



Biogas Science 2016

21-24 August, 2016 – Szeged, Hungary

www.biogas-science-2016.hu

PROGRAMME

21 August, 2016

SUNDAY

- 18:00 – **Registration** (*onsite registration will be available on each congress day between 8:00-17:00*)
19:00 – **WELCOME RECEPTION** (*University of Szeged JATIK Congress Centre*)

22 August, 2016

MONDAY

KEYNOTE LECTURE

Congress Hall

- 09:00 – 09:40 **Syntrophic acetate oxidising bacteria - who, where and when**
Anna Schnürer

MICROBIOLOGY SESSION

Congress Hall



- 09:40 – 10:00 **Reorganisation of a mesophilic biogas microbiome as a response to a stepwise increase of ammonium nitrogen induced by poultry manure supply**
Khulud Alsouleman
- 10:00 – 10:20 **In-depth metaproteomics of a biogas plant operating at high ammonia nitrogen concentrations**
Dirk Benndorf
- 10:20 – 10:40 **Detection and identification of novel anaerobic fungi in biogas reactors and in non-rumen habitats**
Tony Callaghan
- 10:40 – 11:00 *Coffee break*
- 11:00 – 11:20 **A novel archaeal species belonging to Methanoculleus genus identified via de-novo assembly and metagenomic binning process in biogas reactors**
Panagiotis G. Kougias
- 11:20 – 11:40 **Influence of nitrogen-rich substrate on biogas production and the methanogenic community under mesophilic and thermophilic conditions**
Bernhard Munk
- 11:40 – 12:00 **Microbiological aspects of inoculation, bioaugmentation and start-up of biogas processes**
Marcell Nikolausz
- 12:00 – 12:20 **The effects of bioaugmentation by cellulolytic enrichment cultures from sheep rumen on methane production from wheat straw**
Emine Gözde Özbayram
- 12:20 – 13:20 *Lunch break*



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KEYNOTE LECTURE

Congress Hall

- 13:20 – 14:00 **Challenges of biogas development**
Arthur Wellinger
- 14:00 – 14:20 **Metagenomic rearrangement of the biogas producing community during hydrogen assisted in-situ biogas upgrading**
Norbert Ács
- 14:20 – 14:40 **Metagenomes of cattle rumen and biogas reactors evaluated by next generation sequencing**
Roland Wirth
- 14:40 – 15:00 **Analysis of microbial community in liquid phase of UASB reactor during the transition from mesophilic to thermophilic operation**
Xinyu Zhu
- 15:00 – 15:20 **Anaerobic digestion of biodegradable plastics and agricultural residues by enriched hydrolytic microorganisms and novel enzymes**
Stefan Weiss
- 15:20 – 15:40 *Coffee break*

COMPANY SESSION

Congress Hall

- 15:40 – 16:00 **Experiences from Hungary's first biomethane feed-in project – Upgrading and cross border trade of biogas from organic waste and residues**
Zoltán Elekes – *Landwärme GmbH*
- 16:00 – 16:20
Alberto Benavides Cantú – *Bioprocess Control Sweden AB*
- 16:20 – 16:40 **Fast Measurement of Biochemical Methane Potential (BMP) of Substrates by Near Infra-Red (NIR) Spectroscopy**
Bojan Stefanovic – *Metrohm Inula GmbH*
- 18:00 – 19:00 Gathering in front of the JATIK Congress Centre
- 19:00 Bus departure
- 19:30 – **CONFERENCE DINNER** (*Fehértói Fish Restaurant*)



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23 August, 2016

T U E S D A Y

KEYNOTE LECTURE

Congress Hall

09:00 – 09:40 **Pretreatment technologies for AD**
Günther Bochmann

SUBSTRATES FOR AD SESSION

Lecture room I



PROCESS TECHNOLOGY AND LIFE CYCLE ANALYSIS SESSION

Lecture room II



09:50 – 10:10 **TiO₂ assisted photo-oxidative retreatment of wheat straw for biogas production**
Merlin Alvarado-Morales

Investigation of co-digestion process by semi-continuous anaerobic CSTR reactor
Xiaofeng Bai

10:10 – 10:30 **Commissioning of a two stage pilot scale reactor for the mesophilic co-digestion of *Ulva lactuca*, grass silage and dairy slurry**
Enrique Abraham Chan Gutierrez

Electrooptical monitoring of the microbial activity as new tool for the biogas process
Jörn Beheim-Schwarzbach

10:30 – 10:50 **Co-digestion of kraft mill fibre sludge and activated sludge – improving the methane potential by high-rate processes and low activated sludge age**
Eva-Maria Ekstrand

Effects of controlled hydrodynamic cavitation on anaerobic digestion of straw-rich agriculture feedstocks
Mirco Garuti

