



Midwest Biosolids Association First Annual Conference

8:00 AM – 5:00 PM (Eastern Standard Time)

Tuesday, March 26, 2024

Beck Center - Purdue University
4550 US-52, West Lafayette, IN 47906

<https://mwbiosolids.org/>

Welcome to a tremendous event for engaging and sharing knowledge for improving management of biosolids. Hear from utilities, land appliers, consultants, and research institutions on their collective efforts for successful projects and programs for sustainable biosolids management. Registration is \$150/person, optional dinner (\$45/per person) the night before (details will be on the registration site). Details below.

-----Attendance is limited to the first 200 people registered, due to facility limitations.-----

Conference chair:

John W. Norton, Jr., PhD, PE
Great Lakes Water Authority
john.norton@glwater.org

Conference local host:

Professor Linda Lee, PhD
Purdue University
lslee@purdue.edu

Brown Sponsors



Lunch Sponsor



Lunch Speaker:

Dr. Kati Bell

Director of Research and Innovation

Morning networking sponsor



Afternoon networking sponsor




Yellow Sponsors



Agenda

SESSION 1: Collaborations for Sustainable Biosolids Management	
8:00 AM	<p>Welcome to the Conference John Norton, PhD, PE, Director of Energy, Research, and Innovation, Great Lakes Water Authority, Detroit, Michigan</p> <p><i>Welcome to the conference.</i></p>
8:05 AM	<p>Formation of the Midwest Biosolids Association Dr. Albert Cox, President of the Midwest Biosolids Association Environmental Monitoring and Research Manager MWRDGC, Chicago, Illinois</p> <p><i>Dr. Cox shares highlights of the impetus key actions in forming the Midwest Biosolids Association.</i></p>
8:15 AM	<p>Reflections on the Pretreatment Program for Biosolids Quality Improvements Stephen Kuplicki, PE, JD, Manager, Industrial Waste Control Great Lakes Water Authority, Detroit, Michigan</p> <p><i>Discussion on how the Pretreatment Program has and can be used for improving "recycle and reclaim" opportunities for Biosolids. Topic includes a brief review of the traditional Pretreatment Program and its objectives, as well as examples of past program successes and future opportunities with Source Control, for improving Biosolids quality.</i></p>
8:35 AM	<p>Working Together for Win-Win Land Application Contracts Eric Dresbach, WD Farms, Circleville, Ohio</p> <p><i>Based on his 30 plus years of experience, Eric will share tips, tricks, and thought process on how municipalities can write a contract for successful land application of residuals to maximize benefits to the municipality, contractor, and crop farmer.</i></p>
8:55 AM	<p>Outreach Committee on MBA Member Engagement Survey Persephone Ma, PhD, Brown and Caldwell Elizabeth Charbonnet, PE, Senior Engineer, Carollo</p> <p><i>MBA Communications and Outreach Committee will share results and takeaways from the member engagement survey.</i></p>
9:15 AM	<p>Musings from a Biosolids Network Playbook Maile Lono-Batura, BCES., Director, Sustainable Biosolids Programs, Water Environment Federation, Alexandria, Virginia</p> <p><i>Maile will share reflections of leading the first regional biosolids organization for two decades to elevating the role of biosolids in her role at the Water Environment Federation.</i></p>
9:35 – 9:50 AM	<p>NETWORKING BREAK Sponsored by:</p>

