

RESIDUALS AND BIOSOLIDS 2021

A Virtual Event

Conference Program: May 11–13
Pre-conference Workshops: May 5–6

www.wef.org/ResidualsBiosolids

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



SUSTAINABLE SOLUTIONS FOR BIOSOLIDS MANAGEMENT

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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 eight 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 the scheduled time and date during the virtual event. Speakers will be present at that time to answer any questions asked by our audience live via text chat. If you are not available at the scheduled time, you can watch a recording after the streaming video has concluded.

REGISTRATION

Online registration can be completed at any time before or during Residuals and Biosolids 2021: A Virtual Event by visiting the [Registration webpage](#).

The registration fee includes access to educational content; networking features; and digital conference proceedings. The preconference workshops are optional (not included).

Conference registrants will receive their username, temporary password, and [login](#) instructions from noreply@learn.wef.org. If you registered on or after May 11th, your [login](#) credentials will be sent to you no later than the next business day (Monday-Friday).

For more information about registration policies, please visit the conference webpage at www.wef.org/residualsbiosolids and click the "Registration" tab.

Need help or didn't receive your login instructions? Contact BiosolidsConf@wef.org.

CONFERENCE CODE OF CONDUCT

WEF is committed to providing a professional, safe, and welcoming environment during its in-person and virtual events for all water professionals and their guests. WEF expects all attendees, speakers, sponsors, media, and other participants to uphold our commitment to diversity and inclusion by helping us provide a positive conference environment for everyone.

WEF has zero-tolerance for any form of discrimination or harassment, including but not limited to sexual harassment by participants or our staff at our meetings. WEF will take any action deemed necessary and appropriate, including immediate removal from the meeting without warning or refund, in response to any incident of unacceptable behavior, and WEF reserves the right to prohibit attendance at any future meeting, virtually or in person.

If you experience harassment or hear of any incidents of unacceptable behavior, WEF asks that you immediately email the WEF Executive Director Walter Marlowe.

Unacceptable behavior is defined as:

- Negative comments about race/ethnicity, gender and gender identity, sexual orientation, disability, age, religion, physical appearance, citizenship, or other protected categories
- Unwelcome sexual attention, including inappropriate use of nudity and/or sexual images in public spaces or in presentations
- Threatening, stalking, or endangerment of others
- Any activity meant to cultivate hostility, ad hominem insults or other attacks

We do not tolerate the following:

- Disruption of presentations during sessions, exhibitions, or at other events organized by WEF throughout the virtual meeting. All participants must comply with the instructions of the moderator and any WEF virtual event staff.
- Presentations, postings, and messages should not contain promotional materials, special offers, job offers, product announcements, or solicitation for services. WEF reserves the right to remove such messages and potentially ban sources of those solicitations.

Participants should not copy or take screen shots of any technical presentations, sponsor demonstration, Q&A or any chat room activity that takes place in the virtual space.

SESSIONS-AT-A-GLANCE

Session	Session Title	Time	CE Credits
Tuesday, May 11			
OGS	Opening General Session	11:00 a.m. - 12:30 p.m. ET	1.5 PDHs
Company Demo	Giving Your Digester an Organic Diet: Keys to a Successful Organics, FOG, and High Strength Waste Receiving Program	12:30 p.m. – 12:50 p.m. ET	N/A
Session 1	PFAS and Contaminants of Concern in Biosolids	1:00 p.m. – 2:00 p.m. ET	1.0 PDHs
Company Demo	Is it time to rebuild/replace your Belt Filter Press or Centrifuge?	2:00 p.m. – 2:20 p.m. ET	N/A
Company Demo	Finding OPEX Savings in Your Filter Cake	2:30 p.m. – 2:50 p.m.	N/A
Session 2	Innovative Biosolids Process Enhancements	3:00 p.m. – 4:15 p.m. ET	1.25 PDHs
Wednesday, May 12			
Session 3	Optimizing Digestion and Co-Digestion	11:00 a.m. – 12:15 p.m. ET	1.25 PDHs
Company Demo	Lystek THP: Sustainable Solutions for Biosolids Management	12:30 p.m. – 12:50 p.m. ET	N/A
Session 4	Odor Control and Digestion Intensification Solutions	1:00 p.m. – 2:00 p.m. ET	1.0 PDHs
Technology Spotlight	<ul style="list-style-type: none"> • Digester Defense by Sludge Screening • An Overview of Biogas H₂S Removal Technologies • Treatment of All types of Digestate from Mesophilic to Thermophilic to THP Pre-Treated sludge using the DEMON® Anammox Process • Lessons Learned from Piloting Biosolids Composting and Leading Towards to a Successful Biosolids Management Program 	2:00 p.m. – 3:00 p.m. ET	1.0 GCHs
Session 5	Land Application and Surface Disposal Benefits and Challenges	3:00 p.m. – 4:00 p.m. ET	1.0 PDHs