10:50 – 11:10

Coffee break

11:10 – 11:30 **Sugar beet silage as multi-functional substrate for co-digestion and for on-demand biogas production**
Marian Kazda

Impact of headspace volume and overhead pressure measurement frequency on specific methane yields during in vitro anaerobic digestion using micro-BMP method
Himanshu Himanshu

11:30 – 11:50 **Effect of trace elements addition on the stability of food waste anaerobic digestion**
Ronghou Liu

Pre-treatment of lignocellulosic biomass – a Danish case study
Henrik B. Møller

11:50 – 12:10 **Maize straw for biogas production: increasing yields through pretreatment using steam explosion**
Javier Lizasoain

Temperature effect on trace metal (Se/W) requirements for biogas production
Luka Šafarič

12:10 – 12:30 **Anaerobic processing of baby maize stover for bioenergy production under thermophilic and mesophilic conditions**
Chihiro Masusawa

Fermentation Characteristics of Pig Manure under Recycled Utilization of Liquid Digestate: A Stable Isotope Assessment
Shubiao Wu

12:30 – 13:30

Lunch break



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KEYNOTE LECTURE

Congress Hall

13:30 – 14:10 **Flexibilisation of biogas plants and impact on the grid operation**
Jan Liebetrau

SUBSTRATES FOR AD SESSION

Lecture room I



PROCESS TECHNOLOGY AND LIFE CYCLE ANALYSIS SESSION

Lecture room II



14:20 – 14:40 **Biogas production of biorefinery-lignins**
Daniel Girma Mulat

Implementation of non-adsorbent granules in gas-sparged anaerobic membrane bioreactor for fouling mitigation
Pakpong Sriprasert

14:40 – 15:00 **Recirculating digestate liquor in the digestion of food waste and grass silage**
Richard O'Shea

Improving the energy balance of grass-based anaerobic digestion through harvesting optimization
Panagiotis Tsapekos

15:00 – 15:20 **Biogas production from lignocellulose-rich waste fractions**
Ilona Sárvári Horváth

Greenhouse gas balance of biogas production and different utilization pathways
Omar Hijazi

15:20 – 16:20

POSTER SESSION*

Coffee break

16:20 – 16:40 **Acclimation of continuous biomethanation process to extremely high ammonia levels**
Hailin Tian

AlgaeBioGas: algal-bacterial digestate treatment and biomass production
Borut Lazar

16:40 – 17:00 **Investigation of the inhibitory effect of salts in the anaerobic digestion of sugar beet distillery wastewater through electrodialysis and bench scale experiments**
Rita Tozy

Study on the multiple substrates anaerobic digestion: a pilot-scale biogas project and the prospects of its application in China
Xuemei Wang

17:00 – 17:20 **Experiences in co-digestion of vinasse**
Annamária Tukacs-Hájos

Cristina Rodriguez

*Poster presenters

Sharif Ahmed
Tamás Böjti
Cleverson Busso
Djordje Djatkov
Máté Fuchsz

Almir Antonio Gnoatto
Balázs Kakuk
Magdalena Nussbaumer
Pornpan Panichnumsin
Krzysztof Poszytek
Keren Rajavelu

Nanthanat Sriprasert
Orsolya Strang
Piroska Szabó
Márk Szuhaj
Roland Wirth



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24 August, 2016
W E D N E S D A Y

KEYNOTE LECTURE

Congress Hall

09:00 – 09:40 **EBA – potential and targets for renewable methane in Europe**
Jan Stambasky

GAS TECHNOLOGY SESSION

Congress Hall



09:40 – 10:00 **Progress of developing metrological infrastructure for measuring key impurities in biogas**
Jianrong Li

10:00 – 10:20 **Bio-methane from an-aerobic digestion using in-situ regenerative activated carbon**
Muhammad Farooq

10:20 – 10:40 **A novel biotechnological route for the power to gas concept**
Márk Szuhaj

10:40 – 11:00 *Coffee break*

11:00 – 11:20 **Experiences from the full-scale implementation of microaerobic digestion for biogas desulfurization**
Pavel Jenicek

11:20 – 11:40 **In-situ biogas upgrading via hydrogen utilization and biogas recirculation**
Nikoletta Giantsiou

11:40 – 12:00 **Upgrading of biogas with in-situ methane enrichment and wood ash filter – laboratory, pilot and demonstration studies**
Åke Nordberg

12:00 – 12:20 **Optimisation of continuous gas fermentation by immobilisation of acetate-producing Clostridia**
Lucy Montgomery

12:20 – 12:40 **Novel routes for biogas use**
Elham Moghaddam

12:40 – 12:50 Closing remarks

12:50 – 14:00 *Lunch*