

Biogas #Hands On – Online
Biogas Engineering and Operating Training
August 31 – September 9, 2020

Monday, August 31st – Practical Digester Biology	
09:00	<p>Welcome to the seminar – Introductory Round <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i></p>
09:30	<p>Overview of the national and int. biogas industry and its future development <i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i></p>
10:30	Coffee break
10:45	<p>Digester Biology – an introduction <i>Dr. Andreas LEMMER, State institute of Agricultural Engineering and Bioenergy, University of Hohenheim</i></p>
12:15	Lunch
	<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>
15:00	Coffee break
15:15	<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>
16:45	Discussion – end of the day

Tuesday, September 1st – Practical Plant Engineering

9:00	<p>Introduction into plant technology</p> <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 <p><i>Michael KÖTTNER, IBBK Fachgruppe Biogas GmbH</i></p>
10:30	Coffee break
10:45	<p>Decision criteria for a biogas plant</p> <p><i>Katrin KAYSER, IBBK Fachgruppe Biogas GmbH</i></p>
12:15	Lunch
13:30	<p>Measurement and data recording for optimization, stabilization and enhancement of the biogas process</p> <ul style="list-style-type: none"> • Gas analysis related to the metabolic pathway • Application area for gas analysis devices • Application of further measured variables, controlling and supervisory control <p><i>Philipp RÖHRER, Awite Bioenergie GmbH</i></p>
15:00	Discussion – end of the day

Wednesday, September 2nd – Practical Plant Operation

09:00	<p>Safety features of biogas plants and equipment</p> <p><i>Katrin KAYSER, IBBK Fachgruppe Biogas GmbH</i></p>
10:30	Coffee break
10:45	<p>Biogas specific building materials for sustainable plant operation</p> <ul style="list-style-type: none"> • Design and suitability • Corrosion and operating conditions • Reliability and installation <p><i>Erwin KÖBERLE, Biogaskontor Köberle GmbH</i></p>

12:15	Lunch
13:30	<p>Day to day maintenance</p> <ul style="list-style-type: none"> • Duties of the operator • Data recording • General maintenance • Minor repairs • Digestion biology with control instruments and feeding management <p><i>Erwin KÖBERLE, Biogaskontor Köberle GmbH, Obermarchtal</i></p>
15:00	Coffee break
15:15	<p>Using Predictive Analytics to De-Risk Biogas Projects</p> <p><i>Robert DiDiodato, Anessa Biogas Software, Canada</i></p>
16:45	Discussion
17:00	End of the day

Thursday, September 3rd – Practical Plant Operation

09:00	<p>Planning and designing of stirring and mixing technology for digesters, mixing pits and storages</p> <p><i>Philipp. ZIMMERMANN, RTO – Repowering Technik Ost GmbH, Halle, Germany</i></p>
10:30	Coffee break
10:45	<p>Organic waste and fermentation technology – processes and biological stability</p> <ul style="list-style-type: none"> • Building materials • Operational requirements <p><i>Bernhard NATTERER, Finsterwalder Umwelttechnik GmbH, Bernau</i></p>
12:15	Lunch
13:30	<p>Practical Presentation – necessary on site tests and interpretation of operating modes on a biogas plant</p> <ul style="list-style-type: none"> • Substrate and digester content sampling • Testing parameters during operation • Practical devices for plant monitoring

	<ul style="list-style-type: none"> Record keeping Technical and safety evaluation on a biogas plant <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>
17:00	End of the day

Friday, September 4th – Practical Plant Operation

09:00	<p>Proper usage of digestate as organic fertilizer in agriculture</p> <ul style="list-style-type: none"> Fertilizer management a 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>Biomethane as a transport fuel</p> <ul style="list-style-type: none"> Overview of the status quo Possibilities and challenges <p><i>Michael KÖTTNER, IBBK Fachgruppe Biogas 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	Cogeneration to heat and power – Gas utilisation <ul style="list-style-type: none"> • Differences between injection and gas engine • Generator and controlling • Design principles and effectiveness <i>Andre BANKEN, 2G Energietechnik GmbH</i>
16:15	Discussion
16:30	End of the day

Monday, September 7th – Q&A Sessions

09:00 – 18:00	Ask your questions on specific presentations, get a personalized 1h consultation, or be a “fly on the wall” during the questions of other participants <i>IBBK’s Senior Biogas Experts</i>
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Tuesday, September 8th – Q&A Sessions

09:00 – 18:00	Ask your questions on specific presentations, get a personalized 1h consultation, or be a “fly on the wall” during the questions of other participants <i>IBBK’s Senior Biogas Experts</i>
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Wednesday, September 9th – Q&A Sessions

09:00 – 18:00	Ask your questions on specific presentations, get a personalized 1h consultation, or be a “fly on the wall” during the questions of other participants <i>IBBK’s Senior Biogas Experts</i>
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Program is subject to change