SESSIONS-AT-A-GLANCE

Session	Session Title	Time	CE Credits
Thursday, May 13			
Session 6	Thermal Process Optimization	11:00 a.m. – 11:45 a.m. ET	.75 PDHs
Company Demo	<ul style="list-style-type: none"> • Maximizing Methane Using Membrane Based Upgrading with Methanis • Redefining Biosolids: This is OurCarbon™ • Welcome to Juneau, Alaska: A Virtual Site Tour of Mendenhall Wastewater Treatment Facility • Award Winning & Long Lasting Biosolids Drying with Biogas 	11:45 a.m. – 1:25 p.m. ET	N/A
Session 7	Sustainability: Planning, Action, and Communication	1:30 p.m. – 2:30 p.m. ET	1.0 PDHs

NETWORKING OPPORTUNITIES

We are utilizing Kumospace to allow for casual networking. The space will be open throughout the entire conference, so stop in any time. You can choose from any of the rooms listed and talk with people inside your sound bubble. The closer you get to a group, the louder they become. Some rooms even have music and a chance to fill up a virtual drink. Explore and see what you can do!

We encourage you to join this platform after technical sessions and company demos to continue the conversation.

[Click here to download](#) tips on how to use Kumospace effectively.

ONLINE PROCEEDINGS

Conference proceedings, consisting of manuscripts for each presentation, have been made available through an online portal. Advance registrants will receive an email with instructions on how to access to the Residuals and Biosolids 2021 online proceedings in the conference daily emails. Later registrants will receive an email with instructions to access proceedings following the event's conclusion.

Not attending this year's Residuals and Biosolids Conference? Copies of proceedings may be ordered on Access Water starting after the event ends at the member rate of \$120 USD/nonmember rate of \$150 USD. You may call 1-800-666-0206 or visit www.AccessWater.org to place your order.

CONTINUING EDUCATION

Attendees can track credits, access transcripts, archived record keeping, and state reporting.

For Professional Engineers: WEF education and training events are accepted in most U.S. states. WEF maintains Provider Status with several state engineering boards, including the Florida Board of Professional Engineers (FBPE) and the New York State Education Department (NYSED).

For Professional Operators: WEF is pursuing CE credit pre-approval with many state operator licensing boards for Residuals and Biosolids 2021 Virtual Event including: AZ, CA, CO, DC, FL, GA, IN, MI, NJ, NY, OH, OK, OR, PA, TX, VA, and WA..

States' licensing boards encourage licensees to familiarize themselves with credit policies and requirements and to verify which events are approved or accepted in their state(s).

If you have questions about WEF's Continuing Education Program, please contact us at csc@wef.org or 1-800-666-0206.

How to get your certificate?

On each session's page, you will see three tabs: session, quiz and certificate. In order to obtain your certificate, you will need to watch each session video in its entirety (on the session page), respond to attentiveness polls during the video, and pass the associated quiz with a score of 100%.

SPONSORS

We would like to thank the following companies for their contributions to the conference and program.



