

RESIDUALS AND BIOSOLIDS 2021

A Virtual Event

MAY 11-13

Residuals and Biosolids 2021: A Virtual Event

Technical Program

(Updated February 11, 2021)

**Virtual Event
May 11-13, 2021**

**Pre-Conference Workshops
May 5 and 6, 2021**



RESIDUALS AND BIOSOLIDS 2021

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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.

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.

Pre-Conference Workshops

(Additional fees apply)

Workshop A: Dewatering Optimization Workshop - Practical Ways to Improve Performance

Wednesday, May 5, 2021, 11:00 AM – 2:00 PM Eastern – Live on Zoom

Coordinator: David Oerke, Jacobs

Are you being asked to improve dewatering performance? This workshop will focus on practical ways to get better cake solids and capture, reduce polymer consumption, and reduce O&M costs. We will cover dewatering and polymer "101" to the state-of-the-science, show a video of a hands-on demonstration of sludge/polymer flocculation, present successful case studies, and describe proven optimization measures that you can implement. Whether you are a plant manager, engineer, operator, consultant, or manufacturer, this workshop is for you.

More information about this workshop is coming soon!

Workshop B: How to Use the New Biosolids Communications Toolkit

Thursday, May 6, 2021, 1:00 PM – 4:00 PM Eastern – Live on Zoom

Coordinator: Samantha Villegas, Raftelis

WEF's new Biosolids Communication Toolkit is a one-stop shop for those who want to effectively communicate about, and raise awareness and support for, biosolids. In this 3-hour, highly interactive workshop, attendees will learn how to apply key communications and outreach concepts, such as stakeholder mapping, engagement techniques to meet audiences where they are, and handling negativity from the press or social media. Attendees will come away with solid ideas they can implement immediately.

More information about this workshop is coming soon!

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 AM – 12:30 PM Eastern – Live on Zoom

- 11:00 AM** **Welcome from the Conference Co-Chairs**
Kathryn Crestani, NEORS
Brandon Fox, City of Columbus
- 11:05 AM** **Introduction**
Greg Kester, California Association of Sanitation Agencies;
- 11:10 AM** **Assessment of unregulated chemicals of concern identified in the OIG report**
Dr. Nick Basta, Ohio State University
- 11:30 AM** **Assessment of pathogens and antibiotic resistant organisms and genes identified in the OIG report**
Dr. Ian Pepper, University of Arizona
- 11:50 AM** **Assessment of per- and polyfluoroalkyl substances (PFAS) in biosolids**
Dr. Linda Lee, Purdue University
- 12:00 PM** **USEPA concerns with the OIG report, update on progress EPA has made in addressing OIG recommendations**
Liz Resek, USEPA
- 12:10 PM** **Q&A**
- 12:30 PM** **Session Adjourns**

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 PM - 2:00 PM Eastern – Simu-Live

- 1:00 PM** **A Risk Assessment Model of PFAS Transport and Fate from the Beneficial Reuse of Biosolids at Renewable Water Resources**
Cameron Colby, Rewa
- 1:20 PM** **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 PM** **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

Session 02: Innovative Biosolids Process Enhancements Tuesday, May 11, 2021, 3:00 PM - 4:15 PM Eastern – Simu-Live

- 3:00 PM** **Wide-Reaching Improvements Through Direct TWAS Dewatering**
Casey Mentzer, Michael Drinkwater, Truckee Meadows Water Reclamation Facility
- 3:15 PM** **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 Elbeshbishy; Siva Sarathy; John Walton; Domenico Santoro, USP Technologies
- 3:30 PM** **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
- 3:45 PM** **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 AM – 12:15 PM Eastern – Simu-Live

- 11:00 AM** **Can Microbial Acclimation Work To Avert Inhibition During Fog Co-Digestion?**
Juliet Ohemeng-Ntiamoah, Jacobs; Tania Datta
- 11:15 AM** **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
- 11:30 AM** **Case study of Pennsylvanians' first net positive resource recovery facility — The Hermitage Success Story**
Sudhakar Viswanathan, Veolia Water Technologies; Thomas Darby, City of Hermitage; Jason Wert
- 11:45 AM** **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

Session 04: Odor Control and Digestion Intensification Solutions

Wednesday, May 12, 2021, 1:00 PM - 2:00 PM Eastern – Simu-Live

- 1:00 PM** **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 PM** **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 PM** **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, March 24 schedule cont. on following page

Virtual Event – Wednesday, May 12, 2021

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

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 AM – 11:45 AM Eastern – Simu-Live

- 11:00 AM** **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
- 11:15 AM** **Update - NEORSD Southerly WWTC Biosolids Combustion Optimization**
Lloyd Winchell, Brown and Caldwell; Douglas Reichlin; Kathryn Crestani, NEORSD

Session 07: Sustainability: Planning, Action, and Communication

Thursday, May 13, 2021, 1:30 PM – 2:30 PM Eastern – Live on Zoom

- 1:30 PM** **Part I: Metro Atlanta Integrated Biosolids and Zero Waste Program**
Drury Whitlock, Stantec; Mikita Browning, City of Atlanta Department of Watershed Management; Quinton Fletcher, City of Atlanta; Robert Bocarro, Brown and Caldwell; Art Umble, Stantec
- 1:50 PM** **Sludge Conditioning and Renewable Natural Gas at the Capital Region Water AWTF**
Eric Auerbach, Arcadis; Jess Rosentel, City of Harrisburg
- 2:10 PM** **Transitioning to Class A Biosolids Products — Panacea, Problematic, or Both? Evaluation of and Guidance for End Product Markets for Generators and Consultants.**
Jean Creech, Charlotte Water