

CONFERENCE PROGRAM

FIRST DAY - SEPTEMBER 10, 2014				
08:00 – 09:30 Registration (Foyer König-Karl-Halle – 2nd floor)				
09:30 – 10:00 Welcome (König-Karl-Halle – 2nd floor)				
Prof. Dabbert, Rector University of Hohenheim and Ministerialrat Dr. Wolf-Dieter von Bülow, Ministry for Rural Areas and Consumer Protection Baden-Württemberg				
10:00 – 11:00 Keynote speeches (König-Karl-Halle – 2nd floor)				
Biogas developments in Europe, challenges and future prospects - High performing biogas plants with low cost feedstock, <i>Jens Bo Holm-Nielsen, Denmark</i>				
Bio-methane as fuel for cars and buses in Sweden, <i>Prof. Mohammad Taherzadeh, Sweden</i>				
11:00 – 11:30 Coffee break – Poster session, exhibition (List-Saal – 2nd floor)				
11:30 – 12:45	König-Karl-Halle (2nd floor – translation EN-DE)	Bertha-Benz-Saal (1st floor)	Karlsruhe (1st floor)	List-Saal
	Session 1 – Domestic biogas plants (Chairman: Prof. Samir Khanal)	Session 2 – Environment, methane-emissions (Chairman: Heinz-Peter Mang)	Session 3 - Process control, modelling of the biogas process (Chairman: Dr. Andreas Lemmer)	
	Thermal simulation of a compact urban domestic biodigester, <i>Claudia Pabón, Ph.D., Chile</i>	Potential of residual gas from biogas plants, <i>Dr. Hans Oechsner, Germany</i>	Rapid methane production from synthesis gas: Investigations of high cell loading in a membrane bioreactor, <i>Supansa Youngsukkasem, Sweden</i>	
	Factors affecting dissemination of domestic biogas in developing countries, <i>Willington Ortiz, Germany</i>	Mesophilic anaerobic co-digestion of cow manure and biogas crops in full scale German biogas plants: A model for calculating the effect of hydraulic retention time and VS crop proportion in the mixture on methane yield from digester and from digestate storage at different temperatures, <i>Ivo Muha, Germany</i>	Multiposition sensor technology and lance-based sampling for improved monitoring of biogas processes, <i>Erich Kielhorn, Germany</i>	
Tailor-made household biogas system – a smart answer to multi-faceted challenges, <i>Elisabeth Maria Huba-Mang, Lesotho</i>	Examination to optimize a method to quantify methane emission rates at biogas plants using TDLAS data, <i>Angela Groth, Germany</i>	Electronic nose for reactor stability monitoring of an agricultural co-digestion biogas plant, <i>Gilles Adam, Belgium</i>		
12:45 – 14:15 Lunch – Poster session, exhibition (List-Saal – 2nd floor)				
14:15 – 15:50	Session 1 – Domestic biogas plants (Chairman: René Moletta)	Session 4 - Innovative fermentation and digester construction methods (Chairman: Jens Bo Holm-Nielsen)	Session 3 - Process control, modelling of the biogas process (Chairman: Michael Köttner)	Exhibition and poster session
	Assessment of the application of biogas technology as alternative energy source in Limpopo province, <i>Vhutshilo Nekhubvi, South Africa</i>	Biocatalytic methanation of hydrogen and carbon dioxide according to the Power to Gas Strategy, <i>Dr. Marko Burkhardt, Germany</i>	Influence of substrate disintegration pretreatment on the efficiency of agitation systems by measuring the particle size distribution in agricultural biogas digesters, <i>Hans-Joachim Nägele, Germany</i>	
	What could China give to and take from other countries for development of biogas industry? Lessons learned from each other, <i>Dr. Shikun Cheng, China</i>	Two-phase pressurized anaerobic digestion: An innovative system for biogas production, purification and upgrading, <i>Dr. Andreas Lemmer, Germany</i>	Process simulation model for biogas production, <i>Karthik Rajendran, Sweden</i>	
	"Biogas is not a symbol of poverty, but an alternative fuel that nature provides us" - from small farm digesters to waste treatment facilities, <i>Heinz-Peter Mang, China</i>	Chemical oxygen demand balances of pressurized anaerobic filters and the origin of COD in process liquids, <i>Johannes Krümpel, Germany</i>	Critical comparison of different model structures for the applied simulation of the anaerobic digestion process, <i>Sören Weinrich, Germany</i>	
	Appropriate biogas technology in Africa – Practical examples, <i>Dr. Thomas Krimmel, Zambia</i>	Microbial fuel cell deployment for secondary treatment from anaerobic digestion effluent in Costa Rica, <i>Stephanie Lansing, Ph.D., USA</i>	Correlation of gas production and organic loading rate with respect to microscopic cell counts during anaerobic digestion, <i>Prof. Dr. Paul Scherer, Germany</i>	
15:50 – 16:20 Coffee break – Poster session, exhibition (List-Saal – 2nd floor)				
16:20 – 17:55	Oral – Poster Session (Chairman: Dr. Hans Oechsner) (see page 4)	Session 4 - Innovative fermentation and digester construction methods (Chairman: Prof. Mohammad Taherzadeh)	Practitioners forum (Chairman: Dr. Hans-Joachim Nägele)	
		Filtration of anaerobic filter effluent, <i>Dr. Simon Zielonka, Germany</i>	Process control of agricultural biogas plants in practice, <i>Dr. Markus Schlattmann, Germany</i>	
		Two phase biogas reactor for fast methanification of manure, <i>Prof. Heralt Schöne, Germany</i>	Monitoring of gas parameters to increase process efficiency, <i>Manuela Charatjan, Germany</i>	
		Intelligent thermal energy management using a novel multi-chamber biogas reactor – a prototype, <i>Michael Müller, Germany</i>	Biological flexibility of biogas plants, <i>Eva Sonnleitner, Germany</i>	
		Anaerobic digestion of food waste through the operation of a mesophilic two-phase pilot scale digester, <i>Stefan Grimberg, Ph.D., USA</i>	Integration of Biomethane in sustainable mobility solution 2.0, <i>Michael Krautsack, Austria</i>	
			Influence of waste composition on the maximum possible throughput – results of the long term monitoring of a waste fermentation plant, <i>Andreas Kottmair, Germany</i>	
18:00 – 19:00 Posters exhibition (König-Karl-Halle & List-Saal – 2nd floor)				
19:00 – 22:00 Evening reception (Eyth-Saal – 2nd floor)				