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CONFERENCE SPONSORS

PRE-CONFERENCE WORKSHOPS

(Additional fees apply)

**Workshop A: Dewatering Optimization – Practical Ways to Improve Performance
Wednesday, May 5, 2021, 11:00 a.m. – 2:00 p.m. ET (UTC -4) – 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 Flocculation 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. ET (UTC -4) – Live on Zoom

- 1:00 p.m. Welcome, Intros**
Travis Loop, WEF
Agenda Review and Zoom Orientation
Orientation to the Toolkit
[Biosolids Toolkit Download Link](#)
Poll/Chat: Why is Communicating About Biosolids Hard?
Sam Villegas , Raftelis
- 1:30 p.m. The Power of Proactivity**
Melissa Elliott, Raftelis
A Strategic Approach: 4 Steps
Breakout #1: Research Rally (Page 2)
Matt Wittern, Raftelis
Regroup, Report Out
Stakeholder Mapping Demo
Melissa Elliott, Raftelis
- 2:30 p.m. Break**
- 2:45 p.m. Mastering the Messaging**
Sam Villegas , Raftelis
Individual Assignment: Rewrite This (Page 3)
Report Out, Share
Handling the Hit Piece
Matt Wittern, Raftelis
- 3:30 p.m. Breakout #2: Hit Me With Your Best Shot (Page 4)**
- 3:50 p.m. Regroup, Report Out**
- 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. ET (UTC -4) – Live on Zoom

- 11:00 a.m. Welcome from the Conference Co-Chairs**
Kathryn Crestani, NEORS
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. – 12:50 p.m. ET (UTC -4)

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

VIRTUAL EVENT – TUESDAY, MAY 11, 2021

Session 01: PFAS and Contaminants of Concern in Biosolids Tuesday, May 11, 2021, 1:00 p.m. - 2:00 p.m. ET (UTC -4) – 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, Shirley Anne Smyth, Environment and Climate Change 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, Andrew White, CharTech Solutions

Company Demo

Tuesday, May 11, 2021, 2:00 p.m. – 2:50 p.m. ET (UTC -4)

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 Water Technologies

VIRTUAL EVENT – TUESDAY, MAY 11, 2021

Session 02: Innovative Biosolids Process Enhancements Tuesday, May 11, 2021, 3:00 p.m. - 4:15 p.m. ET (UTC -4) – 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**
Vahid Ghodsi, Siva Sarathy, Trojan Technologies; John Walton, Ian Watson, USP Technologies; Elsayed Elbeshbishy, Ryerson University; Domenico Santoro, University of Western Ontario
- 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, 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. ET (UTC -4) – 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

Pedro Puente, Lutgarde Raskin, University of Michigan; Rashi Gupta, Christian Tasser, Carollo Engineers; Larissa Schwinghammer, Christian Schaum, Bundeswehr University Munich; Tanja Rauch-Williams, University of Michigan

11:38 a.m. Case Study of Pennsylvania’s First Net Positive Resource Recovery Facility — The Hermitage Success Story

Thomas Darby, City of Hermitage; Jason Wert, Rettew; Sudhakar Viswanathan, Veolia Water Technologies

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. – 12:50 p.m. ET (UTC -4)

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 International**

VIRTUAL EVENT – WEDNESDAY, MAY 12, 2021

Session 04: Odor Control and Digestion Intensification Solutions Wednesday, May 12, 2021, 1:00 p.m. - 2:00 p.m. ET (UTC -4) – Simu-Live

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

- 1:00 p.m. Identifying the Source, Cause, and Solution of Biosolids Odor at a Maryland Water Resource Recovery Facility**
Hao Luo, Virginia Tech; Dian Zhang, Stantec; Malcolm Taylor, Caroline Nguyen, Solomon Quansah, Washington Suburban Sanitary Commission; Zhi-wu Wang, Virginia Tech
- 1:20 p.m. Using Finished Compost to Treat and Control Emissions from Active Biosolids Composting**
Larry Wong, Artin Laleian, Thomas Knapp, Brian Polson, Matt Hutton, Carl Glass, Los Angeles County Sanitation Districts
- 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; Christine Debarbadillo, Black & Veatch; Sudhir Murthy, DC Water; Ahmed Al-Omari, Brown and Caldwell

VIRTUAL EVENT – WEDNESDAY, MAY 12, 2021

Technology Spotlight

Wednesday, May 12, 2021, 2:00 p.m. – 3:00 p.m. ET (UTC -4) – 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, GORE® Cover / Sustainable Generation

Session 05: Land Application and Surface Disposal Benefits and Challenges
Wednesday, May 12, 2021, 3:00 p.m. – 4:00 p.m. ET (UTC -4) – 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.

