

Central States WEA  
1021 Alexandra Blvd  
Crystal Lake, Illinois 60014



# 28TH ANNUAL CSWEA EDUCATION SEMINAR

**Making Solid Decisions in an Uncertain Future**  
- Wastewater Solids Management -

# APRIL 11<sup>TH</sup> 2023



**Making Solid Decisions in an Uncertain Future - Wastewater Solids Management** Mark your calendars for the CSWEA 28<sup>th</sup> Annual Education Seminar to be held in person on April 11<sup>th</sup>, 2023 at the Monona Terrace in Madison, WI. We have an exciting program to discuss the ever-evolving world of biosolids and residuals management. This program will focus on uncertainties related to PFAS in biosolids/residuals, understanding of PFAS destruction in certain treatment processes, and how different utilities are managing their programs now and into the future.

## 28<sup>TH</sup> ANNUAL CSWEA EDUCATION SEMINAR SPEAKERS



Greg Kester, P.E.



Tess Richman



Dr. Carl Rosen



Fredric P. Andes



Dr. Patrick  
McNamara, P.E.



Lloyd Winchell, P.E.



Josh Lutz



Joe Cook, P.E.



Chris Lefebvre



Emma Larson

### Meet and Greet Reception – April 10th

All seminar attendees are invited to a reception (cash bar) on Monday April 10th from 5:30-7:00 p.m. at the Monona Terrace Convention Center. The seminar speakers will be available for networking and conversation.

### SEMINAR – APRIL 11

**8:00 – 8:10:** Welcome and Introductions  
**8:10 – 8:55:** Biosolids Challenges and Opportunities:  
Focus on Climate Change Mitigation  
**SPEAKER:** Greg Kester, P.E.  
Director of Renewable Resource Programs,  
California Association of Sanitation Agencies

California has adopted multiple legislative initiatives to mitigate climate change impacts and the Wastewater Sector can help achieve all of them. Co-digestion and recycling biosolids to soil are key opportunities. PFAS and other challenges such as conflicts with Clean Air Act requirements must also be addressed. This talk will provide details on these opportunities and challenges and how they transfer beyond California.

#### Detailed Bio:

Greg Kester has been the Director of Renewable Resource Programs with the California Association of Sanitation Agencies (CASA) since 2007. 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, climate change mitigation, and during the pandemic on wastewater-based epidemiology and related COVID issues. He holds a BS in Civil and Environmental Engineering from the University of Wisconsin – Madison and is a registered Professional Engineer in Wisconsin

**8:55 – 9:30:** U.S. EPA Biosolids Program Update  
**SPEAKER:** Tess Richman  
Biologist, USEPA Biosolids Program

The US EPA Biosolids Program will provide an update on recent activities including the biosolids risk assessment framework, the status of the PFOA and PFOS risk assessment, stakeholder engagement and research updates. The Office of Water (OW) at the EPA has responsibility for evaluating microbial and chemical risks resulting from the use and disposal of biosolids, i.e., treated sewage sludge from wastewater treatment plants. OW has developed a human and ecological framework to assess the risks resulting from chemical contaminants in biosolids that are land applied to farm fields or disposed of via landfilling.

#### Detailed Bio:

Tess Richman is a biologist working in EPA's Biosolids Program within the Office of Water. Her work focuses on regulatory and programmatic activities. Over the past four years Tess' work has included planning two EPA Biosolids National Meetings, publishing Biosolids Biennial Reports No.8 and No.9, developing guidance on lagoon clean outs, streamlining requirements for products derived from sewage sludge, and supporting risk assessment for chemicals found in biosolids.

