Residuals and Biosolids 2021: A Virtual Event

Technical Program
(Updated April 22, 2021)

Virtual Event
May 11-13, 2021

Pre-Conference Workshops
May 5 and 6, 2021
General Virtual Event Information

The Residuals and Biosolids 2021 Virtual Event will be held online on an interactive platform where you’ll gain access to seven Technical Sessions as well as a Technology Spotlight, Company Demos and Networking Opportunities. Technical Sessions will be presented in two ways: Live and Simulated-live (or simu-live) to encourage the most interaction and engagement between speakers and registrants.

**Live sessions** will take you to a Zoom meeting where the speakers and moderators are giving their presentations on screen in real time while you watch. There will be one session each day hosted live on Zoom. If you are not available at the scheduled time, you can watch a recording after the Zoom meeting has concluded.

**Simu-live sessions** will be pre-recorded complete with moderator interaction and questions and the recordings will be played for you at a certain time and date during the virtual event. Speakers will be present at that time to answer any questions asked by our audience live via chat. If you are not available at the scheduled time, you can watch a recording after the streaming video has concluded.
Workshop A: Dewatering Optimization – Practical Ways to Improve Performance
Wednesday, May 5, 2021, 11:00 a.m. – 2:00 p.m. Eastern – Live on Zoom

11:00 a.m.  Introduction and Goals for the Workshop
            David Oerke, Jacobs, WEFRBC Solids Separation Subcommittee, Conference
            Task Force Chair

11:05 a.m.  Fundamental Floc Properties and Dewatering, Highlights of WEF
            Dewatering Research Project
            Matt Higgins, Bucknell University

11:35 a.m.  Mechanical Optimization of Dewatering Equipment
            Adam Parmenter, HDR

12:00 p.m.  Interactive Zoom Breakout Session Discussion from Operators: “What has
            Worked,” Lessons Learned, and Automation Options

12:30 p.m.  Optimization Through Data, Experimentation and Training
            Mike Gates, Chris Maher, Clean Water Services

12:55 p.m.  Break

1:05 p.m.   Reducing Dewatering Costs Through an Optimization Program
            Ken Tagney, EMWD; Rashi Gupta, Carollo

1:30 p.m.   Virtual Panel Discussion: Address attendees questions and challenges and
            discuss dewatering optimization issues

2:00 p.m.   Workshop adjourns
Pre-Conference Workshops
(Additional fees apply)

Workshop B: Biosolids Communication Toolkit - Stop Poo-Pooing Biosolids Communication
Thursday, May 6, 2021, 1:00 p.m. – 4:15 p.m. Eastern – Live on Zoom

1:00 p.m. Welcome and Introductions
Travis Loop, Water Environment Federation

1:05 p.m. Agenda Review and Zoom Orientation
Sam Villegas, Raftelis

1:10 p.m. Breakout #1: Table Networking

1:20 p.m. Orientation to the Toolkit
Sam Villegas, Raftelis

1:30 p.m. Group chat: Why is communicating about biosolids hard?
Sam Villegas, Raftelis

1:35 p.m. The Power of Proactivity
Melissa Elliott, Raftelis

1:45 p.m. A Strategic Approach: 4 Steps
Matt Wittern, Raftelis

1:55 p.m. Breakout #2: Research Rally
Sam Villegas, Raftelis

2:15 p.m. Stakeholder Mapping Demo
Melissa Elliott, Raftelis

2:30 p.m. Break

2:45 p.m. Mastering the Messaging
Sam Villegas, Raftelis

3:00 p.m. Individual Assignment: Rewrite this

3:20 p.m. Handling the Hit Piece
Matt Wittern, Raftelis

3:35 p.m. Breakout #5: Hit Me with Your Best Shot
Matt Wittern, Raftelis

4:00 p.m. Wrap up/Parting Thoughts
Sam Villegas, Raftelis

4:15 p.m. Workshop adjourns
Virtual Event – Tuesday, May 11, 2021

Opening General Session: Rebuttal to the OIG Report by the W4170 Multi-State Research Committee
Tuesday, May 11, 2021, 11:00 a.m. – 12:30 p.m. Eastern – Live on Zoom

11:00 a.m.  Welcome from the Conference Co-Chairs
Kathryn Crestani, NEORSD
Brandon Fox, City of Columbus