Protecting Beneficial Use – Current Legal Issues Regarding Land Application

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. ET (UTC -4) – 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; Steven Graziano, Jacobs

11:22 a.m. Update - NEORSD Southerly WWTC Biosolids Combustion Optimization

Lloyd Winchell, Brown and Caldwell; Kathryn Crestani, Douglas Reichlin, NEORSD

Company Demo

Thursday, May 13, 2021, 11:45 p.m. – 1:25 p.m. ET (UTC -4)

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 Water Technologies & Solutions

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

Presented by: Bioforcetech Corporation

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

Presented by: Veolia Water Technologies

1:05 p.m. Award Winning & Long Lasting Biosolids Drying with Biogas

Presented by: Komline-Sanderson Corporation

VIRTUAL EVENT – THURSDAY, MAY 13, 2021

Session 07: Sustainability: Planning, Action, and Communication
Thursday, May 13, 2021, 1:30 p.m. – 2:30 p.m. ET (UTC -4) – 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? Evaluation of and Guidance for End Product Markets for Generators and Consultants.**
Jean Creech, Semi-retired, formerly Charlotte Water

SPEAKER BIOGRAPHIES

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. ET (UTC -4) – Live on Zoom



Greg Kester is the Director of Renewable Resource Programs for the California Association of Sanitation Agencies (CASA). Greg serves as both the technical and programmatic contact for CASA members and conduit for emerging issues on the state and federal levels on all biosolids, renewable energy, and climate change mitigation issues. Prior to joining CASA, Greg served as the state biosolids coordinator for the Wisconsin Department of Natural Resources. He represented all states in the nation, by their election, to USEPA on all biosolids issues. He served on the National Academy of Sciences Committee which evaluated federal biosolids regulations and produced the 2002 report: Biosolids Applied to Land: Advancing Standards and Practices.



Dr. Nicholas Basta is Professor of Soil and Environmental Science in the School of Environment and Natural Resources and Director of the Environmental Graduate Student Program at The Ohio State University. His research program includes beneficial use of agricultural, industrial, and municipal by-products through land application and the fate of by-products in agronomic/environmental systems. He has an internationally recognized research program focused on risk-based environmental chemistry and bioavailability of contaminants and nutrients in soil with emphasis on human, agronomic, and ecosystem health. He earned his B.S. in Chemistry from Penn State University, M.S. in Soil Science and Ph.D. in Soil Chemistry with a minor in Analytical Chemistry from Iowa State University.

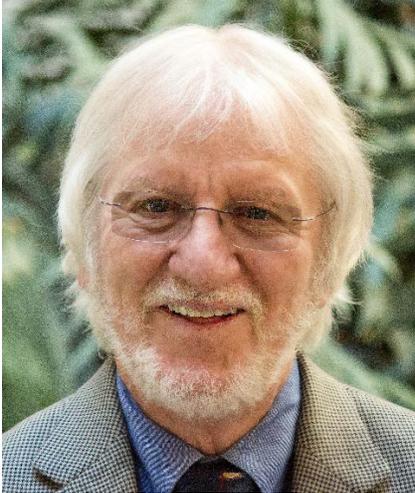
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SPEAKER BIOGRAPHIES

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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. ET (UTC -4) – Live on Zoom



Dr Pepper is a Regents Professor at the University of Arizona. He is also Director of the Water and Energy Sustainable Technology Center (WEST) at the University. He is an Environmental Microbiologist who has spent much of his career evaluating the benefits and hazards of land application of biosolids, with a special focus on potential microbial hazards.



Linda S. Lee is a Professor in the Purdue University Departments of Agronomy and Environmental & Ecological Engineering, and Program Head for the Ecological Sciences & Engineering Interdisciplinary Graduate Program. She joined the faculty at Purdue in 1993 after completing a BS (Chemistry), MS (Environmental Engineering) and PhD (Soil Chemistry & Contaminant Hydrology, Soil & Water Sciences Dept.) at the University of Florida. She has a well-funded program focused on quantifying the processes that govern environmental fate and remediation of contaminants for use in contamination mitigation, decision tools and management guidelines. Her past 15 years plus most of her research attention has been focused on PFAS.

