Day One: Tuesday, June 21
Technical Program

Updated as of March 25, 2022

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.
Opening General Session  
Tuesday, June 21, 2022  
8:30 a.m. – 10:00 a.m.  

More details on this session will be provided shortly.

Session 01: Sidestream Bio-P  
Tuesday, June 21, 2022  
10:45 a.m. - 12:00 p.m.

10:45 a.m. Invited Presentation - Recent Developments in Bio-P  
More information coming soon

11:00 a.m. Exploring the Carbon Balance in a Sidestream Enhanced Biological Phosphorus Removal (S2EBPR) Demonstration Facility  
Leon Downing, James Barnard, Patrick Dunlap, Eric Redmond, Lucas Botero  
Black & Veatch

11:15 a.m. Re-calibrating our approach of modeling EBPR and S2EBPR processes  
Mark Miller, Varun Srinivasan, Jose Jimenez, Brown & Caldwell; Adam Klein;  
Jacqueline Jarrell, Charlotte Water; Peter Dold; James Barnard, Black & Veatch

11:30 a.m. Facilitated Discussion

12:00 p.m. Session adjourns for lunch in exhibit hall
Session 02: Do Membrane Aerated Biofilm Reactors have an Edge for Addressing Climate Change?
Tuesday, June 21, 2022
10:45 a.m. - 12:00 p.m.

10:45 a.m. Process Intensification & GHG Emissions Reduction — Can they Coexist?
Jeff Peeters, GE Water & Process Technologies; Wayne Bagg, Water Corporation; Sylvain Donnaz, Nadine Oschmann, SUEZ Water Technologies & Solutions; Matt Reeve; Andrew Shaw, Black & Veatch; Isabel Telles Silveira

11:00 a.m. Nitrogen Removal and Nitrous Oxide Emissions from MABR Technology: Experiences from the Ejby Mølle WRRF
Nerea Uri Carreño, Per Nielsen, VCS Denmark; Krist Gernaey, Danish Technical University; Xavier Flores-Alsina

11:15 a.m. Membrane Aerated Biofilm Reactor Enables Low-SRT Nitrification and Improves Sludge Settleability: a long-term experimental study
Amit Kaldate, Giuseppe Guglielmi, Suez Water Technologies & Solutions; Santofabio Corsino, Michele Torregrossa, University of Palermo; Moreno Di Pofi, Suez Water Technologies & Solutions

11:30 a.m. Technical Brief: Ten Months of Results from a Full Scale MABR Sidestream Treatment System
Gilad Yogev; Lotan Dagai; Neri Nathan, Ronen Shechter, Yuval Nevo, Fluence

11:35 a.m. Facilitated Discussion

12:00 p.m. Session adjourns for lunch in exhibit hall
Session 03: Ballasted Floculation and Encapsulated Biomass
Tuesday, June 21, 2022
10:45 a.m. - 12:00 p.m.

10:45 a.m. Biological and Physical Selectors for the Formation and Retention of Mobile Biofilms, Densified-biological Flocs, and Aerobic Granules in Continuous-flow Wastewater Treatment Processes
Joshua Boltz, Bruce Rittmann, Arizona State University; Glen Daigger, One Water Solutions, LLC

11:00 a.m. Comparison of Ballasted Activated Sludge Technologies
Thor Young, Tom Biagioli, Coenraad Pretorius, GHD

11:15 a.m. Advancements in Process Intensification: Utilizing biocatalysts to increase the population of beneficial microorganisms within biological treatment processes
Ajay Nair; Nikolaus Hlavacek; Vedansh Gupta; Fatemeh Shirazi; Ameen Razavi, Microvi Biotech Inc.

11:30 a.m. Facilitated Discussion

12:00 p.m. Session adjourns for lunch in exhibit hall
Session 04: Innovations in Sidestream Treatment
Tuesday, June 21, 2022
1:30 p.m. - 3:00 p.m.

1:30 p.m.  Full Scale Pilot of a Novel Struvite Precipitation System at the Provo WRP
Eric Auerbach, Arcadis; Mudit Gangal, SUEZ - Water Technologies & Solutions;
Shellie Turnbow, Matt Kessler, City of Provo Utilities; James Goldhardt, Coombs
Hopkins; Matthew Militello

1:45 p.m.  Commissioning the First Full-Scale Digestor Filtrate (Sidestream) Ammonia
Removal Process in the West Coast Using Microvi MNE Technology
Michael Falk, HDR Inc; Felipe Cartin Munoz; Nikolaus Hlavacek; Allyson Lutz; Ali
Dorri; Ajay Nair; Ameen Razavi, Microvi Biotech Inc.

