

Monday, 2 May 2016

- 08:00 Registration
- 08:20 Welcome Address
R. Takors, Universität Stuttgart/D,
W. Blümke, Evonik Industries AG, Hanau/D
- 08:30 **KEYNOTE LECTURE**
Sustaining sustainable solutions: industrial biotechnology's trajectories
John Pierce, BP, Cambridge/USA

Session 1:

Novel products via novel pathways and substrates I

Chair: W. Blümke, Evonik Industries AG, Hanau/D

- 09:15 **Fermentative Production of Isobutene in Demo Scale**
T. Elter¹; T. Buhl², ¹ Fraunhofer Center for Chemical-Biotechnological Processes CBP, Leuna/D; ² Global Bioenergies GmbH, Leipzig/D
- 09:45 **Pathways, Processes, Products: Challenges from proof of principle to market success**
S. Freyer, BASF SE, Ludwigshafen/D

Session 2:

Novel products via novel pathways and substrates II

Chair: M. Oldiges, Forschungszentrum Jülich GmbH/D

- 10:45 **Engineering of a synthetic metabolic pathway for the assimilation of (D)-xylose into value-added chemicals**
C. Alkim¹; Y. Cam¹; D. Trichet¹; C. Auriol¹; L. Spina¹; F. Bartolo²; P. Besse²; J. François¹; T. Walther¹, ¹ Toulouse White Biotechnology Center, Ramonville-St. Agne/F; ² Institut de Mathématiques de Toulouse, Toulouse/F
- 11:15 **Methanol-based industrial biotechnology: Engineering Methylobacterium extorquens for the production of chemicals from methanol**
M. Buchhaupt¹; F. Sonntag¹; C. Kroner¹; E. Gehr¹; P. Kiefer²; J. Müller²; J. Vorholt²; J. Schrader¹, ¹ DECHEMA Research Institute, Frankfurt am Main/D; ² Institute of Microbiology, ETH, Zürich/CH
- 11:45 Coffee Break

Session 3:

Novel products via novel pathways and substrates III

Chair: J. Büchs, RWTH Aachen/D

- 12:15 **Upgrading the Toolbox for Fermentation of (Crude) Syngas: Investigations of the Impact of Process Parameters and Impurities of Crude Syngas**
F. Oswald; M. Zwick; C. Syldatk; A. Neumann, Karlsruhe Institute of Technology (KIT), Institute of Process Engineering in Life Science, Section II: Technical Biology, Karlsruhe/D
- 12:45 **Tailoring Mannosylerythritol lipid production**
S. Zibek¹; P. Carrillo²; T. Hirth¹; S. Rupp¹, ¹ Fraunhofer IGB, Stuttgart/D; ² Fraunhofer IGB / Universität Stuttgart, IGVP, Stuttgart/D
- 13:15 Lunch Break

Session 4:

Exploiting enzymatic capacities I

Chair: A. Liese, TU Hamburg-Harburg/D

- 14:15 **In vivo versus in vitro protein synthesis. Lessons from systems biology-based analysis**
J. Failmezger¹; A. Nieß²; M. Siemann-Herzberg²; R. Takors³
¹ Institute of Biochemical Engineering, University of Stuttgart, Stuttgart/D; ² University of Stuttgart - Institute of Biochemical Engineering, Stuttgart/D; ³ University of Stuttgart, Stuttgart/D
- 14:45 **Engineering multi-step bioreaction machineries: New strategies and progresses**
U. Jandt; S. Hezaveh; J. Guo; J. Tatur; A. Zeng,
¹TUHH, Hamburg/D
- 15:15 **Synthetic enzyme cascades - enabling access to high concentrations of chiral building blocks in aqueous and organic solvent systems**
D. Rother, Forschungszentrum Jülich GmbH, Jülich/D
- 15:45 **Coffee Break**

Session 5:

Exploiting enzymatic capacities II

Chair: R. Ulber, TU Kaiserslautern/D

- 16:15 **Photobiocatalytic asymmetric C=C-bond reduction**
R. Kourist; M. Nowaczyk; K. Königer, Ruhr-Universität Bochum, Bochum/D
- 16:45 **An Enzymatic Convergent Cascade System for the Synthesis of Epsilon-Caprolactone**
A. Bornadel¹; R. Hatti-Kaul²; F. Hollmann³; S. Kara¹
¹ Hamburg University of Technology, Hamburg/D; ² Lund University, Lund/S; ³ Delft University of Technology, Delft/NL
- 17:15 **New H₂O₂ generation systems enable efficient oxyfunctionalization chemistry using peroxygenases**
F. Hollmann, Delft University of Technology, Delft/NL
- 17:45 – *Poster Party with Beer and Brezel*
- 19:00

Tuesday, 3 May 2016

- 08:30 **KEYNOTE LECTURE**
Integrating genetics, strain and process development for economic industrial bioprocesses
I. Fotheringham, Ingenza Ltd., Roslin/UK

Session 6:

DSP I

Chair: D. Eisenkrätzer, Roche Diagnostics GmbH, Penzberg/D

- 09:15 **Chromatography-free Downstream Processing of monoclonal Antibodies**
P. Gronemeyer¹; A. Schmidt²; J. Strube², ¹ TU Clausthal, Clausthal-Zellerfeld/D; ² TU Clausthal/ Institut für Thermische Verfahrens- und Prozesstechnik, Clausthal-Zellerfeld/D
- 09:45 **In-situ product removal for the fermentative production of Fusicoccadiene**
L. Halka; S. Kockelke; R. Wichmann, Technical University Dortmund, Dortmund/D
- 10:15 **Coffee Break**