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SPEAKER BIOGRAPHIES

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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. ET (UTC -4) – Live on Zoom



Elizabeth (Liz) Resek is the Environmental Protection Agency's Office of Science and Technology (OST) Biosolids Lead, where she manages Biosolids Program efforts including risk evaluation of pollutants in biosolids, implementation of biosolids regulations, and stakeholder collaboration. Before coming to OST, Liz was a Branch Chief within EPA's Office of Resource Conservation and Recovery where she helped redirect national program efforts from waste management to sustainable materials management. Prior to that, she was the Deputy Director for EPA's Office of Science Coordination and Policy within the Office of Chemical Safety and Pollution Prevention. Liz has worked in several other federal agencies; as a private consultant; and as a chemist for a pharmaceutical company.

SPEAKER BIOGRAPHIES

Session 01: PFAS and Contaminants of Concern in Biosolids
Tuesday, May 11, 2021, 1:00 p.m. - 2:00 p.m. ET (UTC -4) – Simu-Live



Cameron is the Water Quality and Sustainability Leader for Renewable Water Resources (ReWa), Greenville, South Carolina's provider of water resource recovery services for a growing population of over a half-million customers. She is a licensed Professional Engineer in South Carolina and has over 10 years of experience in various roles within the environmental field. Cameron has a bachelor's degree in civil and Environmental Engineering from the University of South Carolina, and a master's degree in Environmental Engineering from Clemson University.



Mr. Narasimman Lakshminarasimman is a PhD student at the University of Waterloo working with Dr. Wayne Parker. Previously, he was working as an onsite research contractor to the US Environmental Protection Agency studying the fate of chemical, biological and radiological contaminants in water/wastewater infrastructure. He earned his bachelor's degree (with Honors) in Civil Engineering from India and master's degree in Environmental Engineering from University of Cincinnati, USA.



Mr. Williams has a 40-year career in environmental engineering with operating and design experience and specific emphasis in biosolids management planning, and product utilization. Todd has assisted many wastewater cities, agencies and communities throughout North America in developing sustainable biosolids management programs. He has direct experience with new and emerging biosolids treatment technologies such as digestion, drying, pyrolysis, gasification and composting. Todd is the past Chair of the Water Environment Federation's Residuals and Biosolids Committee and currently serves as the Jacobs Residuals Resource Recovery Global Technology Leader.

SPEAKER BIOGRAPHIES

Session 02: Innovative Biosolids Process Enhancements
Tuesday, May 11, 2021, 3:00 p.m. - 4:15 p.m. ET (UTC -4) – Simu-Live



Casey is a process engineer at the Truckee Meadows Water Reclamation Facility. He holds a B.S. in Chemical Engineering, a Master of Public Administration from the University of Nevada, Reno and is a registered Professional Engineer in Nevada. His journey as an environmental professional started by working for the Nevada Division of Environmental Protection where he was first introduced to wastewater treatment. He then joined the team at northern Nevada's largest wastewater plant as an operator and gained his Grade IV Wastewater Treatment Plant Operator certification.



Ian Watson is currently a Technology Development Manager for USP Technologies, residing in Paso Robles, CA. With a background in chemical engineering, he has 18 years of experience designing, developing, and delivering chemical treatment programs for municipal wastewater systems to solve complex odor control and treatment performance issues.



Mr. Ngwenya wastewater process engineer with Jacobs Engineering. His project experience includes design of solids handling facilities and evaluation of alternative solids treatment technologies, including septage receiving facilities, dry and emulsion polymer systems, a variety of thickening and dewatering equipment and digestion systems, cake conveyance systems, and biosolids drying technologies. He graduated from Bucknell University in Pennsylvania with a bachelor's degree in civil engineering in 2015 and with a master's degree in Environmental Engineering in 2017.

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SPEAKER BIOGRAPHIES

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Session 02: Innovative Biosolids Process Enhancements
Tuesday, May 11, 2021, 3:00 p.m. - 4:15 p.m. ET (UTC -4) – Simu-Live



Natalie Sierra is senior principal with Brown and Caldwell, leading BCs national biosolids and energy practice. She is passionate about biosolids beneficial use and specializes in biosolids master planning and end use in projects across the country. Prior to coming to Brown and Caldwell, she served as the biosolids manager for the San Francisco Public Utility Commissions Wastewater Enterprise. Ms. Sierra holds engineering degrees from Cornell University and the University of North Carolina at Chapel Hill.