SECOND DAY – SEPTEMBER 11, 2014

08:00 – 08:30 Registration (Foyer König-Karl-Halle – 2nd floor)

	König-Karl-Halle (2nd floor - translation EN-DE)	Bertha-Benz-Saal (1st floor)	Karlsruhe (1st floor)	List-Saal
08:30 – 10:25	Session 5 – Pretreatment technologies (Chairman: Dr. Simon Zielonka)	Session 6 – Digestate application and management (Chairman: Detlef Riesel)	Session 7 – Process inhibition (Chairman: René Moletta)	
	Effects of enzyme addition on rheological properties of digester content, <i>Karola Elberg, Germany</i>	Fertilising potential of separated biogas digestates applied to annual and perennial biomass production systems, <i>Andrea Ehmman, Germany</i>	Microscopic digital image analysis of a farm-scale thermophilic biogas plant for early detection of ammonia inhibition effects, <i>Yong Sung Kim, Germany</i>	
	Full-scale investigations of the use of lignocellulosic materials for anaerobic digestion, <i>Dr. Hans Oechsner, Germany</i>	<i>Effects of mechanical treatment of digestate from anaerobic digestion on the degree of degradation,</i> <i>Jonas Lindner, Germany</i>	Monofermentation of high solids chicken manure by ammonia removal, <i>Dr. Fabian Jacobi, Germany</i>	
	Examine the effects of crop maturity and size reduction on digestibility of energy crop for biomethane production, <i>Prof. Samir Khanal, USA</i>	Investigations on fertilizer production from digestate in a two stage vacuum-vaporizer, <i>Stephan Ruile, Germany</i>	Biogas from protein-rich industrial waste and associated metagenomic changes, <i>Prof. Kornel Kovacs, Hungary</i>	
	Enhancement of biogas production from laying hen manure via sonolysis as pretreatment, <i>Prof. Nuri Azbar, Turkey</i>	Waste heat from biogas plants: Experiences from 10 feasibility studies in Germany, <i>Dominik Rutz, Germany</i>	Anaerobic digestion of chicken manure for the production of ammonium carbamate, <i>Christian Strutz, Germany</i>	
Pretreatment of lignocellulose biomass for the production of biogas, <i>Prof. Ashok Pandey, India</i>	Methane emissions from biogas plants under operation, <i>Dr. Joachim Clemens, Germany</i>	Sources and extent of process inhibition in biogas production, <i>Dr. Bettina Frauz, Germany</i>		

10:25 – 10:50 Coffee break – Poster session, exhibition (List-Saal – 2nd floor)

