

Advances in Industrial Biotechnology:

Synthetic Consortia, Pathways, and Enzymes

Center for Cognitive Interaction Technology (CITEC),
Bielefeld University, Germany

September 15 – 17, 2025

<https://www.cebitec.uni-bielefeld.de/events/conferences/654-icrc-2025>



Program

MONDAY - September 15, 2025

11:00 – 13:00 Registration

13:00 Welcome and Opening Remarks

Volker F. Wendisch, Director of CeBiTec and Conference Chair

SESSION 1: Biotechnology at Industrial Scale

Chair: **Volker F. Wendisch** (Bielefeld University)

Invited Lecture:

13:15 **Michael Sauer** (OMV AG, Vienna, AT)

Working together - the microbial world shows a way into a greener future

Invited Lecture:

13:55 **Ralf Takors** (University of Stuttgart, Stuttgart, DE)

Preventing Pitfalls on the Way to Large-Sale Biomanufacturing

Selected Lecture:

14:35 **Kristina Braun** (Novonesis, Bonn, DE)

Metabolic Modeling for Strain Design in the Production of Human Milk Oligosaccharides (HMOs)

14:55 Coffee Break

SESSION 2: Engineering Biosynthetic Pathways I

Chair: Fatma Gizem Avci (Bielefeld University)

Invited Lecture:

15:25 **Tatjana Jilg** (Symrise, Holzminden, DE)
Biotechnology meets Flavor -unlocking natural taste-actives

Selected lecture:

16:05 **Alvaro Salazar Quiros** (Technical University of Munich, Straubing, DE)
*Modular metabolic engineering of *Corynebacterium glutamicum* for capsaicin production*

Selected lecture:

16:25 **Fatma Ece Altinisik Kaya** (Marmara University, Istanbul, TR)
*Exploring L-Tryptophan Overproduction in *Bacillus methanolicus* MGA3 by Flux Analysis Using a Genome-Scale Model*

16:45-19:00 **Poster Session with Beer & Pretzel**

TUESDAY – September 16, 2025

Early Career Female Scientists (ECFS) – Special lecture

Chair: Sara-Sophie Poethe (Bielefeld University)

Special Lecture:

9:00 **Sandy Schmidt** (University of Groningen, Groningen, NL)
From Enzyme Discovery to Engineered Strains: Biocatalytic Solutions for Pharmaceutical Synthesis

SESSION 3: Advances in Enzyme Engineering

Chair: Stephan Hammer (Bielefeld University)

Invited Lecture:

9:40 **Steffen Lindner** (Charité, Berlin, DE)
Growth-coupled bioproduction from CO₂

Selected lecture:

10:20 **Max Rogowski** (Bielefeld University, Bielefeld, DE)

Dxs - The rate limiting enzyme of the MEP pathway

Selected lecture:

10:40 **Kai Schülke** (Bielefeld University, Bielefeld, DE)

Regeneration of SAM analogs from “off-the-shelf” reagents through enzyme engineering

11:00 *Coffee Break*

SESSION 4: Advances in Enzyme Engineering *cont.*

Chair: Stephan Hammer (Bielefeld University)

Invited Lecture:

11:30 **Anming Xu** (Nanjing Tech University, Jiangsu, CN)

Modulating Substrate-Enzyme Interactions via Biofilms to Enhance Enzymatic PET Degradation

Invited Lecture:

12:10 **Lea Lynn Winand** (TU Dortmund, Dortmund, DE)

Biocatalytic synthesis of heterocycles using condensing amidohydrolases

12:50 *Lunch Break*

Invited Lecture:

13:50 **Weiliang Dong** (Nanjing Tech University, Jiangsu, CN)

Synthetic Biology-Driven Recycling and Upcycling of Polymeric Materials

SESSION 5: Synthetic and Natural Consortia

Chair: Petra Peters-Wendisch (Bielefeld University)

Invited Lecture:

14:30 **Sarela Garcia-Santamarina** (HKI, Jena, DE)

Emergence of community behaviors in the gut microbiota upon drug treatment

Selected lecture:

- 15:10 **Zihan Dai** (Research Center Jülich, Jülich, DE)
Effects of disinfectant residual on the drinking water microbiome

15:30 *Coffee Break*

Invited Lecture:

- 16:00 **Luciane Passaglia** (UFRGS, Porto Alegre, BR)
The Brazilian's Pampa microbiome: insights from a multi-approach study

Selected lecture:

- 16:40 **Petroula Botsidou** (Bielefeld University, Bielefeld, DE)
Gut microbiota shifts from birth to weaning in Antarctic fur seals under contrasting ecological conditions

Invited Lecture:

- 17:00 **Min Jiang** (Nanjing Tech University, Jiangsu, CN)
Biorefinery of waste carbon resources

17:40 *End of session*

19:00 *Conference Dinner at Restaurant Brauhaus Joh. Albrecht*



WEDNESDAY - September 17, 2025

SESSION 6: Engineering Biosynthetic Pathways II

Chair: **Olaf Kruse** (Bielefeld University)

Selected Lecture:

9:15 **Nora Junker** (Bielefeld University, Bielefeld, DE)

*Two routes for tyrosol production by metabolic engineering of *Corynebacterium glutamicum**

Selected lecture:

9:35 **Arno Krieger** (Bielefeld University, Bielefeld, DE)

*Discovery and functional analysis of volatile terpenes in *D. discoideum**

Selected lecture:

9:55 **Merve Saudhof** (Bielefeld University, Bielefeld, DE)

*Heterotrophic production of sesquiterpenoid (+)-nootkatone in *Chlamydomonas reinhardtii**

Selected lecture:

10:15 **Till Redeker** (Research Center Jülich, Jülich, DE)

*Targeted reduction of *P. taiwanensis* cell surface hydrophobicity for the production of aromatic solvents*

10:35 *Coffee Break*

Invited Lecture:

11:15 **Berna Sariyar Akbulut** (Marmara University, Istanbul, TR)

*Sustainable production of tyrosine and derived products by *Corynebacterium glutamicum**

Invited Lecture:

11:55 **Bastian Blombach** (TUM, DE)

*Engineering *Vibrio natriegens* for a more sustainable chemical economy*

12:35 *Closing Remarks*

Volker F. Wendisch (Bielefeld University, DE)

12:45 *End of Conference*