Panagiotis Kougias - DTU Orbit (14/12/2017)

Kougias, Panagiotis
panak@env.dtu.dk

Department of Environmental Engineering - Senior Researcher
Residual Resource Engineering

Publications:

Converting mesophilic upflow sludge blanket (UASB) reactors to thermophilic by applying axenic methanogenic culture bioaugmentation
Publication: Research - peer-review › Journal article – Annual report year: 2018

Anaerobic granular sludge for simultaneous biomethanation of synthetic wastewater and CO with focus on the identification of CO-converting microorganisms
Publication: Research - peer-review › Journal article – Annual report year: 2017

A novel archaeal species belonging to Methanoculleus genus identified via de-novo assembly and metagenomic binning process in biogas reactors
Publication: Research - peer-review › Journal article – Annual report year: 2017

Bioaugmentation with hydrolytic microbes to improve the anaerobic biodegradability of lignocellulosic agricultural residues
Publication: Research - peer-review › Journal article – Annual report year: 2017

Characterization of the planktonic microbiome in upflow anaerobic sludge blanket reactors during adaptation of mesophilic methanogenic granules to thermophilic operational conditions
Publication: Research - peer-review › Journal article – Annual report year: 2017

Effect of micro-aeration and inoculum type on the biodegradation of lignocellulosic substrate
Publication: Research - peer-review › Journal article – Annual report year: 2017

Enhancing biogas production from recalcitrant lignocellulosic residue
Publication: Research › Ph.D. thesis – Annual report year: 2017

Ex-situ biogas upgrading and enhancement in different reactor systems
Publication: Research - peer-review › Journal article – Annual report year: 2017

Hydrogen assisted biological biogas upgrading
Publication: Research › Ph.D. thesis – Annual report year: 2017

Improving the energy balance of grass-based anaerobic digestion through combined harvesting and pretreatment
In-situ biogas upgrading process: modeling and simulations aspects
Publication: Research - peer-review › Journal article – Annual report year: 2017

Intermittent provision of H₂ and CO₂ in up-flow reactors for ex-situ biogas upgrading
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

In vitro fermentation of key dietary compounds with rumen fluid: A genome-centric perspective
Publication: Research - peer-review › Journal article – Annual report year: 2017

Mechanical pretreatment at harvesting increases the bioenergy output from marginal land grasses
Publication: Research - peer-review › Journal article – Annual report year: 2017

Microbial community changes in methanogenic granules during the transition from mesophilic to thermophilic conditions
Publication: Research - peer-review › Journal article – Annual report year: 2017

Optimization of hydrogen dispersion in thermophilic up-flow reactors for ex situ biogas upgrading
Publication: Research - peer-review › Journal article – Annual report year: 2017

Process performance and comparative metagenomic analysis during co-digestion of manure and lignocellulosic biomass for biogas production
Publication: Research - peer-review › Journal article – Annual report year: 2017

Deeper insight into the structure of the anaerobic digestion microbial community; the biogas microbiome database is expanded with 157 new genomes
Publication: Research - peer-review › Journal article – Annual report year: 2016

Dynamic functional characterization and phylogenetic changes due to Long Chain Fatty Acids pulses in biogas reactors
Kougias, P., Treu, L., Campanaro, S., Zhu, X. & Angelidaki, I. 2016 In: Scientific Reports. 6, 10 p., 28810
Publication: Research - peer-review › Journal article – Annual report year: 2016

Energy recovery from water and food sector residual resources
Publication: Commissioned - peer-review › Report chapter – Annual report year: 2016

Improving methane production from digested manure biofibers by mechanical and thermal alkaline pretreatment
Publication: Research - peer-review › Journal article – Annual report year: 2016
Improving the energy balance of grass-based anaerobic digestion through harvesting optimization
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

In-situ biogas upgrading in thermophilic granular UASB reactor: key factors affecting the hydrogen mass transfer rate
Publication: Research - peer-review › Journal article – Annual report year: 2016

Metagenomic analysis and functional characterization of the biogas microbiome using high throughput shotgun sequencing and a novel binning strategy
Publication: Research - peer-review › Journal article – Annual report year: 2016

Untangling the Effect of Fatty Acid Addition at Species Level Revealed Different Transcriptional Responses of the Biogas Microbial Community Members
Publication: Research - peer-review › Journal article – Annual report year: 2016

Using a combination of binning strategies and taxonomic approaches to unravel the anaerobic digestion microbiome
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Anaerobic Mono- and Co-digestion of Mechanically Pretreated Meadow Grass for Biogas Production
Publication: Research - peer-review › Journal article – Annual report year: 2015

Application of comminution machines to enhance the anaerobic biodegradability of ensiled meadow grass
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

Biogas production from ensiled meadow grass; effect of mechanical pretreatments and rapid determination of substrate biodegradability via physicochemical methods
Publication: Research - peer-review › Journal article – Annual report year: 2015

Biogas upgrading by injection of hydrogen in a two-stage Continuous Stirred-Tank Reactor system
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016

Biogas Upgrading via Hydrogenotrophic Methanogenesis in Two-Stage Continuous Stirred Tank Reactors at Mesophilic and Thermophilic Conditions
Publication: Research - peer-review › Journal article – Annual report year: 2015

Counteracting foaming caused by lipids or proteins in biogas reactors using rapeseed oil or oleic acid as antifoaming agents
Publication: Research - peer-review › Journal article – Annual report year: 2015
Hydrogen mediated biogas upgrading in a two-stage mesophilic reactor
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2015