John Ross is a biosolids focused engineer in Brown and Caldwell's Andover, MA office. John gained experience with dryer operations early in his career working onsite at the Milorganite Facility in Milwaukee, WI and has since worked closely with BCs subject matter experts on dryer projects across the country. John also conducted research on the fate of micropollutants in biosolids pyrolysis and will support an upcoming Water Research Foundation full-scale PFAS fate study in sewage sludge incinerators

SPEAKER BIOGRAPHIES

Session 03: Optimizing Digestion and Co-Digestion
Wednesday, May 12, 2021, 11:00 a.m. – 12:15 p.m. ET (UTC -4) – Simu-Live



Dr. Juliet Ohemeng-Ntiamoah is an Environmental Engineer with expertise in bioenergy and currently specializes in wastewater process engineering at JACOBS. Her doctoral work focused on optimizing renewable energy recovery from organic waste using anaerobic co-digestion processes. She has presented her work at several highly regarded technical conferences across the US, including the Association of Environmental Engineering and Science Professors (AEESP) and the Water Environment Federation Technical Exhibition and Conference (WEFTEC).



Pedro Puento is from Ecuador and he obtained his bachelor's in chemical engineering at San Francisco de Quito University in 2013 working on Anaerobic Digestion of fruit processing waste at a pilot scale plant. He got his master's in environmental engineering at the University of Michigan in 2015 and worked in Anaerobic Digestion of Municipal Wastewater using membranes in a pilot scale plant. From 2017 to 2019 he worked as a lecturer at the Armed Forces University of Ecuador. Now, he is a PhD candidate in Environmental Engineering in Dr. Lutgarde Raskin's group focusing on resource recovery.

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SPEAKER BIOGRAPHIES

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Session 03: Optimizing Digestion and Co-Digestion

Wednesday, May 12, 2021, 11:00 a.m. – 12:15 p.m. ET (UTC -4) – Simu-Live



Dr. Tanja Rauch-Williams serves as Carollo's National Wastewater Process and Innovation Lead and Principal Technologist with more than 20 years of experience in wastewater treatment and applied research. She has served as Principal Investigator for several research projects focused on emerging contaminants and co-digestion.



Sudhakar Viswanathan is responsible for developing biosolids and bioenergy projects for Veolia, a world leader dedicated to water, waste and energy management. He has a master's degree in environmental engineers from Syracuse University and has varied experience in roles that include research, development, industrialization, product management and more recently business development. Sudhakar has 20 years of industry experience, formerly with Suez and currently Veolia.



Adrian Romero is a process engineer with Jacobs working in projects related to energy and resource recovery from wastewater and integrating strategies for sulfide control in collection systems to the overall facility performance. He has presented at regional, national and international conferences. Adrian earned a PhD at University of Maryland as part of the DC Water Research and Development Program. His research focused on biosolids quality and utility-wide odor minimization through process optimization.

SPEAKER BIOGRAPHIES

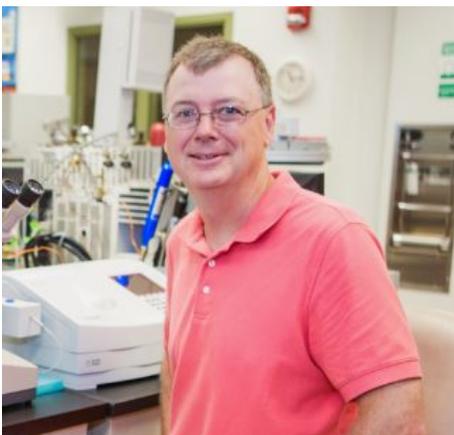
Session 04: Odor Control and Digestion Intensification Solutions
Wednesday, May 12, 2021, 1:00 p.m. - 2:00 p.m. ET (UTC -4) – Simu-Live



Mr. Hao Luo joined Dr. Wang's team as a Ph.D. student at Virginia Tech in Spring 2019. He received his B.S. in Environmental Science from Kunming University of Science & Technology in 2014 and his M.S. in Science & Technology from Southeastern Louisiana University in 2017. Hao's research focuses on anaerobic digestion.