10:50 – 12:25	Session 8 – Biogas generation from industrial, communal and municipal bio-waste (Chairwoman: Bernadette McCabe)	Session 9 – Agricultural biogas plants (Chairman: Prof. Ashok Pandey)	Practitioners forum (Chairman: Dr. Hans-Joachim Nägele)	
	Biogas generation from biowaste – <i>Status quo</i> and development, <i>Nadja Rensberg, Germany</i>	Biogas from farm waste ponds in temperate climates – studies and examples from New Zealand, <i>Stephan Heubeck, New Zealand</i>	Agricultural biogas plants. Biogas production from agricultural biomass and organic residues, <i>Thomas Dory, Germany</i>	
	Anaerobic digestion of salty cheese whey and UF whey permeate in a two-stage system, <i>Mikel Orive, Spain</i>	Production of renewable energy by biogas in Italy: Current situation and future developments, <i>Alessandro Ragazzoni, Italy</i>	Liquid feeding in biogas plants, <i>Peter Nemeth, Germany</i>	
	Co-digestion of waste from biodiesel process mixed with tropical starch wastewater in hybrid bioreactor, <i>Chalermchai Ruangchainikom, Thailand</i>	Biogas from cover crops – energy yield, EROEI and economic feasibility, <i>Dr. Manfred Szerencsits, Austria</i>	DinaMETAN the software for optimizing feeding and profitability of biogas power plants, <i>Bettina Müller, Germany</i>	
	Biochemical methane potential of agro-food wastes from the Castilla and León Region (Spain), <i>Jesús Martín, Spain</i>	Co-digestion of grass silage and dairy cattle slurry at laboratory and farm scale in Northern Ireland, <i>Dr. James Browne, United Kingdom</i>	The dynamic calculation of biogas yield (DYBE) – a new calculation tool for the heterogeneous substrate mixture, <i>Dietrich Prenger Berminghoff, Germany</i>	
		Biological methanisation and its role in the future energy system, <i>Thomas Heller, Germany</i>		

12:25 – 13:50 Lunch – Poster session, exhibition (List-Saal – 2nd floor)

13:50 – 15:25	Session 8 – Biogas generation from industrial, communal and municipal bio-waste (Chairman: Prof. Nuri Azbar)	Session 10 – Flexibility of biogas production and use (Chairman: Dr. Simón González)	Session 11 – Study case China (Chairman: Heinz-Peter Mang)	
	Decentralised process for biogas production from fruit and vegetable waste, <i>Dr. Ursula Schießmann, Germany</i>	Efficiency of the hydrolysis in a two-stage biogas concept with biogas production on demand (ReBi-concept), <i>Kirsten Loewe, Germany</i>	Optimization of biomass utilization in China, <i>Dr. Andrea Schüch, Germany</i>	
	Decentralised combination of pig slurry, fruit wastes and wasted sardine oil for biogas production – results of a pilot experiment in Portugal, <i>Luis Ferreira, Portugal</i>	Flexible biogas plants in future energy systems <i>Benjamin Fleischer, Germany</i>	Biogas from fibrous residual biomass, coeval research and technological development in China and Germany, impact on the current China Clean Stove Initiative, <i>Andreas Krieg, Germany</i>	
	Biogas generation from industrial, communal and municipal, bio-waste, <i>Dr. Chithral Ambawatte, Sri Lanka</i>	Flexible biogas production for flexible energy supply, <i>Eric Mauky, Germany</i>	Thermophilic anaerobic co-digestion of spent coffee grounds and waste activated sludge using a submerged anaerobic membrane reactor, <i>Wei Qiao, China</i>	
	Research on methane fermentation efficiency from food waste as alternative substrate for biogas plant, <i>Andrzej Lewicki, Poland</i>	Small scale biogas upgrading plant for vehicle refueling on a farm, <i>Ueli Oester, Germany</i>	Performance and kinetics evaluation of a completely stirred anaerobic reactor treating food waste: Role of trace elements, <i>Shubiao Wu, China</i>	

15:25 – 15:50 Coffee break – Poster session, exhibition (List-Saal – 2nd floor)