**9:30 – 9:50:** Poster Session & Break  
**9:50 – 10:25:** Agricultural Usage of Biosolids and Residuals  
**SPEAKER:** Dr. Carl Rosen  
Professor and Extension Soil Scientist,  
Department of Soil, Water, and Climate at the  
University of Minnesota

Use of biosolids as a beneficial soil amendment for crop production has been a common practice for many years. Regulations for biosolids use were established by the US Environmental Protection Agency in 1993 and have since been adopted by state regulatory agencies. This presentation will briefly address current criteria established for biosolids application including metal loading, pathogen reduction and nitrogen content. Assuming metal loading and pathogen reduction criteria are met, biosolids application is based on meeting the nitrogen requirements of the crop being grown. However, continuous use of biosolids on the same site based on nitrogen requirement can result in substantial increases in soil phosphorus.

#### Detailed Bio:

Carl Rosen is a Professor and Extension Soil Scientist in the Department of Soil, Water, & Climate at the University of Minnesota and currently serves as Department Head. He received his MS degree in horticulture from Penn State University and a Ph.D. degree in Soil Science from UC Davis. His research and extension programs in Minnesota have focused on optimizing nutrient management for a variety of crops with particular emphasis on irrigated cropping systems. His efforts have also focused on water quality issues related to fertilizer use and use of municipal and industrial by-products as amendments for agricultural soils.

# Making Solid Decisions in an Uncertain Future

- Wastewater Solids Management -

APRIL 11<sup>TH</sup>  
2023

## REGISTRATION CHARGES

**10:25 – 11:00** **The Legal Side of PFAS Regulation**  
**SPEAKER:** **Fredric P. Andes**  
Partner at Barnes and Thornburg Law Offices

USEPA and State agencies are moving quickly to develop regulatory requirements governing PFAS, including drinking water standards, surface water quality standards, groundwater quality standards, biosolids management requirements, product substitution and source control requirements, and even air emission standards. Many of these new regulations will impose major costs on municipalities, and may require significant changes to plant operations and pretreatment programs.

### Detailed Bio:

Fredric P. Andes is a partner in the Chicago and Washington, D.C. offices of Barnes & Thornburg LLP. He is the leader of the firm's Water Team. He advises trade associations, municipalities, and industries on TMDLs, water quality standards, discharge permits, and other water quality regulatory, compliance and enforcement matters on the state and federal levels. He is the coordinator of the Federal Water Quality Coalition, which is a broad-based group of regulated parties that participates in EPA rulemakings concerning Clean Water Act programs. Also, he helps manage the activities of the PFAS Regulatory Coalition. Mr. Andes graduated cum laude from Harvard Law School in 1980, and obtained his undergraduate degree from Northwestern University in 1977.

**11:00 – 11:30:** **Morning Panel Q&A**  
**11:30 – 12:40:** **Lunch with Poster Session**  
**12:40 – 1:15:** **Pyrolysis for Biosolids Management: Benefits, Challenges, and Impacts on PFAS**  
**SPEAKER:** **Dr. Patrick McNamara, P.E.**  
Associate Professor, Marquette University and Wastewater Process Engineer, Black & Veatch

Per- and Polyfluoroalkyl Substances (PFAS) have been an increasing focus of the public, legislative bodies, and the regulatory community. Indeed, WI DNR has a biosolids PFAS strategy to limit land application based on certain PFAS levels. Nationally, interest in thermal treatment technologies has increased as a means to potentially remove PFAS while generating beneficial end products. Pyrolysis is a thermal process that occurs in the absence of oxygen and generates a beneficial solid product (biochar), py-gas that can be used for energy recovery, and py-liquid that is difficult to handle. This presentation will highlight benefits of pyrolysis along with current challenges. The impact of pyrolysis on the fate of PFAS based on our recent research will be discussed.

### Detailed Bio:

Dr. Patrick McNamara has been an environmental engineering professor at Marquette for over ten years. There, he leads a research group that primarily focuses on emerging contaminants. He also conducts research on residuals and biosolids processes including pyrolysis, anaerobic digestion, and dewaterability. He spent his sabbatical with Black & Veatch in 2021 and has stayed on as a wastewater process engineer. He is the PI on an unsolicited WRF project called "Understanding the Value Proposition for Thermal Processes to Mitigate PFAS in Biosolids."