Mechanical Pretreatment to Increase the Bioenergy Yield for Full-scale Biogas Plants
Tsapekos, P., Kougias, P. & Angelidaki, I. 2015
Publication: Research - peer-review » Conference abstract for conference – Annual report year: 2015

Metagenomic analysis on thermophilic biogas reactors fed with high load of Long Chain Fatty Acids (LCFA)
Publication: Research - peer-review » Conference abstract for conference – Annual report year: 2015

Microbial diversity and dynamicity of biogas reactors due to radical changes of feedstock composition
Publication: Research - peer-review » Journal article – Annual report year: 2015

Microbial dynamics in anaerobic digestion (AD) reactors with sodium oleate in the substrate
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2015

New steady-state microbial community compositions and process performances in biogas reactors induced by temperature disturbances
Publication: Research - peer-review » Journal article – Annual report year: 2015

Solutions for Foaming Problems in Biogas Reactors Using Natural Oils or Fatty Acids as Defoamers
Publication: Research - peer-review » Conference article – Annual report year: 2015

Anaerobic digestion foaming in full-scale biogas plants: A survey on causes and solutions
Publication: Research - peer-review » Journal article – Annual report year: 2014

A novel bioinformatic strategy to characterise microbial communities in biogas reactors
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2014

Antifoaming effect of rapeseed oil and oleic acid in biogas reactors
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2014

Changes in the microbial profile of biogas reactors due to variations in the feedstock composition
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2014

Comparative analysis of the microbial diversity in liquid and foaming layer in biogas reactors
Publication: Research - peer-review » Conference abstract in proceedings – Annual report year: 2014
Comparative microbial analysis before and after foaming incidents in biogas reactors
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Effect of feedstock composition and organic loading rate during the mesophilic co-digestion of olive mill wastewater and swine manure
Publication: Research - peer-review › Journal article – Annual report year: 2014

Effect of mechanical pre-treatment methods on the anaerobic digestibility and structure change of meadow grass for biogas production
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Foam suppression in overloaded manure-based biogas reactors using antifoaming agents
Publication: Research - peer-review › Journal article – Annual report year: 2014

Inoculum and zeolite synergistic effect on anaerobic digestion of poultry manure
Publication: Research - peer-review › Journal article – Annual report year: 2014

Metagenomic analysis of foaming in biogas reactors
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Microbial analysis in biogas reactors suffering by foaming incidents
Publication: Research - peer-review › Journal article – Annual report year: 2014

Microbial diversity and dynamicity of biogas reactors fed with different substrates
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2014

Anaerobic digestion foaming in Danish full-scale biogas plants: a survey on causes and solutions
Publication: Research › Sound/Visual production (digital) – Annual report year: 2013

Antifoaming effect of chemical compounds in manure biogas reactors
Publication: Research - peer-review › Journal article – Annual report year: 2013

Effect of organic loading rate and feedstock composition on foaming in manure-based biogas reactors
Publication: Research - peer-review › Journal article – Annual report year: 2013

Foaming in manure based digesters: Effect of overloading and foam suppression using antifoam agents
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2013
Zeolite and swine inoculum effect on poultry manure biomethanation
Publication: Research - peer-review › Journal article – Annual report year: 2013

Effect of substrates and intermediate compounds on foaming in manure digestion systems
Publication: Research - peer-review › Journal article – Annual report year: 2012

Foaming in manure based digesters: Causes and solutions
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Influence of microbial composition on foam formation in a manure-based digester
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2012

Projects:

Biological production of n-Hexanol
Yang, X., Angelidaki, I. & Kougias, P.
01/12/2017 → 30/11/2020
Project: PhD

Ex-situ biogas upgrading through biologically mediated CO2 hydrogenation
Peprah, M., Angelidaki, I. & Kougias, P.
01/11/2017 → 31/10/2020
Project: PhD

Deciphering the microbial ecology in biogas reactors for optimizing the anaerobic digestion process
Zhu, X., Angelidaki, I., Kougias, P. & Treu, L.
01/12/2014 → 30/11/2017
Project: PhD

Bioelectrochemical systems serve anaerobic digestion process for process monitoring and biogas upgrading
15/10/2014 → 14/10/2017
Project: PhD

Biogas enhancement and upgrading
Bassani, I., Angelidaki, I., Kougias, P., Jensen, M. M., Guwy, A. & Norddahl, B.
15/12/2013 → 06/06/2017
Project: PhD

New technology for an efficient utilization of meadow grass in biogas reactor
Tsapekos, P., Angelidaki, I., Kougias, P., Dechesne, A., Maipei, F. & Norddahl, B.
01/12/2013 → 15/03/2017
Project: PhD
Integration of biomass and wind power for biogas enhancement and upgrading via hydrogen assisted anaerobic digestion
Kougias, P., Luo, G. & Angelidaki, I.
01/07/2013 → ...
Project

Foaming problems in biogas plants
Kougias, P., Boe, K. & Angelidaki, I.
01/10/2009 → 30/09/2014
Project

Activities:

Kougias, P. (Speaker)
4 Jul 2013
Activity: Talks and presentations › Conference presentations

Kougias, P. (Chairman)
3 Jul 2013
Activity: Attending an event › Participating in or organising a conference

13th World Congress on Anaerobic Digestion
Kougias, P. (Speaker)
25 Jun 2013 → 28 Jun 2013
Activity: Talks and presentations › Conference presentations