Anaerobic Digestion Webinar Series

Emerging Technologies to Improve Environmental and Economic Impact

Hosted by



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Dairy Nutrient Recovery Technologies within an Anaerobic Digestion Bio-refinery

February 10, 2016 10 am Pacific/1 pm Eastern

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Speaker: Dr. Timothy Ewing, Instructor at the Gene and Linda Voiland School of Chemical Engineering and Bioengineering, and Research Engineer with the Center for Sustaining Agriculture and Natural Resources, Washington State University. <u>Please note that the speaker has changed</u>.

Webinar description: As dairy manure anaerobic digestion (AD) units are converted to bio-refineries with addon technologies, one key process that is of interest to the dairy industry is nutrient recovery. Dr. Ewing will discuss the various approaches that have been proposed for recovering phosphorus and nitrogen from dairy manure, integrated within an AD platform. He will also discuss the challenges and opportunities posed by the products from these recovery approaches.



Dr. Timothy Ewing holds a dual appointment, as Research Engineer with the Center of Sustaining Agriculture and Natural Resources (CSANR), and as Instructor and Clinical Laboratory Supervisor at the Gene and Linda Voiland School of Chemical Engineering and Bioengineering at Washington State University. This dual appointment allows him to teach multiple courses—introductory mass and energy balance, biological materials testing, bioinstrumentation, and unified bioengineering systems modeling and simulation laboratories—while beginning a review and analysis of technology and research related to the biorefinery concept. The goal of this work at CSANR is to collaborate with and coordinate research and analysis needs between various stakeholders, including governmental agencies, academic organizations, and local industry in Washington State. Dr. Ewing has worked on research projects related to high solids anaerobic digestion of the organic fraction of

municipal solid waste, a unit operations-based model of a simplified dairy operation, sediment microbial fuel cells, bioelectrochemistry, biofilm growth, power management systems, and enrichment of microbial mats.