



DECHEMA

Biotechnologie

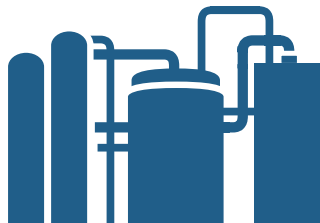
PROGRAMME

10 – 12 May 2021 · Online Event

Himmelfahrtstagung on Bioprocess Engineering 2021

New Bioprocesses, New Bioproducts

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Monday, 10 May 2021

09:50	WELCOME ADDRESS <i>Chair: W. Blümke, Evonik Operations GmbH, Hanau/D</i>
10:00	KEYNOTE LECTURE Coupling carbon capture and utilization to microbial protein production to maximize carbon utilization <i>K. Rabaey; Ghent University (UGent)/B</i>
10:30	Discussion Novel bioprocesses and bioproducts using prokaryotes <i>Chair: D. Eisenkrätzer, Roche Diagnostics GmbH, Penzberg/D</i>
10:40	Producing yoghurt with <i>S.thermophilus</i> and <i>L.bulgaricus</i> as resource for improved co-culture technologies <i>A. Ulmer¹; F. Erdemann¹; L. Hundsdofer¹; M. Lösch¹; S. Müller¹; S. Veit¹; R. Takors¹; ¹ Institut für Bioverfahrenstechnik, Universität Stuttgart/D</i>
11:00	Diazotrophic terrestrial cyanobacteria as nitrogen supplier for <i>Arabidopsis thaliana</i> <i>D. Strieth¹; J. Stiefelmaier¹; S. Di Nonno¹; J. Kollmen¹; R. Ulber¹; ¹ TU Kaiserslautern/D</i>
11:20	Joint discussion
11:30	Virtual Break
11:45	WINNER OF THE INDUSTRIAL BIOPROCESS AWARD 2020 From food to medicine: Process development and use of functionalized polyclonal antibodies from cow's milk for the treatment of infections caused by multi-resistant bacteria <i>H. Heidebrecht¹; H. Kulozik¹; ¹ TU München, Freising/D</i>
	Novel bioprocesses and bioproducts using prokaryotes <i>Chair: D. Weuster-Botz, TU München/D</i>
12:05	Development of a highly efficient fermentation process for the novel sweetener 5-keto-D-fructose and its economic evaluation <i>S. Battling¹; E. Herweg¹; A. Siemen²; U. Deppenmeier²; J. Büchs¹; ¹ RWTH Aachen University, Aachen/D; ² University of Bonn/D</i>
12:25	Model-based downstream process development for novel antiviral peptides Labyrinthopeptins <i>J. Lohr¹; M. Upmann¹; J. Block¹; A. Spieß¹; ¹ TU Braunschweig/D</i>
12:45	Joint discussion
12:55	Virtual Lunch Break
	Biopharmaceuticals: New bioprocesses, therapies and substances applying eukaryotes <i>Chair: J. Schaub, Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach/D</i>
13:55	New possibilities for plant cell culture <i>J. Stiefelmaier¹; A. Zayed²; A. Mehring¹; C. Ebel¹; R. Ulber¹; ¹ TU Kaiserslautern/D; ² Tanta University, Tanta/ET</i>
14:15	The potential of hybrid process modeling and digital twins to master the goals of industry 4.0 in bioprocessing <i>M. Sokolov¹; M. von Stosch¹; M. Cruz Bournazou¹; A. Butté¹; ¹ DataHow AG, Zurich/CH</i>
14:35	Reproducibility assessment of filamentous fungi fermentation and new approach of a semi-continuous culture in pellet form <i>W. Soerjawanata¹; I. Kockler¹; R. Ulber²; P. Kampeis¹; ¹ Hochschule Trier, Umwelt-Campus Birkenfeld/D; ² TU Kaiserslautern/D</i>
14:55	Joint discussion
15:05	Virtual Break
	Circular economy: Novel production processes incl. biotechnological recycling and biomass valorization <i>Chair: D. Holtmann, Technische Hochschule Mittelhessen, Gießen/D</i>
15:20	Studies on syngas fermentation with <i>Clostridium carboxidivorans</i> in stirred-tank reactors with defined gas impurities <i>A. Rückel¹; J. Hannemann¹; C. Maierhofer¹; A. Fuchs¹; D. Weuster-Botz¹; ¹ Technical University Munich, Garching/D</i>
15:40	Novel gradient-based monitoring for short-chain carboxylic <i>M. Longis¹; J. Pereira¹; S. Täuber¹; P. Neubauer¹; S. Junne¹; ¹ Technische Universität Berlin/D</i>
16:00	Joint discussion
16:10	End of first day

Tuesday, 11 May 2021

Chair: R. Takors, Universität Stuttgart/D

10:00 **KEYNOTE LECTURE**
Sustainable fermentation of monomers for biobased polymers – challenges in a developing market
 H. Ruijssenaars¹; ¹Corbion/NL

10:30 **Discussion**

10:40 **Break**

Innovative reactor and reaction concepts in bioproduction

Chair: M. Fritsch, EW Biotech GmbH, Leuna/D

10:55 **Predicting large-scale performance of *Saccharomyces cerevisiae* by biokinetic models embedded in CFD**
 C. Sarkizi Shams Hajian¹; S. Minden¹; M. Aniolek¹; R. Takors¹; ¹ University of Stuttgart/D