15:50 – 17:25	Session 8 – Biogas generation from industrial, communal and municipal bio-waste (Chairman: Andreas Krieg)	Session 12 – Technical economical and social cooperative structures of decentralized small scale biogas systems (Chairwoman: Stephanie Lansing)	Practitioners forum (Chairman: Michael Köttner)	
	Biogas production using livestock manure and abattoir wastewater: Case studies from Australia, <i>Bernadette McCabe, Australia</i>	Supporting biogas projects in the European Union: The need for new financing instruments, <i>Dr. Patrick Dorvil, Luxembourg</i>	Development of new biogas feedstock options based on agricultural residues: Example of a biomethane plant of Badenova in Baden-Württemberg, Germany <i>Dr. Robert Greb, Germany</i>	
	Analysis of meso/thermo AD process applied to pressed biowaste during transient/stressed conditions and co-digestion with waste active sludge, <i>Federico Micolucci, Italy</i>	Entering new biogas markets in developing and emerging countries / Partnering and financing options of the German Development Cooperation, <i>Oliver Gehrke, Germany</i>	Biogas upgrading, <i>Torsten Haug, Germany</i>	
	Extraction of soluble substances from organic solid municipal waste to increase methane production, <i>Rosalinda Campuzano, Mexico</i>	New approaches for boosting development, social business and crowd funding at its core, <i>Mariela Pino, Chile</i>	New established Multi-E-System for enhanced biogas production of fibrous substrates. <i>Dr. Gerald Vollmer-Heuer</i>	
	Degradation of pharmaceuticals from wastewater by using anaerobic digestion technologies – first characterizations and treatment performances, <i>Tobias Wätzel, Germany</i>	Flexible biogas kit for faecal sludge treatment in disaster relief, <i>Katrin Kayser, Germany</i>		

17:25 – 18:00 Closing session (König-Karl-Halle – 2nd floor)

18:00 End of the conference

Exhibition and poster session

ORAL-POSTER (König-Karl-Halle – 2nd floor)

OPTI-VFA: Novel monitoring and process control system for efficient production of VFA and biogas in anaerobic digesters, <i>Ion Irizar, Spain</i>
Stable anaerobic fermentation of slaughterhouse waste with biofilm carriers under high ammonium levels, <i>Daniel Schropp, Germany</i>
Effect of ensiling on biochemical methane potential (BMP) and physicochemical characteristics of sugar beet root pulp for biogas production, <i>Ali Heidarzadeh, Denmark</i>
New approach of hydrogen production from lignocellulosic biomass, <i>Sonja Wiesgickl, Germany</i>
Foam formation and suppression in biogas plants in course of sugar beet digestion, <i>Dr. Lucie Moeller, Germany</i>
Digestion of bio-waste – GHG emissions and mitigation potential, <i>Jaqueline Daniel-Gromke, Germany</i>
Start-up and process characteristics of a farm-scale biogas plant for cow manure with a HRT of 12 days and an OLR of 14 kg/m ³ /d under elevated thermophilic conditions, <i>Prof. Dr. Paul Scherer, Germany</i>
Physicochemical parameters of the methane fermentation process of <i>Beta vulgaris</i> L. Monosubstrate, <i>Anna Karwowska, Poland</i>
A methodology to optimize methane production in co-digestion plants, <i>Myriam Esteban Gutiérrez, Spain</i>
Prospects and opportunities for biogas & autogas driven vehicles, <i>Christian Jenne, Germany</i>
Sanitation of cow manure by an intensified thermophilic biogas process, <i>Dr. Sandra Off, Germany</i>
Integration of a microbial fuel cell in a two-phase anaerobic digestion system, <i>Johanny Pérez Sierra, Germany</i>

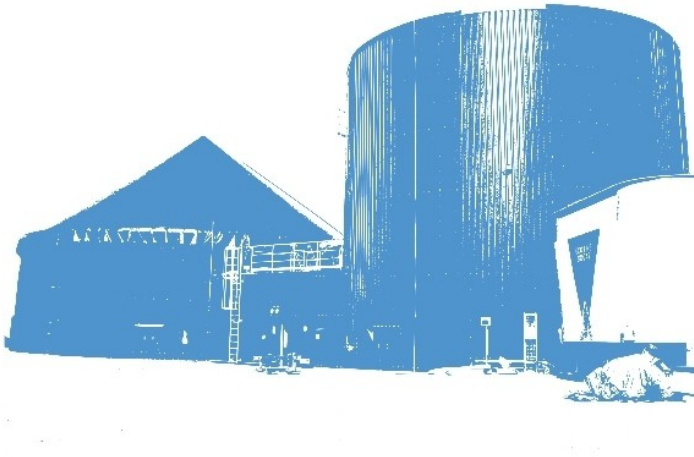
POSTER (List Saal – 2nd floor)