**1:15-1:50** **PFAS Fate during Incineration**  
**SPEAKER:** **Lloyd Winchell, P.E.**  
Associate Engineer, Brown and Caldwell

Wastewater facilities regularly receive per- and polyfluoroalkyl substances (PFAS) contaminated influent flow. Certain PFAS partition to the solids generated during treatment. Only incineration offers the potential to destroy PFAS of all the commonly applied solids treatment technologies. Only sparse information can be found on the fate of PFAS through incineration process, and even less when considering sewage sludge incinerators (SSI).

### Detailed Bio:

Since graduating in 2005 from the University of Minnesota, Lloyd has spent seventeen years with Brown and Caldwell as an environmental engineer. Lloyd's work has focused solely on wastewater treatment projects involving both industrial and municipal utilities. His specialties include wastewater liquids and solids process engineering. Recent solids process engineering includes PFAS fate, incineration optimization, energy recovery in solids processing, and emissions compliance.

**1:50 – 2:05:** **Early afternoon Q&A**  
**2:05 – 2:20:** **Afternoon Break**  
**2:20 – 2:55 PM:** **State of the Solids Stream: An Update on the City of Columbus Biosolids Program**  
**SPEAKERS:** **Josh Lutz**  
Residual Manager, City of Columbus Public Utilities  
**Joe Cook, P.E.**  
Engineer, City of Columbus Public Utilities

The City of Columbus has committed to 100% beneficial reuse of its wastewater residuals stream. The City has achieved this goal through the use of a diverse and region specific biosolids management program. This presentation provides an overview of the core components of the biosolids management program and relative utilization of each component, challenges faced by the City due to growth and regulation, and future plans to expand and capitalize on beneficial use of our biosolids stream. Attendees can expect to learn about Class B biosolids land application, deep row hybrid poplar tree farms, municipal biosolids composting to Class A Exceptional Quality biosolids, digestion's impact on biosolids quality, and biogas cogeneration.

### Detailed Bio:

Josh Lutz is a graduate of The Ohio State University in Agricultural Engineering and holds a Class 3 Wastewater Operations license and a Professional USCC Composting license. Josh has over 15 years of experience working in wastewater treatment and biosolids handling. Josh has been in his current position for 6 years at the City of Columbus Public Utilities. During his first year, he was able to help lead the City of Columbus to a status of 100% beneficial reuse of their biosolids and is on track to maintain this status for the 6th year in a row.

Joe Cook is a professional engineer licensed in Ohio. He graduated from Ohio University in 2014 and is a first year director on the Ohio Water and Environment Association's Southeast Section Executive Committee. Joe is involved in the WEF RISE Hydrothermal Liquefaction focus group and is focused on Treatment Engineering at the City of Columbus managing Capital and Program Contracts for the City Wastewater Treatment Facilities.

**2:55 – 3:15:** **Biosolids Drying and the Future of Biosolids Management**  
**SPEAKER:** **Chris Lefebvre**  
Wastewater Superintendent, City of Stevens Point, WI

The future of biosolids management is uncertain. Concerns over land availability and emerging pollutants has forced many municipalities across the Midwest to explore new technologies to continue responsible biosolids management. Many of these municipalities are looking to improve their biosolids management by reaching an EPA approved Class A biosolid. Some facilities have considered becoming a regional biosolids handling facility to help offset the high cost of these new technologies while assisting their neighboring communities with their biosolids management.

### Detailed Bio:

Chris Lefebvre graduated from the University of Wisconsin Stevens Point with a Bachelor of Science Degree in Soil and Waste Resource Management. He is a Wisconsin Certified Wastewater Operator as well as a Certified Water Operator. He has been employed by the City of Stevens Point since 2008, first as a Wastewater Operator, then as Chief Wastewater Operator, and is currently the Wastewater Superintendent for the city. Chris has served as the PWO Representative for Central States and is currently the Vice-Chair for the Wisconsin Section of CSWEA.