11:15 **Investigation of the Growth Pattern of *T. distorta* using Microcomputed Tomography**
 S. Schaefer¹; J. Walther²; D. Strieth²; R. Ulber²; U. Bröckel¹; ¹ Trier University of Applied Sciences, Birkenfeld/D;
² Technical University Kaiserslautern/D

11:35 **Utilization of Gaseous Substrates in a Biocatalytic Bubble Column Reactor**
 F. Perz¹; H. Hennemann²; F. Nissen²; S. Bormann³; D. Holtmann⁴; F. Hollmann⁵; P. Bubenheim¹; A. Liese¹; ¹ Hamburg University of Technology, Hamburg/D; ² Evonik Creavis GmbH, Marl/D; ³ DECHEMA - Forschungsinstitut, Frankfurt/D; ⁴ University of Applied Sciences Mittelhessen, Giessen/D; ⁵ Delft University of Technology, Delft/NL

11:55 **Joint discussion**

12:05 **Virtual Lunch Break**

Chair: A. Liese, TU Hamburg/D

13:05 **POSTER SESSION I**

14:35 **Virtual Break**

14:50 **WINNER OF THE INDUSTRIAL BIOPROCESS AWARD 2021**
Resolving heterogeneities in single and multiphase bioreactor systems – Predictive modelling tools towards successful scale-up
 M. Kuschel¹; ¹ Boehringer Ingelheim Pharma GmbH & Co. KG/D

Innovative reactor and reaction concepts in bioproduction

Chair: P. Neubauer, Technische Universität Berlin/D

15:10 **Bioprocess intensification in a novel multiphase loop reactor**
 M. von Campenhausen¹; P. Demling²; T. Tiso²; L. Blank²; A. Jupke¹; ¹ RWTH Aachen University, AVT. Fluidverfahrenstechnik, Aachen/D; ² RWTH Aachen University, Institute of Applied Microbiology, Aachen/D

15:30 **Dynamic microfluidic single-cell cultivation: A first step towards picoliter sized scale-down reactors?**
 S. Täuber¹; L. Blöbaum¹; A. Grünberger¹; ¹ Bielefeld University, Bielefeld/D

15:50 **Joint discussion**

16:00 **End of second day**

Wednesday, 12 May 2021

Enzymatic production of fine chemicals

Chair: C. Bornhövd, Wacker Chemie, München/D

09:30 **Approaching sustainable biocatalytic processes – process intensification of the enzymatic metaraminol production by in-situ liquid-liquid extraction**
 L. Grabowski¹; M. Doeker²; A. Jupke²; D. Rother¹; ¹ Forschungszentrum Jülich GmbH/ RWTH Aachen University, Jülich/D; ² RWTH Aachen University, Aachen/D

09:50 **Multi-assay screening for new haloperoxidases from cyanobacteria**
 P. Blenk¹; P. Zeides²; T. Gulder²; K. Castiglione¹; ¹ Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen/D; ² University of Leipzig/D

10:10 **Joint discussion**

10:20 **Virtual Break**

High throughput screening systems for screening and evolution

Chair: T. Bayer, Infraseriv GmbH & Co. KG, Frankfurt am Main/D

10:35 **Fast forward bioprocess development: A holistic approach of high-throughput model-based screening for ELP production**
 N. Krausch¹; K. Jong Woo¹; T. Barz¹; J. Aizpuru¹; S. Hans¹; P. Neubauer¹; S. Schiller²; M. Cruz Bournazou³; ¹ TU Berlin,/D; ² Albert-Ludwigs-University Freiburg/D; ³ DataHow AG, Zurich/CH

10:55 **Global scan approach for rapid and comprehensive metabolomics**
 A. Reiter¹; J. Asgari¹; W. Wiechert¹; M. Oldiges¹; ¹ Forschungszentrum Jülich GmbH, Jülich/D

11:15 **Joint discussion**

11:25 **Virtual Break**

Chair: D. Eibl, Züricher Hochschule für Angewandte Wissenschaften, Wädenswil/CH

11:40 **POSTER SESSION II**

13:10 **Virtual Lunch Break**

Novel downstream technologies and integrated bioprocesses

Chair: M. Oldiges, Forschungszentrum Jülich GmbH/D

14:00 **Development of a highly productive Clostridia strain and corresponding fermentation and downstream processes for producing 1,3-propanediol with high efficiency and purity from raw glycerol**
 C. Zhang¹; C. Ma¹; S. Sharma¹; W. Wang¹; A. Zeng¹; ¹ Hamburg University of Technology (TUHH), Hamburg/D

14:20 **An integrated approach for monitoring and control of refolding kinetics by combining PAT and modelling**
 C. Igwe¹; J. Pauk¹; C. Herwig²; ¹ Competence Center CHASE GmbH, Linz/A; ² TU Wien/A

14:40 **Joint discussion**

14:50 **VOTING / POSTER PRIZE**

15:00 **Closing & End of conference**

Status of the scientific programme as of 12 May 2021, subject to change.

Submission title and authors information as given by the submitter. No proof by DECHEMA.

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