

## **Poster Presentations**

1. **Glucose transport engineering allows mimicking fed-batch performance in batch mode and selection of superior producer strains**  
Alvaro R. Lara, Universidad Autónoma Metropolitana, Mexico
2. **ATLASx and ARBRE: New computational tools for biosynthetic pathway prediction**  
Anastasia Sveshnikova, Ecole Polytechnique Fédérale de Lausanne, Switzerland
3. **Prediction of strategies for integration of computationally designed biosynthetic pathways into industrial host organisms**  
Anastasia Sveshnikova, Ecole Polytechnique Fédérale de Lausanne, Switzerland
4. **Community science designed ribosomes with beneficial phenotypes**  
Antje Kruger, Northwestern University, USA
5. **A computational framework to explore the kinetic and thermodynamic landscape of optimal enzyme utilization**  
Asli Sahin, Ecole Polytechnique Fédérale de Lausanne, Switzerland
6. **A computational workflow to reconstruct interaction networks in microbial communities**  
Asli Sahin, Ecole Polytechnique Fédérale de Lausanne, Switzerland
7. **High-throughput screening of gas fermenting microorganism by combining 3D printing and an open-source programmable microcontroller**  
Axayacatl Gonzalez, The University of Queensland, Australian Institute for Bioengineering and Nanotechnology, Australia
8. **Enhancing cell-free production of complex proteins and biomaterials**  
Caleb Lay, Northwestern University, USA
9. **Co-expression of thermostable pectinases for cost-effective pectin bioconversion**  
Carol Nathali Flores Fernandez, University College London, United Kingdom
10. **A high-throughput screen of protein-protein interactions responsible for proper bacterial microcompartment formation**  
Carolyn Mills, Northwestern University, USA
11. **Methylation as an important epigenetic factor in the heterogeneity of CHO cell subclones producing a recombinant MAb**  
César Coria, Universidad Nacional Autónoma de México, Instituto de Biotecnología, Mexico
12. **Computational engineering of transcription factor biosensor specificity for metabolic pathway optimization**  
Chester Pham, University of Toronto, Canada
13. **Developing cell-free workflows for lasso peptide biodiscovery**  
Derek Wong, Northwestern University, USA
14. **Development of a high-throughput assay to discover PET-biodegrading microbes and microbial consortia**  
Erica Gardner, University of Michigan, USA

15. **in silico Analysis and comparison of the metabolic capabilities of different organisms by reducing metabolic complexity**  
Evangelia Vayena, Ecole Polytechnique Fédérale de Lausanne, Switzerland
16. **Optimisation of a CRISPR-Cas9 deletion screen for the identification of essential genomic targets in CHO cells**  
Federico De Marco, Austrian Centre of Industrial Biotechnology, Austria
17. **Single-cell RNA sequencing: Characterization of high-producer and non-producer CHO cells**  
Giulia Borsi, BOKU, Austria
18. **Building a synthetic formate assimilation pathway for carbon-negative cell-free biomanufacturing**  
Grant Landwehr, Northwestern University, USA
19. **Engineering cell-free biosensors for water quality diagnostics**  
Holly Ekas, Northwestern University, USA
20. **Adaptive laboratory evolution of Clostridium autoethanogenum to enhance CO<sub>2</sub> valorization**  
James Kemp Heffernan, The University of Queensland, Australian Institute for Bioengineering and Nanotechnology, Australia
21. **Engineering glycosyltransferases to manufacture non-toxic antifungals**  
Jonathan Bogart, Northwestern University, USA
22. **Syntrophic cocultures of Clostridium organisms to produce isopropanol and C<sub>6</sub>-C<sub>8</sub> alcohols and carboxylic acids**  
Jonathan Otten, University of Delaware, USA
23. **Towards the rational engineering and directed evolution of chloroalkane dehalogenases to manipulate substrate preferences**  
Katherine Picott, University of Toronto, Canada
24. **A low-cost, thermostable, cell-free protein synthesis platform for on-demand production of glycoconjugate vaccines**  
Katherine Warfel, Northwestern University, USA
25. **Simplified methods for orthogonal tRNA expression in cell-free systems for protein engineering**  
Kosuke Seki, Northwestern University, USA
26. **Emerging microbial patterns under fluid flow conditions**  
Liliana Angeles Martinez, Ecole Polytechnique Fédérale de Lausanne, Switzerland
27. **Development of a cell-free platform for point of care synthesis of peptide hormones**  
Madison DeWinter, Northwestern University, USA
28. **SLAM-Seq reveals early transcriptomic adaptation mechanisms upon glutamine deprivation in Chinese Hamster Ovary cells**  
Maja Papež, ACIB GmbH, Austria
29. **Systems biology approaches to investigate the metabolic mechanisms underlying cancer**  
Maria Masid, Ecole Polytechnique Fédérale de Lausanne, Switzerland