Larry Wong earned his bachelor's in civil engineering from the University of California, Berkeley and his Master's in Civil Engineering from University of California, Los Angeles. He has been working for Los Angeles County Sanitation Districts for 13 years on research projects that help develop practical solutions for the public sector.



Matt Higgins is Professor and Claire W. Carlson Chair in Environmental Engineering at Bucknell University. Over the last 20 years, his research has largely focused on biosolids issues including digestion, co-digestion, thermal hydrolysis, conditioning and dewatering, odors and reactivation and regrowth of indicators and pathogens in biosolids.

SPEAKER BIOGRAPHIES

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



Jim Ippolito is an Associate Professor of Soil Fertility/Soil Health within the Department of Soil and Crop Sciences at Colorado State University. He received his BS from the University of Delaware, MS and PhD from Colorado State University. Jim has focused research attention on biosolids land application environmental effects since 1991, and most recently is paying attention to alterations in soil health.



Ms. Bertoldi is a Senior Environmental Scientist at Material Matters Inc. and is responsible for providing support to municipal wastewater clients related to biosolids beneficial use market research analysis, solids management, and regulatory permitting. She has ten years of experience in environmental and/or water resource engineering with eight years as a licensed engineer in training (EIT). Ms. Bertoldi previously worked as staff engineer for a county municipal solid waste (MSW) landfill. She also has experience in consulting focused on stormwater management and water resource engineering,

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SPEAKER BIOGRAPHIES

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**Session 05: Land Application and Surface Disposal Benefits and Challenges
Wednesday, May 12, 2021, 3:00 p.m. – 4:00 p.m. ET (UTC -4) – Live on Zoom**



Drew Silton is a Principal with the law firm Beveridge Diamond, where he maintains a litigation and regulatory counseling practice focused on wastewater collection and treatment systems, as well as issues affecting the beneficial use of residuals. Drew represents both POTWs and their contractors in matters that include permit negotiation, enforcement defense, and defending tort suits. He has defended land application in cases challenging the beneficial use of biosolids and is currently prosecuting a case seeking preemption of a local ordinance that threatens to prevent land application.



Jimmy Slaughter is a trial and appellate lawyer who defends biosolids recycling and the solid waste industry in courtrooms across the country. He litigates toxic tort and nuisance allegations regarding solid waste and biosolids, defends EPA, state, and citizen suits against wastewater treatment plants and other facilities, and litigates Superfund clean-ups. Jimmy and his firm also prosecute constitutional cases against ordinances and permits that improperly regulate biosolids recycling and other land uses. Jimmy is a Principal with Beveridge & Diamond, P.C., an environmental law firm in Washington, DC. Jimmy graduated from Yale and Columbia Law School and was a law clerk for Judge James Spouse on the U.S. Court of Appeals, Fourth Circuit.

SPEAKER BIOGRAPHIES

Session 06: Thermal Process Optimization

Thursday, May 13, 2021, 11:00 a.m. – 11:45 a.m. ET (UTC -4) – Simu-Live



Peter Burrowes is a senior fellow technologist in Residuals Resource Recovery for JACOBS. Peter obtained his bachelor's degree in mechanical engineering from the University of Sheffield, U.K. in 1973 and is a registered professional engineer in Ontario. He is also a member of the Water Environment Federation and has served on several committees at both the Federation level and the local level and serves on the Biosolids Committee and the Bioenergy Subcommittee. Peter has worked at JACOBS since 1976 on the planning, permitting, design, construction, commissioning and startup of many projects.



Since graduating in 2005 from the University of Minnesota, Lloyd has spent fourteen years with Brown and Caldwell as an environmental engineer. Lloyd's work has focused solely on wastewater treatment projects involving both industrial and municipal clients. His specialties include wastewater liquids and solids process engineering with significant experience addressing whole plant issues and planning efforts. Recent solids process engineering includes dewatering equipment evaluation and replacement, incineration optimization, energy recovery in solids processing, and emissions compliance.

