

proBIOGAS International

Biogas Engineering and Operating Training with Field Trips

April 21 – 29, 2020

Venue: SHMT – Steinbeis House for Management and Technology
Filderhauptstr. 142, 70599 Stuttgart

Tuesday, April 21st – Practical Plant Engineering	
08:30	Registration
09:00	Welcome to the seminar – Introductory Round <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i>
09:30	Overview of the national and int. biogas industry and its future development <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i>
10:30	Coffee break
10:45	Decision criteria for a biogas plant <i>Katrin KAYSER, IBBK Fachgruppe Biogas GmbH</i>
12:15	Lunch
13:30	Introduction into plant technology <ul style="list-style-type: none"> • Digester types • Prestorage, feed-in and pretreatment technology (ensiling, mixing pit, hydrolysis) • Other process technologies • Most common design principles • Shapes & designs of digesters and equipment <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i>
15:00	Coffee break
15:15	Measurement and data recording for optimization, stabilization and enhancement of the biogas process <ul style="list-style-type: none"> • Gas analysis related to the metabolic pathway • Application area for gas analysis devices

	<ul style="list-style-type: none"> Application of further measured variables, controlling and supervisory control <p><i>Philipp RÖHRER., Awite Bioenergie GmbH</i></p>
16:45	Discussion
17:00	End of the day

Optional – 19:00: Meet + greet dinner at a typical restaurant in downtown Stuttgart

Wednesday, April 22nd – Practical Digester Biology

09:00	<p>Digester Biology – an introduction</p> <p><i>Dr. Andreas LEMMER, State institute of Agricultural Engineering and Bioenergy, University of Hohenheim</i></p>
10:30	Coffee break
10:45	<p>Biogas plant start-up and shutdown</p> <ul style="list-style-type: none"> Counter measures Case studies Practical examples <p><i>Birgit PFEIFER, Schaumann BioEnergy Consult GmbH, Pinneberg</i></p>
12:15	Lunch
13:30	<p>Process control and process optimization</p> <ul style="list-style-type: none"> Inhibitors in anaerobic processes Additives (trace elements, enzymes, sulfur binders, buffer) Process control measures <p><i>Birgit PFEIFER, Schaumann BioEnergy Consult GmbH, Pinneberg</i></p>
15:00	Coffee break
15:15	<p>Crucial substrate parameters and their impact on plant performance</p> <ul style="list-style-type: none"> Sampling and analysis methods for agricultural and industrial substrates Definition of the substrate quality – right and wrong way of analyzing Impact on planning, design and practical operation Forecast possibilities on plant process disturbances <p><i>Gunther PESTA, CEO, ATRES-Group, Munich</i></p>

16:45	Discussion
17:00	End of the day

Thursday, April 23rd – Study Tours

08:15	Plant Visit to the experimental biogas plant of the University of Hohenheim “Unterer Lindenhof”
13:00	Lunch at “Unterer Lindenhof”
14:30	Plant Visit
18:15	End of the day

Friday, April 24th – Study Tours

08:15	Plant Visit at the biogas upgrading plant “Söhnergy”
12:30	Lunch
14:30	Plant visit of the waste treatment plant “Bauer Kompost”
18:15	End of the day

Monday, April 27th – Practical Plant Operation

09:00	How to calculate all contingencies for your biogas plant with artificial intelligence – Anessa software introduction
10:30	Coffee break
10:45	Safety features of biogas plants and equipment <i>Katrin KAYSER, IBBK Fachgruppe Biogas GmbH</i>
12:15	Lunch

13:30	Biogas specific building materials for sustainable plant operation <ul style="list-style-type: none"> • Design and suitability • Corrosion and operating conditions • Reliability and installation <i>Erwin KÖBERLE, Biogaskontor Köberle GmbH</i>
15:00	Coffee break
15:15	Day to day maintenance <ul style="list-style-type: none"> • Duties of the operator • Data recording • General maintenance • Minor repairs • Digestion biology with control instruments and feeding management <i>Erwin KÖBERLE, Biogaskontor Köberle GmbH, Obermarchtal</i>
16:45	Discussion
17:00	End of the day

Tuesday, April 28th – Practical Plant Operation

09:00	Planning and designing of stirring and mixing technology for digesters, mixing pits and storages <i>Hr. ZIMMERMANN, Propeller Technik Maier GmbH, Mindelheim, Germany</i>
10:30	Coffee break
10:45	Organic waste and fermentation technology – processes and biological stability <ul style="list-style-type: none"> • Building materials • Operational requirements <i>Bernhard NATTERER, Finsterwalder Umwelttechnik GmbH, Bernau</i>
12:15	Lunch
13:30	Interactive group and field session – necessary on site tests and practical interpretation of operating modes on a biogas plant

	<ul style="list-style-type: none"> • Substrate and digester content sampling • Testing parameters during operation • Practical devices for plant monitoring • Record keeping • Technical and safety evaluation on a biogas plant <p><i>Birgit PFEIFER, Schaumann BioEnergy Consult GmbH, Pinneberg</i></p> <p>Short travel by coach</p> <p>Meeting point: parking area in front of "SHMT"</p> <p>Meeting time: 1:30pm</p> <p>Departure: 1:45pm</p>
17:00	End of the day

Wednesday, April 29th – Practical Plant Operation

09:00	<p>Proper usage of digestate as organic fertilizer in agriculture</p> <ul style="list-style-type: none"> • Fertilizer management • Field application • Digestate processing • Fiber and fertilizer production <p><i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i></p>
10:30	Coffee break
10:45	<p>Cogeneration to heat and power – Gas utilisation</p> <ul style="list-style-type: none"> • Differences between injection and gas engine • Generator and controlling • Design principles and effectiveness <p><i>Andre BANKEN, 2G Energietechnik GmbH</i></p>
12:15	Lunch
13:30	<p>Biogas upgrading technology</p> <p><i>Torsten HAUG, Union Instruments GmbH</i></p>

14:30	Coffee break
14:45	Biomethane as a transport fuel <ul style="list-style-type: none">• Overview of the status quo• Possibilities and challenges <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i>
16:15	Discussion
16:30	Handout of the certificates and end of the event.

Program is subject to change