11:05 a.m.  Introduction
Greg Kester, California Association of Sanitation Agencies

11:10 a.m.  Assessment of Unregulated Chemicals of Concern Identified in the OIG Report
Dr. Nick Basta, Ohio State University

11:30 a.m.  Assessment of Pathogens and Antibiotic Resistant Organisms and Genes Identified in the OIG Report
Dr. Ian Pepper, University of Arizona

11:50 a.m.  Assessment of Per- and Polyfluoroalkyl Substances (PFAS) in Biosolids
Dr. Linda Lee, Purdue University

12:00 p.m.  USEPA Concerns with the OIG Report, Update on Progress EPA Has Made in Addressing OIG Recommendations
Liz Resek, USEPA

12:10 p.m.  Q&A

12:30 p.m.  Session Adjourns

Company Demo
Tuesday, May 11, 2021, 12:30 p.m. – 1:00 p.m. Eastern
Sponsoring companies demonstrate the latest products, resources and problem-solvers with live chat Q&A

12:30 p.m.  Giving Your Digester an Organic Diet: Keys to a successful Organics, FOG, and High Strength Waste receiving program
Presented by: Vaughan Company

Tuesday, May 11 schedule cont. on following page
Virtual Event – Tuesday, May 11, 2021

Tuesday, May 11 schedule cont. from previous page

Session 01: PFAS and Contaminants of Concern in Biosolids
Tuesday, May 11, 2021, 1:00 p.m. - 2:00 p.m. Eastern – Simu-Live

Moderators: Rusty Schroedel, AECOM; Anahita Rabii, Ryerson University

1:00 p.m. A Risk Assessment Model of PFAS Transport and Fate from the Beneficial Reuse of Biosolids at Renewable Water Resources
Cameron Colby, Rewa

1:20 p.m. Insights into Emerging Organic Contaminants Behavior in Different Full-Scale Sludge Treatment Systems
Narasimman Lakshminarasimman, University of Waterloo; Sarah Gewurtz, Environment and Climate Change Canada; Shirley Anne Smyth, Environment Canada; Wayne Parker, University of Waterloo

1:40 p.m. Removal and Transformation of PFAS from Biosolids in a High Temperature Pyrolysis System - A Bench Scale Evaluation
Todd Williams, Scott Grieco, Bahman Bani, Jacobs; Andrew Friedenthal, Char Technologies; Andrew White

Company Demo
Tuesday, May 11, 2021, 2:00 p.m. – 3:00 p.m. Eastern
Sponsoring companies demonstrate the latest products, resources and problem-solvers with live chat Q&A

2:00 p.m. Is it time to rebuild/replace your Belt Filter Press or Centrifuge?
Presented by: Alfa Laval

2:30 p.m. Finding OPEX Savings in Your Filter Cake
Presented by: Evoqua

Tuesday, May 11 schedule cont. on following page
Session 02: Innovative Biosolids Process Enhancements
Tuesday, May 11, 2021, 3:00 p.m. - 4:15 p.m. Eastern – Simu-Live

Moderators: Richard Tsang, CDM Smith; Wick Warden, Allgeier, Martin, and Associates

3:00 p.m.  Wide-Reaching Improvements Through Direct TWAS Dewatering
            Casey Mentzer, Michael Drinkwater, Truckee Meadows Water Reclamation Facility

3:19 p.m.  Enhancing Sludge Dewaterability and Phosphate Removal Through a Novel
            Chemical Dosing Strategy Using Ferric Chloride and Hydrogen Peroxide
            Ian Watson, USP Technologies; Vahid Ghodsi, Trojan Technologies; Elsayed Elbeshbissy; Siva Sarathy; John Walton; Domenico Santoro, USP Technologies

3:38 p.m.  Which Class A Drying Process Has the Most Advantages for the Dry Creek Water
            Reclamation Facility, Cheyenne, Wyoming
            Zwelani Ngwenya, David Oerke, Kile Snider, Steve Tamburini, Jacobs; Nate Kie,
            Matthew Buelow, Phillip Clark, Cheyenne Board of Public Utilities

3:57 p.m.  Thermal Drying Economics: Integrating Market Analysis and Lifecycle Costs to
            Assess Thermal Drying Feasibility
            Natalie Sierra, John Ross, Brown and Caldwell
Virtual Event – Wednesday, May 12, 2021

