thickener
Sacha Rollings

11:15 a.m. Facilitated Discussion

11:45 a.m. Conference adjourns