SPEAKER BIOGRAPHIES

Session 07: Sustainability: Planning, Action, and Communication
Thursday, May 13, 2021, 1:30 p.m. – 2:30 p.m. ET (UTC -4) – Live on Zoom



James Dunbar, P.E. is the General Manager at Lystek International (US). Jim is a graduate of the University of Notre Dame (Civil & Environmental Engineering) and St. Xavier University (MBA) and a Professional Engineer with more than 25 years' experience in the management of solid waste and treatment of liquid wastes in the United States and Europe. Lystek opened its US biosolids processing facility in Fairfield, Solano County, California in 2016. Jim's role is overall site operations for the Fairfield OMRC facility, and engineering/business development in California and the US market.



Mr. Auerbach holds several degrees including a B.S. in Biological Engineering from Cornell University, an M.S. in Environmental Engineering from the University of Wisconsin, and an M.S. in Energy Engineering from the University of Illinois Chicago. He has worked at Arcadis for 15 years planning and designing biosolids resource recovery systems at some of the largest WRRFs in the country including Chicago and New York City. Eric is also an active member of the WEF Residuals and Biosolids committee and serves Arcadis as a national technical resource for biogas utilization and resource recovery projects.



Jean started in the biosolids industry in 1991 and semi-retired in 2021. Her most recent tenure was with Charlotte Water in Charlotte, NC. Charlotte is the largest land applier in both North and South Carolina. Prior to her retirement she was integrally involved in the Biosolids master planning efforts which included a thorough market and risk analysis. From this experience she identified a need to improve communication and expectations relating to end product use of Class A products.

SPEAKER AND MODERATOR DIRECTORY

Eric Auerbach
Session 07

Trudy Johnston
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Pedro Puente
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Nick Basta
OGS

Greg Kester
OGS

Anahita Rabii
Session 01

Kathleen Bertoldi
Session 05

Narasimman
Lakshminarasimman
Session 01

Tanja Rauch-Williams
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Peter Burrowes
Session 06

Linda Lee
OGS

Liz Resek
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Cameron Colby
Session 01

Hao Luo
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Adrian Romero
Session 03

Jean Creech
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Casey Mentzer
Session 02

John Ross
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Kathryn Crestani
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Manny Moncholi
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Rusty Schroedel
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James Slaughter
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Bob Forbes
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Zwelani Ngwenya
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Richard Tsang
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Brandon Fox
OGS

Juliet Ohemeng-
Ntiamoah
Session 03

Sudhakar Viswanathan
Session 03

Matthew Higgins
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Ian Pepper
OGS

Robert "Wick" Warden
Session 02

Jim Ippolito
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Ian Watson
Session 02

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Ian Watson
Session 02

Lloyd Winchell
Session 06

Jerry Yu
Session 06

Todd Williams
Session 01

Larry Wong
Session 04

UPCOMING WEF EDUCATION & TRAINING EVENTS

Innovations in Process Engineering 2021: A Virtual Event

Registration is open now!
June 9-10 and 15-16, 2021

www.wef.org/processengineering

Stormwater Summit 2021: A Virtual Event

Registration is open now!
June 22-23, 2021

www.wef.org/stormwatersummit

AWWA/WEF Utility Management Conference 2021

Atlanta, GA
August 3-6, 2021

www.wef.org/utilitymanagement

WEFTEC 2021

McCormick Place, Chicago, IL and Online
October 16-20, 2021

www.weftec.org

WEF Forum: Particles & Colloids – The Next Frontier in Intensifying Water Resource Recovery

Fort Lauderdale, FL
January 10-12, 2022

www.wef.org/forum

WEF/AWWA Utility Management Conference 2022

Orlando, FL
February 21-24, 2022

www.wef.org/utilitymanagement

Public Health Conference and Wastewater-Based Epidemiology Summit

Cincinnati, OH
March 21-24, 2022

UPCOMING WEF EDUCATION & TRAINING EVENTS

Collection Systems Conference 2022

Detroit, MI

April 18-22, 2022

www.wef.org/collectionsystems

Save the Date! Residuals and Biosolids Conference 2022

Columbus, OH

May 24-27, 2022

www.wef.org/residualsbiosolids

Innovations in Process Engineering Conference 2022

Miami, FL

June 20-24, 2022

www.wef.org/processengineering

Stormwater Summit 2022

Minneapolis, MN

June 25-30, 2022

www.wef.org/stormwatersummit

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