



We are grateful to all attendees, speakers, sponsors, and collaborators for joining us at the event.

Altogether, 199 participants from 23 countries attended, with early-career researchers accounting for 33% of the group. Eighty-eight percent of them showcased their work in short oral contributions or poster displays.

The program covered topics such as:

- Chassis engineering for recombinant protein production
- Impact of production conditions on cellular performance
- Model-enabled protein, cell, and process engineering
- New Horizons for Biopharmaceutical Proteins
- Precision Fermentation of Food Proteins
- Contributions to Sustainable Protein Biomanufacturing

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Scientific programme

7 October 2025 (Tuesday)

10:00 – 14:00 *Registration*

Pre-conference workshop

Chair: **Ralf Takors**, University of Stuttgart, Germany

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|---------------|---|
| 10:10 – 10:10 | Introduction and welcome address |
| 10:10 – 10:25 | Uncovering guidelines for designing well-secretable proteins
Fiona Spreitzer , BOKU, Austria |
| 10:25 – 10:40 | Inhibiting aggregation of therapeutic proteins
Arda Deniz Tugrul , NIBRT, Ireland |
| 10:40 – 10:55 | Model guided design of <i>E. coli</i> strains for the heterologous production of dopamine
Cedric Meyer , IBVT-University of Stuttgart, Germany |
| 10:55 – 11:10 | Understanding transcriptional variance in CHO cells: a quantitative meta-analysis
Markus Riedl , BOKU, Austria |
| 11:10 – 11:25 | Advancing CHO cell productivity: a combined approach of cell engineering using novel transposon vectors and proteomics
Sujay Subramaniam , University of Greifswald, Germany |
| 11:25 – 11:40 | Multi-omics characterisation reveals temporal dynamics of cellular and metabolic behaviour of a CHO-based mAb process
Larissa Hofer , BOKU, Austria |
| 11:40 – 11:55 | Scale-down bioreactor studies on heterologous protein production in stringent response modulated <i>E. coli</i> chassis
Sidharth Jaya Sankar , IBVT- University of Stuttgart, Germany |



7 October 2025 (Tuesday)

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| 11:55 – 12:10 | ECONti - advancing integrated continuous manufacturing with microbial cells

Florian Simon , BOKU, Austria |
| 12:10 – 12:25 | CASPON®: a fusion-protein platform technology for efficient recombinant biopharmaceutical protein production

Sophie Kutzner , Boehringer Ingelheim, Austria |
| 12:25 – 12:40 | Cationic polymers reduce (high-risk) host cell proteins in monoclonal antibody purification processes

Anna Frank , BOKU, Austria |
| 12:40 – 14:00 | <i>Lunch (only for pre-conference workshop participants)</i> |
| 14:00 – 14:10 | Opening and welcome address |
| 14:10 – 14:55 | Keynote lecture: Adventures in synthetic glycobiology: enabling customized protein glycosylation with engineered bacterial cells

Matthew DeLisa , Cornell University, USA |

Session 1: Chassis engineering for recombinant production of proteins

Chairs: **Nicole Borth**, BOKU, Austria & **Elena Garcia-Fruitós**, IRTA, Spain

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|---------------|---|
| 14:55 – 15:25 | Autophagy and AKT-stimulated cellular proliferation synergistically improve antibody production in CHO cells

Anne Robinson , Carnegie Mellon University, USA |
| 15:25 – 15:45 | Cryo-EM structures of human membrane protein complexes from a streamlined cell-free protein production platform

Frank Bernhard , Goethe University Frankfurt, Germany |
| 15:45 – 16:05 | Streamlined cells are superior bioproduction hosts