2:00 p.m.  Determining Inhibition Coefficients and Studying Gene Expressions for
Sulfide, Nitrite, and Recalcitrant Carbon Toxicity for Better Design of
Anammox Process
Soklida Hong, North Dakota State University; Haydee De Clippeleir, DC Water;
Ramesh Goel

2:15 p.m.  Evaluating a Revolving Algal Biofilm (RAB) to treat Anaerobic Digester
Centrate at the Sioux City WWTP to reduce overall plant loading.
Martin Gross; Max Gangestad; Jens Dancer

2:30 p.m.  Technical Brief: Post Aerobic Digestion (PAD) for Ammonia Removal:
Lessons Learned from Full and Bench Scale Studies
Eric Redmond, Black & Veatch; Fabrizio Sabba; Leon Downing, Black & Veatch;
Patrick McNamara; Caitlin Ruff

2:35 p.m.  Facilitated Discussion

3:00 p.m.  Session adjourns for networking break
Session 05: Efficiency and Resource Recovery via Membranes and Biofilms
Tuesday, June 21, 2022
1:30 p.m. - 3:00 p.m.

1:30 p.m. Why does Proper Simulation Matter in the Acronym Soup of Biofilm Systems? AGS, IFAS, MBBR
Bruce Johnson, Jacobs

1:45 p.m. An Evaluation of the Reported vs Effective Surface Area to Volume Ratios of Plastic Media Carriers
Megan Bachmann, Stephanie Klaus, Justin Macmanus, Michael Parsons, HRSD; Haydee De Clippeleir, DC Water; Charles Bott, HRSD

2:00 p.m. Anaerobic Biofilm Membrane Bioreactor for Wastewater Treatment
Joshua Boltz, Bruce Rittmann, Robert Stirling, Arizona State University; Brian Roman, University of Washington; Yuhang Cai, Harbin University

2:15 p.m. Potential of Using Hydrophobic Deep Eutectic Solvents as a Low Energy Extractant for Anhydrous Volatile Fatty Acid Recovery from Arrested Anaerobic Digesters for Easy Downstream Conversion and Utilization
Xueyao Zhang, Virginia Tech; Yuxuan Zhang, University of Kentucky; Weihua Qing, New Jersey Institute of Technology; Jian Shi, University of Kentucky; Wen Zhang, New Jersey Institute of Technology; Zhiwu Wang

2:30 p.m. Facilitated Discussion

3:00 p.m. Session adjourns for networking break
Session 06: Invited Session  
Tuesday, June 21, 2022  
1:30 p.m. - 3:00 p.m.  

More information about this session is coming soon.

Session 07: Nitrification: How Low Can DO Go?  
Tuesday, June 21, 2022  
3:45 p.m. - 5:00 p.m.

3:45 p.m. Invited Presentation  
More information coming soon.

4:00 p.m. When Less is More (GHGs): Comparing the carbon impact of common nitrogen treatment processes using ASM2d models demonstrates surprising tradeoff for low-DO processes  
Jon Liberzon, Tomorrow Water; Kwangtae You, UnU Inc.; David Rhu, Tomorrow Water; Jongrack Kim, Gijung Pak, Gahee Rhee, UnU Inc.

4:15 p.m. Kinetic Parameterization of Nitrifiers Adapting to Low DO  
Tyler Kisling, Kyle Malin, Kester McCullough, HRSD; Tanja Rauch-Williams, Carollo Engineers; Stephanie Klaus, Christopher Wilson, Charles Bott, HRSD

4:30 p.m. Technical Brief: A Novel Adaptation Strategy for Mainstream Partial Nitrification at Low Dissolved Oxygen Concentrations in an SBR Operated at Ambient Temperature  
Moomen Soliman; Ahmed Alsayed; Ahmed ElDyasti, York University

4:35 p.m. Facilitated Discussion

5:00 p.m. Session adjourns for reception in exhibit hall
Session 08: Invited Session  
Tuesday, June 21, 2022  
3:45 p.m. - 5:00 p.m.  

More information about this session is coming soon.

Session 09: There's Something about Densification  
Tuesday, June 21, 2022  
3:45 p.m. - 5:00 p.m.

3:45 p.m.  Continuous Flow Sludge Densification: Biological and Physical Selection Strategies and Carbon Dynamics  
José Jiménez, Pusker Regmi, Brown and Caldwell; Belinda Sturm, University of Kansas; Joshua Boltz, Arizona State University

3:50 p.m.  Coupling a Continuous Upflow Selector with Feast/Famine Selection for a Smooth Startup of Continuous Flow Aerobic Granulation Reactors without Performance Interruption  
Zhaohui An, Virginia Tech

4:05 p.m.  Combining Metabolic, Kinetic and Physical Selection to Achieve Full-Scale Continuous Flow Densification of Activated Sludge at Robert W. Hite Treatment Facility  
Blair Wisdom, Isaac Avila, Metro Wastewater Reclamation District; Rudy Maltos, Metro Water Recovery; Ron Latimer, Alonso Griborio, Will Martin, Wendell Khunjar, Hazen & Sawyer

4:20 p.m.  Successful Full-Scale Continuous Flow Densification of Activated Sludge at Crooked Creek Water Reclamation Facility Without Physical Selection  
Ron Latimer, Hazen and Sawyer

4:35 p.m.  Facilitated Discussion

5:00 p.m.  Session adjourns for reception in exhibit hall