Session 03: Optimizing Digestion and Co-Digestion
Wednesday, May 12, 2021, 11:00 a.m. – 12:15 p.m. Eastern – Simu-Live

Moderators: Manny Moncholi, Stantec; Bob Forbes, Jacobs

11:00 a.m. Can Microbial Acclimation Work To Avert Inhibition During Fog Co-Digestion?
Juliet Ohemeng-Ntiamoah, Jacobs; Tania Datta, Tennessee Tech University

11:19 a.m. Source Separated Organic Food Waste Characteristics and Implication for Co-digestion Performance, Operation, and Design
Tanja Rauch-Williams, Colorado School Of Mines; Pedro Puente, University of Michigan;
Rashi Gupta, Christian Tasser, Carollo Engineers; Christian Schaum, Bundeswehr University Munich;
Lutgarde Raskin, University of Michigan; Larissa Schwinghammer, Bundeswehr University Munich

11:38 a.m. Case Study of Pennsylvania’s First Net Positive Resource Recovery Facility — The Hermitage Success Story
Sudhakar Viswanathan, Veolia Water Technologies; Thomas Darby, City of Hermitage;
Jason Wert

11:57 a.m. Process Understanding of Full-scale Micro-aeration to Improve Biogas Quality and Anaerobic Digestion.
Adrian Romero, Josef Cesca, Jacobs; Derek Van Rys; Bruce Johnson, Bart Kraakman, Jacobs

Company Demo
Tuesday, May 11, 2021, 12:30 p.m. – 1:00 p.m. Eastern
Sponsoring companies demonstrate the latest products, resources and problem-solvers with live chat Q&A

12:30 p.m. Lystek THP: Sustainable Solutions for Biosolids Management
Presented by: Lystek

Wednesday, May 12 schedule cont. on following page
Session 04: Odor Control and Digestion Intensification Solutions
Wednesday, May 12, 2021, 1:00 p.m. - 2:00 p.m. Eastern – Simu-Live

Moderators: Bernadette Drouhard, Black & Veatch; Tom Nangle, Brown & Caldwell

1:00 p.m. Identification of the Source, Cause, and Solution of the Biosolids Odor in Western Branch Water Resource Recovery Facility of Washington Suburban Sanitary Commission
Hao Luo, Virginia Tech; Dian Zhang, Stantec; Caroline Nguyen, Washington Sub San Commission; Zhiwu Wang, Virginia Tech; Solomon Quansah, Malcolm Taylor, Washington Suburban Sanitary Commission

1:20 p.m. Using Finished Compost to Treat and Control Emissions from Active Biosolids Composting
Larry Wong, LA County Sanitation District; Artin Laleian; Thomas Knapp, Brian Polson, LA County Sanitation District; Matt Hutton; Carl Glass, LA County Sanitation District

1:40 p.m. How Low Can We Go — Evaluating the Limits of SRT and Loading Rates with THP-AD Systems for Process Intensification
Matthew Higgins, Steven Beightol, Bucknell University; William Barber, Cambi Inc.; Haydee De Clippeleir, DC Water & Sewer Authority; Christine Debarbadillo, Black & Veatch; Sudhir Murthy, DC Water & Sewer Authority

Wednesday, May 12 schedule cont. on following page
Virtual Event – Wednesday, May 12, 2021

Wednesday, May 12 schedule cont. from previous page

Technology Spotlight

Wednesday, May 12, 2021, 2:00 p.m. – 3:00 p.m. Eastern – Simu-Live
Similar to mobile sessions at in-person events, technology spotlights allow companies to showcase products and services in technical and educational presentations combined with equipment or hands-on visuals. There will be a live chat Q&A.

2:00 p.m.  Digester Defense by Sludge Screening
            Ed Fritz, Chip Pless, Crista Renouard, Huber Technologies

2:15 p.m.  An Overview of Biogas H₂S Removal Technologies
            James Krumwied, Bartlett & West

2:30 p.m.  Treatment of All types of Digestate from Mesophilic to Thermophilic to THP Pre-Treated sludge using the DEMON® Anammox Process
            Chandler Johnson, Dan Air, Andrea Otto, World Water Works

2:45 p.m.  Lessons Learned from Piloting Biosolids Composting and Leading Towards to a Successful Biosolids Management Program
            Brian Fuchs, W.L. Gore & Associates

Session 05: Land Application and Surface Disposal Benefits and Challenges
Wednesday, May 12, 2021, 3:00 p.m. – 4:00 p.m. Eastern – Live on Zoom

Moderators: Lynne Moss, Black & Veatch; Trudy Johnston, Material Matters, Inc.

