



# RESOURCE RECOVERY SEMINAR

WEDNESDAY, NOVEMBER 14, 2018

Sponsored by:



## SCHEDULE:

**8:00AM - 8:30AM Registration / Continental Breakfast**

**8:30AM - 9:15AM Pyrolysis of Biosolids to Biochar**

*By: Patrick McNamara - Marquette University*

Pyrolysis, or the heating of material in the absence of oxygen, is gaining attention as a residuals and biosolids handling process for wastewater biosolids. This presentation will highlight uses and potential concerns surrounding the three products produced from pyrolysis: pyrolysis gas, pyrolysis oil, and biochar. Biochar in particular is of prime interest because of its beneficial soil amendment properties. Potential ways to improve conventional pyrolysis will be presented.

**9:15AM - 10:00AM RINs / Biogas / Digestion**

*By: Randy Wirtz - Strand*

Digester gas reuse previously meant burning the gas in boilers or producing electricity and heat through cogeneration. However, the Federal Renewable Fuel Standard and similar state programs have changed the bottom line for many facilities by providing incentives to produce pipeline quality gas. Renewable natural gas opportunities provide extremely high values for digester gas; however with the high value also comes some risk.

**10:00AM - 10:15AM Break**

**10:15AM - 11:00AM Advancing Anaerobic Digestion of Wastewater Solids and Food Waste for Energy and Resource Recovery: Science and Solutions - A Framework for the Practice of Co-Digestion**

*By: Matt Seib - Madison Metropolitan Sewerage District & Kevin Jankowski - Milwaukee Metropolitan Sewerage District*

In October 2017, the Water Environment & Reuse Foundation (WERF) and the Water Research Foundation (WRF) (now jointly The Water Research Foundation) conducted this anaerobic digestion workshop. During the workshop, presenters and attendees discussed existing co-digestion programs and practices to improve the success of co-digestion programs, along with recommendations and research needs for the industry. This presentation will highlight the main themes and takeaways from that event.

**11:00AM - 11:45AM Anaerobic Digester Microbial Community and Digester Metadata**

*By: Ali Ling - BARR Engineering & John Tillotson - Microbe Detectives*

Microbial community and digester operational data were analyzed to understand the relationships between operation, community members, and outcomes. This report also proposes several key performance indices (KPIs) to help operators use microbial community analysis to inform and improve system operations.

**11:45AM - 12:45PM Seminar Photo / Lunch**

**12:45PM - 1:30PM Bull Session**

**1:30PM - 2:00PM Overview of NEW Water's Resource Recovery and Electrical Energy Project**

*By: Nate Qualls & Jake Becken - NEW Water*

NEW Water has dedicated itself to the collection, treatment, and reclamation of about 38 million gallons of wastewater each day. To continue to provide safe, reliable service, NEW Water needed to replace its solids handling system.

The three main reasons for replacing the solids handling system were aging infrastructure, stricter environmental standards, and to increase capacity. NEW Water's new solids handling facility is called the Resource Recovery and Electrical Energy generation system, or R2E2. Construction launched in 2015, and the facility is in the process of startup in 2018.

**2:00PM - 4:00PM Tour of NEW Water's Resource Recovery and Electrical Energy Facilities**

[newwater.us/R2E2](http://newwater.us/R2E2)

