

Advances in Industrial Biotechnology:

## Renewable feedstocks and synthetic pathways for production of fine chemicals

Center for Interdisciplinary Research (ZiF), Bielefeld University  
September 23 – 25, 2019

<http://www.cebitec.uni-bielefeld.de/9ICRC>



### Program

#### MONDAY - September 23, 2019

11:00 – 13:00 *Registration*

13:00 *Welcome and Opening Remarks*

**Olaf Kruse**, Director of CeBiTec, Bielefeld

**Volker F. Wendisch**, Conference Chair

#### SESSION 1: Aroma / Terpenoid Biotechnology

*Chair: Dirk Bosch (Wageningen, NL)*

13:15 *Invited Lecture:*

**Ralf G. Berger** (Hannover, DE)

[Basidiomycota for the production of fine chemicals](#)

13:55 **Matthew Styles** (Isobionics, NL)

[Fermentative production of flavour and fragrance isoprenoids in \*Rhodobacter\*](#)

14:15 **Jules Beekwilder** (Wageningen, NL)

[Producing plant pigments in plants and microbes](#)

14:35 **Špela Baebler** (National institute of Biology, Ljubljana, SI)

[Sustainable bioproduction of pheromones for insect pest control in agriculture](#)

14:55 *Coffee Break*

- 15:30      **Berna Sariyar Akbulut** (Istanbul, TR)  
*Engineering *Corynebacterium glutamicum* for L-DOPA production*
- 15:50      **Julian Wichmann** (Bielefeld, DE)  
*Microalgae as green cell factories for the production of aromatic isoprenoids*
- 16:10      **Nadja Alina Henke** (Bielefeld, DE)  
*Optimization of astaxanthin production in *Corynebacterium glutamicum**

### SESSION 2: Synthetic Biology I

*Chair: Katarina Cankar* (Wageningen, NL)

- 16:30      *Invited Lecture:*  
**Heribert Warzecha** (Darmstadt, DE)  
*Opportunities and challenges of plant biotechnology for the production of active substances*

17:10-20:00      *Poster Session with Beer & Pretzel*

**TUESDAY – September 24, 2019**

### SESSION 2: Synthetic Biology I (cont.)

*Chair: Katarina Cankar* (Wageningen, NL)

- 9:00      *Invited Lecture:*  
**Dae-Kyun Ro** (Calgary, CA)  
*A single gRNA target CRISPR-Cas9 platform for multigene integration in *Saccharomyces cerevisiae**
- 9:40      *Invited Lecture:*  
**Pablo Carbonell** (Manchester, UK)  
*Bioretrosynthesis and rapid prototyping for automated synthetic pathway redesign*
- 10:20      *Invited Lecture:*  
**Kohsuke Honda** (Osaka, JP)  
*In vitro reconstitution of synthetic metabolic pathway with thermophilic enzymes*

11:00      *Coffee Break*

**SESSION 3: Panel discussion on White Biotechnology organized by CKB (EFRE)**

*Chair: Katrin Kriebs (CKB & CLIB-Cluster, DE)*

- 11:30 **Gregor Kosec** (AciesBio, SL)  
**Georg Lentzen** (b.value, DE)  
**Markus Pötter** (Evonik Industries, DE)  
**Peter van der Schaft** (Axxence Aromatic GmbH, DE)



12:15 *Lunch Break*

**SESSION 4: Synthetic Biology II**

*Chair: Volker F. Wendisch (Bielefeld, DE)*

- 13:30 **Christiane Sonntag** (Jülich, DE)  
*A modular design enables fine-tuning of crucial biosensor parameters*
- 13:50 **Maria Suarez-Diez** (Wageningen, NL)  
*Computational tools and methods for systematic genome bioprospecting for industrial traits*
- 14:10 *Invited Lecture:*  
**Norbert Sewald** (Bielefeld, DE)  
*Chemoenzymatic one-pot synthesis of indigoids by tandem C-H functionalization*

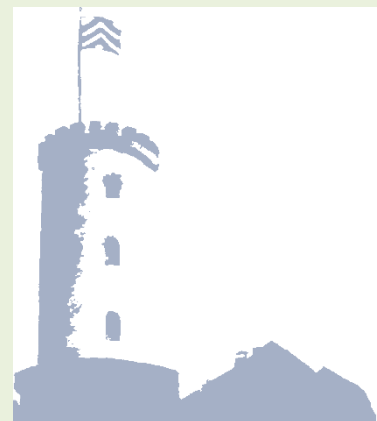
14:50 *Coffee Break*

Session 5: Alternative Feedstocks

Chair: Volker F. Wendisch (Bielefeld, DE)

- 15:20 *Invited Lecture:*  
**Sunghoon Park** (UNIST, Ulsan, KO)  
Use of glycerol for biological production of 3-hydroxypropionic acid and 1,3-propanediol
- 16:00 *Invited Lecture:*  
**Madhavan Nampoothiri** (Trivandrum, IN)  
Development of *C. glutamicum* as a commodity chemicals producer from hemicellulosic biomass
- 16:40 *Invited Lecture:*  
**Nadav Bar** (Trondheim, NO)  
Automatic control of bioreactor fermentation with *Corynebacterium glutamicum* using residual sugar streams
- 17:20 **Johannes Holert** (Münster, DE)  
Steryl esters, a new class of storage compounds in steroid-degrading bacteria

- 17:40 *End of session*
- 18:00 *Bus transfer to Sparrenburg*
- 19:00 *Conference Dinner at Sparrenburg Restaurant*



WEDNESDAY - September 25, 2019

SESSION 6: C1 Utilization

Chair: Trygve Brautaset (Trondheim, NO)

- 9:00 *Invited Lecture:*  
**An-Ping Zeng** (Hamburg, DE)  
Breaking the limitations of glycine cleavage system for C1 synthetic biology
- 9:40 *Invited Lecture:*  
**Katja Bühler** (Leipzig, DE)  
Light-driven synthesis of 1,2-propanediol from CO<sub>2</sub> utilizing *Synechocystis* sp. PCC 6803 PG
- 10:20 **Marta Irla** (Trondheim, NO)  
Methanol-based acetoin production by genetically engineered *Bacillus methanolicus*
- 10:40 *Coffee Break*
- 11:10 **Bastian Blombach** (München, DE)  
Exploiting *Hydrogenophaga pseudoflava* for aerobic syngas-based production of chemicals
- 11:30 **Baudoin Delépine** (Toulouse, FR)  
<sup>13</sup>C metabolic flux analysis of the restricted methylotroph *Bacillus methanolicus*
- 11:50 **Kerstin Schultenkämper** (Bielefeld, DE)  
Establishment and application of CRISPR interference in the methylotrophic thermophile *Bacillus methanolicus*
- 12:10 Closing Remarks
- 12:30 End of Conference