This session will be a panel discussion featuring the presenters and topics listed below:

Can Biosolids Land Application Improve Soil Health?
Jim Ippolito, Ken Barbarick, Colorado State University; Tom Ducey, USDA-Agricultural Research Service; Erin Jenkins, Blair Corning, South Platte Renew

Landfill Challenges & Biosolids Disposal Trends Analysis
Kathleen Bertoldi, Trudy Johnston, Material Matters Inc.

Legal Issues Impacting Land Application: Critical Regulatory and Litigation Developments
James Slaughter, Andrew Silton, Beveridge & Diamond PC
Virtual Event – Thursday, May 13, 2021

Session 06: Thermal Process Optimization
Thursday, May 13, 2021, 11:00 a.m. – 11:45 a.m. Eastern – Simu-Live

Moderators: Jerry Yu, SDMC America Technology Inc; David Dubey, Evoqua Water Technologies

11:00 a.m.  The R2E2 Experience — Energy Performance Two Years On at the Green Bay Facility
            Peter Burrowes, Jacobs; William Angoli, Bruce Bartel, Pat Westcott, Nathan Qualls,
            Jacob Becken, New Water, Green Bay Metro Sewerage Dist; Steven Graziano, Jacobs

11:22 a.m.  Update - NEORSD Southerly WWTC Biosolids Combustion Optimization
            Lloyd Winchell, Brown and Caldwell; Douglas Reichlin; Kathryn Crestani, NEORSD

Company Demo
Thursday, May 13, 2021, 11:45 p.m. – 1:15 p.m. Eastern
Sponsoring companies demonstrate the latest products, resources and problem-solvers with live chat Q&A

11:45 a.m.  Maximizing Methane Using Membrane Based Upgrading with Methanis
            Presented by: Suez

12:05 p.m.  Redefining Biosolids: This is OurCarbon™
            Presented by: Bioforcetech

12:45 p.m.  Welcome to Juneau, Alaska: A Virtual Site Tour of Mendenhall Wastewater Treatment Facility
            Presented by: Veolia Water Technologies

1:00 p.m.   Award Winning & Long Lasting Biosolids Drying with Biogas
            Presented by: Komline-Sanderson Corporation

Session 07: Sustainability: Planning, Action, and Communication
Thursday, May 13, 2021, 1:30 p.m. – 2:30 p.m. Eastern – Live on Zoom

Moderators: Natalie Sierra, Brown & Caldwell; Anna Munson, Hazen and Sawyer

1:30 p.m.   A Public-Private Success Story for Biosolids Management in Northern California
            James Dunbar, Lystek International; Jordan Damerel, Fairfield Suisun Sewer District

1:50 p.m.   Sludge Conditioning and Renewable Natural Gas at the Capital Region Water AWTF
            Eric Auerbach, Arcadis; Jess Rosentel, City of Harrisburg

2:10 p.m.   Transitioning to Class A Biosolids Products — Panacea, Problematic, or Both?
            Jean Creech, Charlotte Water
Virtual Event – On Demand

Houston Biosolids: From the Ranch to the City and Back Again
On Demand – Watch any time during the virtual event!

A video tour of the Houston Water Almeda Sims Wastewater Treatment Plant’s heat dryer facilities will give viewers an idea of how these facilities fit into the City-wide biosolids management program and regional beneficial and revenue-generating land application efforts. Emphasis will be placed on the decades long and obvious value of using heat dried biosolids as a fertilizer product and soil amendment at Texas cattle ranch pasture lands and hay fields.

The tour will briefly describe what some refer to as “Houston’s Nutrient Cycle”; how both major and minor nutrients travel from pasture and hay forage for cattle, into beef products, through many urban customers, through the plant, into biosolids/soil amendment products, and are returned back to the pasture and hay. The video will provide a brief description of the liquid side of the Almeda Sims plant and the preliminary waste sludge process units, but the tour focus will be on how thickened sludge is conditioned; dewatered; heat dried; silo stored; loaded and transported; and utilized by several Texas ranches.

This video was developed by Houston Water plant process engineers and operators, youth members of a local 4-H group, and local ranchers.