30. **Understanding fungal cell wall stress response using a multiomics approach**  
Mark Marten, University of Maryland, Baltimore County, USA
31. **Engineering E. coli for the utilization of CO<sub>2</sub>-derived ethylene glycol for bioproduction**  
Michelle Feigis, University of Toronto, Canada
32. **Exploiting narrow-spectrum bacteriocins as probes to study and engineer microbial communities**  
Nikhil Nair, Tufts University, USA
33. **Integration of metabolism and regulation identifies constraints and pitfalls to engineering synthetic heterotrophy**  
Nikhil Nair, Tufts University, USA
34. **Data-informed catastrophic and harmonious protein coding choices for multigene expression**  
Nikhil U. Nair, Tufts University, USA
35. **Capturing the plasmid metabolic burden using metabolic and expression models (ME-models)**  
Omid Oftadeh, Ecole Polytechnique Fédérale de Lausanne, Switzerland
36. **Systems metabolic engineering and bioprocess engineering strategies for 3-hydroxypropionic acid production in Pichia pastoris**  
Pau Ferrer, Universitat Autònoma de Barcelona, Spain
37. **Accurate prediction of mRNA degradation at nucleotide resolution with deep learning**  
Qing Sun, Texas A&M, USA
38. **Engineering a novel Pichia pastoris cell-free protein synthesis platform for vaccine production**  
Rochelle Aw, Northwestern University, USA
39. **Identification, isolation and characterization of compounds present in aqueous extracts of scaptotrigona aff. postica propolis, with antiviral action against avian coronavirus, zicavirus, mayaro virus and chikungunya virus**  
Ronaldo Mendonça, Instituto Butantan, Brazil
40. **Using CRISPR-Cas9 hosts to engineer BGCs for novel antibiotic production and discovery**  
Rosemary Gillane, AIBN, University of Queensland, Australia
41. **PgIB mutagenesis towards the development of shigella glycoconjugate vaccines**  
Sarah Sobol, Northwestern University, USA
42. **Regenerative effect of combined laser and human stem cell-conditioned medium therapy on hypertrophic burn scar**  
Seung Yeol Lee, Soonchunhyang University Bucheon Hospital, South Korea
43. **Effect of hypertrophic scar fibroblast-derived exosomes on keratinocytes of normal human skin**  
So Young Joo, Hangang Sacred Heart Hospital, South Korea
44. **Model-guided development of self-remodeling protein complexes from fungal cellulosome parts**  
Stephen Lillington, University of California, Santa Barbara, USA

45. **Discovering transcription factor promoters for portable, on-demand diagnostics**  
Steven Fleming, Northwestern University, USA
46. **REKINDLE – a method for REconstructing KINetic models using Deep LEarning**  
Subham Choudhury, Ecole Polytechnique Fédérale de Lausanne, Switzerland
47. **Genetically stable CRISPR-based kill switches for engineered microbes**  
Tae Seok Moon, Washington University in St. Louis, USA
48. **Engineering ligand-specific biosensors for aromatic amino acids and neurochemicals**  
Tae Seok Moon, Washington University in St. Louis, USA
49. **Transient and integrating systems for heterologous expression in anaerobic gut fungi**  
Tejas Navaratna, University of California, Santa Barbara, USA
50. **Computational biochemistry with NICE-tools: Advances and applications for synthetic biology and metabolic engineering**  
Vassily Hatzimanikatis, Ecole Polytechnique Fédérale de Lausanne, Switzerland
51. **NICEdrug.ch, a workflow for rational drug design and systems-level analysis of drug metabolism**  
Vassily Hatzimanikatis, Ecole Polytechnique Fédérale de Lausanne, Switzerland
52. **Using machine learning approaches to estimate novel substrate activity and kinetic parameters of enzymes**  
Veda Sheersh Boorla, The Pennsylvania State University, USA
53. **Sequential activation of multiple gene copies facilitates adaptation of CHO cells to increased productivity**  
Victor Jimenez Lancho, BOKU, Austria
54. **Using machine learning approaches to estimate novel substrate activity and kinetic parameters of enzymes**  
Vikas Upadhyay, The Pennsylvania State University, USA
55. **The effect of upstream conditions on the performance of primary recovery operations in antibody producing mammalian cell cultures**  
Viktoria Gkoutzioupa, University College London, United Kingdom
56. **Using high fidelity metabolic models for Clostridium thermocellum to resolve knowledge gaps in phosphate metabolism and role in a co-culture**  
Wheaton Schroeder, the Pennsylvania State University, USA