Álvaro R. Lara , Aarhus University, Denmark |



7 October 2025 (Tuesday)

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|---------------|---|
| 16:05 – 16:25 | <p><i>Haloalkaliphilic Archaea</i> as new cellular chassis for the bioproduction of recombinant proteins</p> <p>Emma Bonnaud, INSA-Lyon, France</p> |
| 16:25 – 16:55 | <p><i>Coffee break</i></p> |
| 16:55 – 17:15 | <p>Creation of a superior 2G bioethanol yeast strain with high enzyme secretion capacity</p> <p>Bart Thevelein, NovelYeast- Ghent University, Belgium</p> |
| 17:15 – 17:35 | <p>Flo8 – a versatile regulator for improving recombinant protein production in <i>Komagataella phaffii</i></p> <p>Brigitte Gasser, ACIB, Austria</p> |
| 17:35 – 17:55 | <p>Improving industrial protein secretion in <i>Bacillus subtilis</i> using RNA-seq and Ribo-seq</p> <p>Biwen Wang, Hanze University of Applied Science, The Netherlands</p> |
| 17:55 – 18:15 | <p>From recombinant expression to functional reconstitution: characterization of outer membrane porins and their mass transport</p> <p>Maike Scherer, FAU Erlangen-Nürnberg, Germany</p> |
| 18:15 – 22:00 | <p>Poster session (odd numbers), exhibition & welcome buffet</p> |



8 October 2025 (Wednesday)

Session 2: Impact of production conditions on cellular performance

Chairs: **Marco Oldiges**, FZJ, Germany & **Álvaro R. Lara**, Aarhus University, Denmark

9:00 – 9:30	Engineering ferritin nanoparticles for next-generation vaccines: strategies for antigen display and biomanufacturing Margarida Queluz Rodrigues , iBET, Portugal
9:30 – 9:50	The impact of methanol concentration on recombinant protein glycosylation in <i>Pichia pastoris</i> SuperMan5 Andre Ohara , Imperial College London, UK
9:50 – 10:10	The hidden cost of protein secretion: signal peptide-induced stress in <i>Bacillus subtilis</i> Noemi Palombi , University of Greifswald, Germany
10:10 – 10:30	High-throughput investigation of recombinant bifunctional protein secretion by <i>Corynebacterium glutamicum</i> Vera Waffenschmidt , Forschungszentrum Juelich GmbH, Germany
10:30 – 11:00	Coffee break
11:00 – 11:20	Mimicking large-scale mixing conditions in a laboratory-scale single multi compartment bioreactor system Jonas Barczyk , IBVT-University of Stuttgart, Germany
11:20 – 11:40	Time-resolved absolute protein quantification to optimize recombinant protein production in <i>Bacillus subtilis</i> Francesca Grilli , University Medical Centre Groningen, The Netherlands
11:40 – 12:00	Engineering genealogical age and cell clustering patterns for improved recombinant protein production in <i>Pichia pastoris</i> bioprocesses Lukas Neutsch , ZHAW - Zurich University of Applied Sciences, Switzerland
12:00 – 13:00	Lunch



8 October 2025 (Wednesday)

13:00 – 13:45 **Keynote lecture:** Tackling fundamental challenges in biotechnology with computational models and AI

Tamir Tuller, Tel Aviv University, Israel

Session 3: Model-enabled protein, cell, and process engineering

Chairs: **Chris Oostenbrik**, BOKU, Austria & **Verena Siewers**, Chalmers, Sweden

13:45 – 14:05 Advancing the expression of difficult to express proteins with self-driving labs: from model-based design to deep process insight

Peter Neubauer, TU-Berlin, Germany

14:05 – 14:35 Leveraging generative AI for applications in synthetic biology

Aleksej Zelezniak, Chalmers University of Technology, Sweden

14:35 – 14:55 Optimising recombinant membrane protein production by *E. coli* cell factories using a whole cell model

Viktoriia Gross, University of Warwick, UK

14:55 – 15:15 Minimization of a *Bacillus subtilis* signal peptide by rational design

Dicky Pranoto, University Medical Centre Groningen, The Netherlands

15:15 – 15:45 *Coffee break*

Session 4: New horizons for biopharmaceutical proteins

Chairs: **Peggy Stolt-Berger**, Boehringer, Germany & **Gerald Striedner**, BOKU, Austria