Application potential of novel high performance glycosidases from the filamentous fungus <i>Penicillium janthinellum</i> V39 in the biorefinery field, <i>Judit Harsányi, Germany</i>
Material use of digestate from biogas plants for application as a soil conditioner, <i>Heike Bischof, Germany</i>
Investigation and determination of the essential parameters in a two-phase anaerobic digestion process, <i>Mandy Schönberg, Germany</i>
Methane production of forest residues using organosolv pretreatment, <i>Maryam Kabir, Sweden</i>
From the biogas to vehicle fuel. Study of CO ₂ absorption in a packed column, <i>Joaquin Angel Reina Hernández, Spain</i>
Feasibility of electricity generation at wastewater treatment plants: A case study, <i>Paulo Irineu Koltermann, Brazil</i>
Biogas generation capacity from a stratified farrow-to-wean production unit and solid separation influence on methane yield, <i>Andre Cestonaro do Amaral, Brazil</i>
Symbiosis: Anaerobic digestion and hydrothermal carbonization (HTC)?, <i>Dominik Wüst, Germany</i>
Impact of substrates interactions on biogas production and methanogenic community during semi-continuous co-digestion of slaughterhouse waste, <i>Jhosané Pagés Díaz, Sweden</i>
Integration of crop residues as alternative co-substrate to Danish biogas plants: Influence of ensilage, <i>Jin Triolo, Denmark</i>
Modeling and simulation of biogas plants for representation of important specific parameters and biogas production, <i>Karen Fronk, Germany</i>
Kinetic characterization of the growth and carbon dioxide fixation of alkaliphilic microalgae consortia for deployment on the biogas enrichment, <i>Armando González Sánchez, Mexico</i>
GOBi - General optimization of biogas processes, <i>Dr. Klaus Meissner, Germany</i>
Characterization of different recycled digestate products from biogas production with specific regard to its influence on plant-soil processes to design customized fertilizers, <i>Inga-Mareike Bach, Germany</i>
Ensiling, base chemical extraction and energy recovery, <i>Nicola Haag, Germany</i>
Effects of nitrogen fertilization and strip cultivation with legumes on methane yield and sustainability of maize and amaranth, <i>Moritz von Cossel, Germany</i>
Molecular characterization of microbial communities during ensiling conditions and biogas production within the GOBi project, <i>Christian Grumaz, Germany</i>
Nutrient recovery from digestate within the GOBi project, <i>Alejandra Campos, Germany</i>
Influence of trace substances on methanation catalysts in dynamic biogas upgrading, <i>Lars Jürgensen, Germany</i>
Potentials of flexible biogas storage and utilization concepts on the example of Baden-Württemberg – a project introduction, <i>Simone Zimmermann, Germany</i>
High pressure anaerobic digestion up to 180 bar: The effects on biogas production and upgrading, <i>Wolfgang Merkle, Germany</i>
Energetic utilization of horse manure, <i>Saskia Oldenburg, Germany</i>
The effect of different cutting regimes on the quality of Miscanthus biomass as biogas substrate, <i>Andreas Kiesel, Germany</i>
The influence of spatial resolution in mathematical modelling of biogas plants, <i>Johannes Schneider, Germany</i>
Optimization of leachate percolation by using a reactive multiphase flow model in dry anaerobic batch digestion processes, <i>Sébastien Pommier, France</i>
The Potential of large scale biogas production from organic waste in urban areas of developing countries: A case study in Moshi, Tanzania, <i>Dr. Andreas Lemmer, Germany</i>
Process simulation of dynamic biogas upgrading using the Sabatier process – dynamic simulation with a special view on heat integration and utilization, <i>Lars Jürgensen, Germany</i>
Lignocelluloses wastes to biogas: Pretreatment and rapid digestion, <i>Prof. Mohammad Taherzadeh, Sweden</i>
Assessment of the effects of pre-treatment on the anaerobic digestion of abattoir effluent containing high levels of fat, oil and grease, <i>Peter Harris, Australia</i>
Alternative biogas purification media for farm installations, <i>Stephan Heubeck, New Zealand</i>
Up to date aspects of hygiene and microbiology in biogas plants and digested residue, <i>Thorben Schilling, Germany</i>
Prediction of biogas production rate by means of multivariate data analysis, <i>Tetyana Beltramo, Germany</i>
Techno-economic and environmental considerations of producing hydrogen-containing biogas, <i>Alexander Lamond, United Kingdom</i>
Maximizing resource recovery from faecal sludge (FS) in urban and peri urban regions in developing countries – appropriate decentralised treatment system design, <i>Thomas Hoffmann, Germany</i>

Progress in Biogas III

Biogas production from agricultural biomass and organic residues

Conference Programme



International Conference

with exhibition and field trip

10 - 11 September 2014, Stuttgart,
Germany

Field trip: 12 September 2014

Venue: Haus der Wirtschaft - Stuttgart

additional: International Study Tour

15 - 18 September 2014, Germany

Organisers



UNIVERSITÄT HOHENHEIM



Co-organisers:



Baden-Württemberg



In co-operation with:



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