



2009 WISCONSIN

## Renewable Energy Summit

Renewables, Sustainability, Energy Efficiency,  
Social Responsibility, and Green Energy Practices

## Water Technology

## Session 18-4

**DATE:**

**THURSDAY, MARCH 26, 2009**

**Breakout Session 18-4:**

**Time:**

**2:00pm – 3:45pm**

**Presenters:**

**Using Specific Microorganisms to Improve Anaerobic Digestion**

Anne Schauer-Gimenez, Marquette University

Bioaugmentation, the addition of a specific microorganism or mixed culture to enhance a desired activity (e.g. methane production or COD reduction), can potentially be used to increase the recovery rate of anaerobic wastewater treatment facilities after exposure to toxicants or increase the methane production that can be used as a renewable energy source. This presentation will describe how methanogenic cultures were used to bioaugment upset anaerobic digesters. The bioaugmentation investigations successfully demonstrated the ability of the bioaugmentation culture to increase methane production and recovery rate of a stressed digester exposed to the toxicant, oxygen. Methane production increased an average of 47% in the bioaugmentation **digesters decreased below 2,000 mg/L 83 days sooner than the controls. Bioaugmentation is a promising approach to help decrease the recovery time of anaerobic digesters exposed to a toxicant.**

**Presenter Biography:**

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**Anne Schauer-Gimenez**

Anne Schauer-Gimenez is a recent graduate of the Ph.D. program in Civil and Environmental Engineering at Marquette University. During her Masters program at UW-Green Bay, she had the opportunity to present her research on the start-up of a full-scale Temperature Phased Anaerobic Digester for dairy manure at various university and local seminars. At Marquette, she presented at the annual "Anaerobic Treatment of High-Strength Industrial Wastes" conference (September 2008). She recently had the opportunity to present at the Milwaukee Microbiology Seminar at the Great Lakes Water Institute.