SESSION 2: Lessons from Peer Utilities – What’s Everyone Else Doing?	
9:50 AM	<p>Introduction of utility projects and programs Stacia Eckenwiler, PE, Assistant Administrator, City of Columbus, Ohio</p> <p><i>Welcome to the utility session.</i></p>
9:55 AM	<p>State of the Solids: The City of Columbus’s 100% Beneficial Reuse Program Josh Lutz, Wastewater Residuals Manager, Tyler Schweinfurth, Project Manager, Division of Sewerage and Drainage, Columbus, Ohio</p> <p><i>The City of Columbus has achieved 100% beneficial reuse of its biosolids since April 2016 through a diverse outlet portfolio and region-specific biosolids management strategies. These core outlets include liquid land application, cake application for mine reclamation, off-site digestion, and the City owned and operated Class A Biosolids Composting Facility. Learn about the management successes and challenges of these various outlets with an eye toward future growth.</i></p>
10:15 AM	<p>GLWA’s biosolids research program: failures and successes John Norton Jr, PhD, PE, Director of Energy, Research, and Innovation, Great Lakes Water Authority, Detroit, Michigan</p> <p><i>Dr. Norton outlines the GLWA biosolids research program and the various collaborations helping drive it forward, ranging from the Water Research Foundation, the (fairly) recent \$1.5 million hydrothermal liquefaction project funded by the Department of Energy, and brief description of the project collaboration regarding the US EPA’s pollutant in biosolids program.</i></p>
10:35 AM	<p>Direct and indirect benefits of biosolids applications, including financial and soil health benefits Paul Wilken, Supervisor of Conveyance and Biosolids, Western Lake Superior Sanitary District, Minnesota</p> <p><i>Information on biosolids adding organic matter to soils, water retention, and microbe health improvement in soils that have applied biosolids.</i></p>
10:55	<p>Sampling for PFAS compounds Eric Redman, Corporate Director of Technical Services, Eurofins</p> <p><i>Utilities and other stakeholders are in the early stages of navigating the new road to monitoring for PFAS. This session describes the trials and tribulations of PFAS sampling and measurement for water and wastewater utilities.</i></p>
11:15	<p>PRACTITIONER ROUNDTABLE Addressing stakeholder challenges and interests</p> <p>Paul Wilken, Western Lake Superior Sanitary District, Minnesota Greg Farrantello, Agronomist/CCA, Stewart Spreading One more panelist, to be determined</p> <p><i>The discussion will start around addressing stakeholder questions and concerns, from the benign to the antagonistic. As soon as this is solved, the Q&A will open up to the audience for participation.</i></p>

11:45 AM	<p>LUNCH Sponsored by:</p>  <p>Lunch speaker: Dr. Kati Bell <i>Director of Research and Innovation, Brown and Caldwell</i></p>
SESSION 3: Practice-informed Research	
12:30 PM	<p>Introduction of biosolids research efforts Dr. Linda Lee, Purdue University Distinguished Professor Dept. of Agronomy, Purdue</p> <p>Welcome to the research session.</p>
12:35 PM	<p>WRF 5170: State of the Science and Regulatory Acceptability for PFAS Residual Management Options Mahsa Modiri, Ph.D., P.E., Senior Engineer, EA Engineering, Science, and Technology, Inc, PBC</p> <p>The overall goal of this study is to: (1) identify currently available per- and polyfluoroalkyl substances (PFAS) residual management options and evaluate their suitability; (2) provide an overview of PFAS residual management guidelines and regulations; (3) convene a workshop with federal and state regulators and utilities to validate regulatory acceptability and limitations of various management approaches, and (4) develop a tool to help utilities evaluate PFAS residual management options.</p>
12:55 PM	<p>WRF 5169: Evaluating Innovative and Sustainable Treatment Options for Biosolids Derya Dursun Balci, PhD, PE, Senior Associate, Hazen and Sawyer San Diego, California</p> <p>In response to the rising challenges in biosolids management, a plethora of innovative biosolids management alternatives have been emerging, providing utilities new perspectives of biosolids treatment, end-use, and a pathway to achieve circular water economy via beneficial co-product(s) generation, emission, and cost reduction. This talk will focus on a holistic evaluation framework that is developed and applied on identified innovative biosolids management alternatives.</p>
1:15 PM	<p>Unregulated Organic Chemicals in Biosolids: Prioritization, Fate, and Risk Evaluation for Land Applications (EPA Grant 84024501) Linda Lee, Professor, Purdue Lola Olabode, Research Program Manager, Water Research Foundation</p> <p>As part of the USEPA's "Evaluation of Pollutants in Biosolids" studies, this project is one of four projects supported by this grant. Dr. Lee will present a review of Prioritization, Fate, and Risk Evaluation for Land Application.</p>