**3:15 – 3:35:** **Innovation & Biosolids at St. Cloud Minnesota**  
**SPEAKER:** **Emma Larson**

The City of St. Cloud's Wastewater Treatment Facility has transformed to the Nutrients, Energy & Water Recovery Facility in the last few years. Resource recovery and energy efficiency master planning started in 2014; since then, the City has become a national and global leader in innovation in the water and resource recovery industry. In 2018, the City commissioned new technologies to enhance the facility's ability to recover nutrients. This project was called the Nutrient Recovery & Reuse Project and consisted of the installation of innovative technologies that reduces biosolids volume, thermal hydrolyzes (Lystek) the product to generate a biofertilizer and struvite harvesting (Ostara).

### Detailed Bio:

Emma has worked for the City of St. Cloud for 14 years and is now the Assistant Public Utilities Director, and oversees the wastewater and stormwater Divisions within the City. Emma has worked as part of the utilities team for the Energy Efficiency and Biogas project, the Nutrient Recovery and Reuse Project and is now helping lead the team working on the implementation of fuels of the future. The City has been awarded the "Utility of the Future" five times in the last six years for their work related to sustainability, resource recovery, and community engagement.

**3:35 – 4:00:** **Panel Session Q&A**

## 1 Registration fee to attend live event (includes continental breakfast, lunch, and refreshments)

Fee per Person	by March 15	after March 15
Education Seminar (ES)	\$200	\$225
Additional Utility Attendee*	\$50	\$55
Student**	\$25	\$30

\*After one person from a utility registers at standard price, up to five additional people can register for \$50 per person.  
\*\*Students – please indicate if you will present a poster and name of poster:

\_\_\_ Yes Tentative title of poster: \_\_\_\_\_  
Please indicate dietary restrictions: \_\_\_ vegetarian \_\_\_ vegan \_\_\_ gluten free \_\_\_ other

## 2 No refunds given after March 23

Lodging: A limited number of rooms are available at The Hilton Madison Monona Terrace, 9 East Wilson St, Madison. The rooms have been reserved at a conference rate of \$169 per night and will be held until March 11. For reservations, please call the hotel at 608-255-5100 and reference group code "CSWEA". Parking is available for a fee at the Hilton or next door at the Monona Terrace Community and Convention Center. Other lodging is available nearby at the Best Western Premier Park Hotel (608-285-8000) at \$149 to \$169 per night. Reference CSWEA for the group block. This hotel is about 0.7 miles walking distance from the Monona Terrace Community and Convention Center. Alternatively, rooms for each hotel can be booked online at the conference rates using the unique booking links below:

**Hilton:** <https://www.hilton.com/en/book/reservation/deeplink/?cityhccn=MSNMHHF&groupCode=CSWEA&arrivaldate=2023-04-10&departuredate=2023-04-11&cid=OM,WV,HILTONLINK,EN,DirectLink&fromid=HILTONLINKINDIRECT>  
**Best Western:** [https://www.bestwestern.com/en\\_US/book/hotel-rooms.50061.html?groupid=377NG011](https://www.bestwestern.com/en_US/book/hotel-rooms.50061.html?groupid=377NG011)

Attendees are invited to sign up for dinner at Cooper's Tavern hosted by the CSWEA Innovation & Technology Committee following the meet and greet concludes. Registration information is included online.

**I&T Dinner @ \$35 Each** | Cooper's Tavern Monday, April 10 from 7 – 9 pm (Following Meet and Greet Social)  
7:00 Cocktails - Cash Bar  
7:30 Appetizers & Presentation  
8:00 Dinner

Price includes dinner only (no drinks). Dinner registration doses end of day Friday, April 7th, 2023