15:45 – 16:15 Development of the OPENPichia open-access industrial *Pichia pastoris* protein production system and use for manufacturing of anti-infectious VHH-Fc antibodies

Nico Callewaert, VIB-Ghent University, Belgium

16:15 – 16:35 Broad-spectrum antimicrobial recombinant proteins: a potential strategy for combating infectious diseases

Elena Garcia-Fruitós, IRTA, Spain



8 October 2025 (Wednesday)

- 16:35 – 16:55 High-yield production and functional characterization of a mutant human β -glucocerebrosidase enzyme in *Pichia pastoris*
Bariş Binay, Gebze Technical University, Turkey
- 16:55 – 17:15 A novel, thermostable sarcosine oxidase from *Bacillus megaterium* for biomedical applications: Kinetic characterization and active aggregation in *E. coli*
Rahul Kumar, Indian Institute of Technology Bombay, India
- 17:15 – 17:35 Bifunctional cancer antibody engineering for solid tumors
Asli Semerci, Bilkent University, Turkey
- 17:35 – 17:55 A protein production platform for diagnostics and immune therapy of emerging infections
Sabine Suppmann, Fraunhofer ITMP-IIP, Germany
- 17:55 – 22:00 **Poster session** (even numbers), exhibition and buffet



9 October 2025 (Thursday)

9:00 – 9:30 **Poster pitches and awards**

Session 5: Precision fermentation of food proteins

Chairs: **Klaus Liebeton**, BRAIN Biotech, Germany & **John Morrissey**, University of Cork, Ireland

9:30 – 10:00 Development of *Trichoderma reesei* strains for high-level production of the sweet protein brazzein

Nina Aro, Technical Research Centre, Finland

10:00 – 10:20 High level production of brazzein, a natural disulfide-rich sweet protein using engineered *E. coli*

Lloyd Ruddock, University of Oulu, Finland

10:20 – 10:40 Recombinant production and characterization of selected functional proteins from chicken eggs

Franziska Beck, Technical University Munich, Germany

10:40 – 11:00 Milk caseins production through precision fermentation in *E. coli*

Ainoa Escrich, AINIA, Spain

11:00 – 11:30 *Coffee break*

11:30 – 11:50 Recombinant production of bovine caseins in *E. coli* and genome-reduced *Bacillus subtilis*: chassis optimization and production performance

Elvio Henrique Benatto Perino, University of Hohenheim, Germany

11:50 – 12:10 Optimizing *Pichia pastoris* as a fermentation platform for alternative protein production

Paz Shemesh, Technion-Israel Institute of Technology, Israel

12:10 – 12:30 Alternative proteins – chances & challenges in microbial production

Alexander Pelzer, BRAIN Biotech AG, Germany

12:30 – 13:30 *Lunch*



9 October 2025 (Thursday)

Session 6: Contributions to sustainable protein biomanufacturing

Chairs: **Pau Ferrer**, UAB, Spain & **Joachim Klein**, Lonza, Switzerland

13:30 – 14:00	Single carbon substrates as sustainable feedstocks for protein production Diethard Mattanovich , BOKU, Austria
14:20 – 14:40	Antibiotic-free plasmid selection and maintenance via inducible complementation Katherine Brechun , Gen-H - Genetic Engineering Heidelberg GmbH, Germany
14:40 – 15:00	Synthetic biology and bioprocess engineering for scalable, cost-effective components in cultivated meat production Neta Agmon , Alagene, Israel
15:00 – 15:30	<i>Coffee break</i>
15:30 – 15:50	Soft-sensor-driven real-time physiological state estimation to facilitate repetitive fed-batch cultivations Julian Kopp , TU Wien, Austria
15:50 – 16:10	Developing a recombinant barnacle cement protein as a biomimetic adhesive coating Shrutika Sawant , University of Galway, Ireland
16:10 – 16:30	Scaling bioprocesses by AI generated 3D printed bioreactors mimicking large scale conditions Peter Satzer , p4b GmbH, Austria
19:00 – 22:30	<i>Conference dinner</i>