1:35 PM	<p>PFAS in pre-stabilized sludge and Biosolids for 27 WRRF Shubha Oza, PhD, Senior Research Engineer, Brown and Caldwell</p> <p>This project is another of four projects supported by the USEPA's "Evaluation of Pollutants in Biosolids" grant. Michigan State University, in collaboration with Colorado State University, University of Georgia Research Foundation, and the Great Lakes Water Authority, surveyed for PFAS and PPCP in pre-stabilized sludge and biosolids. 57 Samples from 27 WRRF were evaluated for PFAS (40 compounds) by EPA Method 537.1 and Draft EPA Method 1633. The results of this surveillance study will be presented.</p>
1:55 PM	<p>Using residuals to improve urban soil health Nick Basta, PhD, Professor, Ohio State University</p> <p>The benefits of land application of high-aluminum concentration water treatment plant residuals to reduce lead exposure in urban environments.</p>
2:15 PM	<p>US EPA project: Assessing Biosolid Treatment Processes on Pollutant Environmental Fate and Plant Uptake following Land Application Hui Li, PhD, Professor, Michigan State University</p> <p>This talk reviews the US EPA funded biosolids project on Assessing Biosolid Treatment Processes on Pollutant Environmental Fate and Plant Uptake following Land Application. The talk will focus on the presence of PFAS and Pharmaceuticals and personal care products (PPCPs) in biosolids treatment train.</p>
2:35-2:50 PM	<p>NETWORKING BREAK Sponsored by:</p> 
SESSION 4: Case Studies – What Can Be Learned?	
2:50 PM	<p>Introduction to the consulting world Dr. Kati Bell, Director of Research and Innovation, Brown and Caldwell</p> <p>Welcome to the research session.</p>
2:55 PM	<p>Beyond Class A cake: A Phased Master Plan of Post-processing Upgrades to Enhance Biosolids Program Resiliency and Manage Risk. Stephanie Spalding, PE, East Region Biosolids Lead, HDR</p> <p>The City of Raleigh Public Utilities Department owns and operates the 75 MGD Neuse River Resource Recovery Facility (NRRRF). The project team reviewed curing, drying, pyrolysis, gasification, composting, solar drying, super critical water oxidation, and hydrothermal carbonization. The presentation will describe how the IMP team evaluated alternatives and developed a roadmap for implementing the shortlisted technologies in a phased approach, with regulatory and market triggers for each upgrade.</p>
3:15 PM	<p>How Columbus performed the first multi-sensor fugitive methane study in the Western Hemisphere Dante Fiorino, Principal Engineer, Brown and Caldwell Stacia Eckenwiler, PE, Assistant Administrator, City of Columbus</p> <p>As part of the Bioenergy Project at Southerly Wastewater Treatment Plant (SWWTP), the City of Columbus embarked on a field campaign to quantify fugitive methane emissions. The field investigation spanned several days and included an evaluation of the solids handling facilities, waste gas burner (WGB), digestion facilities, and the Biosolids Land Application Facility. The outcomes of the campaign led to a list of abatement options. The end solutions would reduce identified fugitive methane by 91% in the next five years.</p>

3:35 PM	<p>Biosolids Management Decisions Considering Climate Change and Future Pollutants Mo Abu-Orf, PhD, Residuals Group Practice Leader, Hazen and Sawyer</p> <p><i>A Biosolids Master Plan was a deliverable under New York City DEP under Energy and Carbon Neutrality Plan. The Biosolids Master Plan included a market assessment to determine the energy and carbon benefits of various product and end-use combinations, such that DEP can plan to access markets that support its goals and a multi-facility consolidation solids plan which explored energy and carbon impacts of seventeen (17) future scenarios for the year 2050, based on permutations of in-plant technologies for solids processing, transshipment of solids between plants, additional processing, and end-use markets.</i></p>
----------------	---

3:55 PM	<p>Anaerobic Digestion of Organics: Overview of Two Case Studies for RNG and CHP Resource Recovery Dustin L. Craig, P.E., Environmental Engineer, CDM Smith, Kansas City, MO</p> <p><i>Presentation will include discussion of industry drivers of organic diversion to AD facilities with an overview of case studies of full-scale operations Des Moines WRA producing Renewable Natural Gas (RNG) for pipeline injection and Greater Lawrence Sanitation District (GLSD) and combined heat & power (CHP) system which achieved net-zero operations.</i></p>
	<p>INDUSTRY ROUNDTABLE New and emerging biosolids handling technologies</p> <p>Derya Dursun Balci, PhD, PE, Senior Associate, Hazen and Sawyer</p> <p>Technologies and people, TBD</p>

Conference Benefits

Conference attendees will gain:

- Insights on biosolids management techniques from utilities facing similar incentives and pressures.
- A new (or strengthened!) network to continue championing biosolids beneficial reuse in the Midwest.
- Enhanced understanding of the current research supporting biosolids management and operations.
- The opportunity to provide feedback and guide the growth of our new biosolids association.

Attendees will receive certificates verifying 7 hours PDHs, suitable for licensing requirements (depending on state requirements).

Registration and Sponsorship Opportunities

Registration and sponsorship site: <https://mwbiosolids.org/annual-conference>

Individual registration: \$150

General sponsorship opportunities:

- Blue level, \$500, name on program and one free registration
- Yellow level, \$750, name on program (but bigger!!) and two free registrations
- Brown level, \$1,000, name on program, (even bigger!!!), three free registrations, and booth (tables and electricity provided)

Optional Opportunities and Site Tours

- Monday evening dinner (\$45) at local restaurant
- Tour of Professor Linda Lee's greenhouse and lab (free)
- Tour of Merrell Brother biosolids research facility (one hour from the facility, also free)
- Participation in the Monday, March 25 stakeholder research session. Select if interested and will be notified if space is available.