Session 7:

DSP II

Chair: J. Schaub, Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim/D

- 10:45 **Virus Particle Purification Using Magnetic Sulfated Cellulose Particles**
M. Pieler¹; A. Serve¹; R. Hennig¹; D. Vázquez Ramírez¹; M. Wolff²; U. Reichl², ¹ Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg/D; ² Max Planck Institute for Dynamics of Complex Technical Systems & Otto von Guericke University, Magdeburg/D
- 11:15 **Crystal Product Design: From Crystal Formation to Its Final Solid Form**
K. Wohlgenuth; L. Terdenge; G. Schembecker, Laboratory of Plant and Process Design, TU Dortmund University, Dortmund/D
- 11:45 **Advantages and Limitations of Biocatalytic Reactive Distillation**
S. Kühn¹; R. Heils²; I. Smirnova²; A. Liese³, ¹ TU Hamburg-Harburg, Hamburg/D; ² Institut für Thermische Verfahrenstechnik - TUHH, Hamburg/D; ³ Institute of Technical Biocatalysis - TUHH, Hamburg/D
- 12:15 **Lunch Break**

Session 8:

Electrobiotechnology

Chair: D. Holtmann, DECHEMA-Forschungsinstitut, Frankfurt/D

- 13:15 **Physiological and molecular investigation on an electroautotrophic consortium at high temperatures followed by the reverse engineering with distinct organisms**
K. Geiger¹; J. Reiner¹; F. Golitsch¹; A. Doetsch²; J. Gescher¹
¹ Karlsruhe Institute of Technology (KIT) / Institute for Applied Biosciences, Karlsruhe/D; ² Karlsruhe Institute of Technology (KIT) / Institute of Functional Interfaces, Karlsruhe/D
- 13:45 **Investigation of anodic respiration for the bioproduction of para-hydroxybenzoic acid by *Pseudomonas putida***
S. Hintermayer¹; S. Yu²; J. Krömer²; D. Weuster-Botz¹
¹ Technische Universität München, Garching/D; ² The University of Queensland, Brisbane/AUS

14:15 **eBSTR: Integrating electrochemistry and bioreactors**
 L. Rosa, Helmholtz-Zentrum für Umweltforschung GmbH - UFZ,
 Leipzig/D

14:45 **Coffee Break**

Session 9:

Process control

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

15:15 **Online monitoring of *S. cerevisiae* cultivation using near-infrared spectroscopy and model-based state estimation**
 D. Krämer; R. King

Technische Universität Berlin, Berlin/D

15:45 **Biogas Model based on three Master-Substrates**

A. Schneider¹; F. Kuhnen²; R. Benz¹; V. Hass³

¹ Jacobs University Bremen, Bremen/D; ² Hochschule Bremen, Bremen/D; ³ Hochschule Furtwangen, Villingen-Schwenningen/D

16:15 – 16:45 **Online monitoring of the dissolved oxygen tension in shake flask and microtiter plate cultivations via oxygen-sensitive nanoparticles**

T. Ladner; D. Flitsch; M. Kunze; J. Büchs,
RWTH Aachen University, Aachen/D

19:00 **Conference Dinner** at Ehrenbreitstein Fortress

Wednesday, 4 May 2016

08:30 *Posterpresentation - 3 Best Poster*

Session 10:

Open Topic

Chair: B. König, König & Funk Biotech GmbH, Berlin/D

09:00 **A unique esterase from the edible fungus *Ustilago maydis***
 A. Nieter¹; D. Linke²; R. Berger², ¹ Universität Hannover, Hannover/D; ² Universität Hannover/ Institut für Lebensmittelchemie, Hannover/D

09:30 **Connections between integration event and productivity: New insights into the protein production host *Pichia pastoris***

J. Schwarzhans; D. Wibberg; J. Kalinowski; K. Friehs
Bielefeld University/CeBiTec, Bielefeld/D

New Frontiers for Biotech Processes - Programme

10:00 **Parallelized milliliter scale cultivation accelerates phototrophic bioprocess development**
H. Morschett; W. Wiechert; M. Oldiges, Forschungszentrum Jülich GmbH, Institute of Bio- and Geosciences, IBG-1: Biotechnology, Jülich/D

10:30 **Coffee Break**

Session 11:

Open Topic

Chair: R. Takors, Universität Stuttgart/D

11:00 **Production of bioactive compounds: Are productive biofilms influenced by structured surfaces on the microscale?**
M. Huster; C. Schlegel; R. Ulber, TU Kaiserslautern, Institute of Bioprocess Engineering, Kaiserslautern/D

11:30 **Model-based experimental analysis of an enzyme catalyzed cross-carboligation**
R. Ohs¹; K. Fischer¹; M. Schöpping¹; A. Spieß², ¹ RWTH Aachen University - AVT.EPT, Aachen/D; ² Technical University of Braunschweig - Institute of Biochemical Engineering, Braunschweig/D

12:00 **Individual BioTech - Chances, Challenges and Recent Examples of Using Additive Technologies in Bioprocess Engineering**
F. Krujatz¹; A. Lode¹; M. Gelinsky¹; K. Fehse²; M. Jahnel²; T. Bley¹; J. Steingroewer¹, ¹ TU Dresden, Dresden/D; ² Fraunhofer FEP, Dresden/D

12:30 *Closing remarks and End of the Conference*