21/10	Studio 1		
8:30	**Breakfast**		
	Studio 2		
9:00	PL-1: Phenotypical heterogeneity in bioprocesses: better think positive!? – **Anna Heins**		
	Studio 1		
10:00	**Coffee break**		
	Studio 2	**Studio 3**	**Studio 4**
	Digitalisation	**Biocatalysis**	**Biotechnology and metabolic engineering**
	Chair: Krist Gernaey	**Chair: Luuk van der Wielen**	**Chair: John Kavanagh**
10:30	Comparison of vibrational spectroscopy methods for real-time monitoring of anaerobic fermentation. **M. Mauricio Iglesias**	Planalyze: A Practical Framework for Bayesian Optimization – A Case Study Designing Experiments in Biocatalysis. **M. Siska**	High-precision profiling of population dynamics and metabolites unravels joint biotransformation of natural products in cellulosic co-cultures. **A. Palacio-Barrera**
10:45	Real-time cell population analysis in bioreactors using deep learning enabled in situ microscopy. **J.-S. Guez**	Universal Microreactor for Flow Biocatalysis. **M. Marques**	Combining Machine Learning and CFD Simulation to Evaluate Design and Operating Conditions of Bioreactors Faster. **M. Dobrat**
11:00	Automatic kLa Determination in Stirred Tank Reactors by Model-Based Design of Experiments. **A. H. Valdeira Caetano**	Membrane modification strategies for high performance enzymatic membrane reactors. **Z. Su**	Proteome reduction as a strategy to improve the performance of cell factories. **A. R. Lara**
11:15	Real-time state estimation in non-linear adsorption chromatography using Kalman filters. **D. Espinoza**	Optical Hydrogen Peroxide Sensor for at-line Monitoring. **T. Mayr**	Demonstrating the capabilities of KIWI-Biolab's robotic ecosystem by orchestration of model-mased DoEs and fast in-depth analytics for the development of recombinant protein processes. **P. Neubauer**
11:30	To be announced	Enzyme immobilisation technology at industrial scale: challenges and prospects. **P. Andric**	To be announced
	Studio 1		
12:00	**Lunch break**		
	Studio 2	**Studio 3**	**Studio 4**
	Digitalisation	**Biocatalysis**	**Biotechnology and metabolic engineering**
	Chair: Ulrich Krühne	**Chair: Bruno Bühler**	**Chair: Peter Neubauer**
13:00	The BioProcessNexus: One step towards free and accessible techno economic bioprocess models. **M. Medl**	Development of Enzymes from Extremophiles for the Degradation of Plastics and Potential Generatio of Useful Metabolites. **J. Asenjo**	Fatty acid profile of Mycobacterium tuberculosis strains with inconsistencies in phenotypic-genotypic drug resistance. **G. Vázquez-Marrufo**
13:15	A Physics -Informed Neural Network (PINNs) Framework for Bioreactor Hybrid Modelling. **M. Kumar Thirugnanasambandam**	Simplifying mRNA vaccine manufacturing by using immobilised enzymes during in vitro transcription reactions. **G. Taylor**	Automated adaptive laboratory evolution of Clostridium kluyveri enables growth at high CO partial pressures. **V. Burgmaier**
13:30	Uncertainty-aware real-time forecasting of pilot-scale bubble column aeration using ensemble hybrid model. **P. Jul-Rasmussen**	Optimization of BioActive Pickering emulsion for the production of R-Phenylacetylcarbinol. **R. Jr Carubio**	Metabolic Engineering of new Streptomyces sp. from Extreme Environments for Novel Antibiotics, Anticancer and Antifungal Drugs. B. **Andrews**
13:45	The more, the merrier? A quest for an efficient compartmentalization strategy for CFD-based analyses of bioreactors. **H. Maldonado De Leon**	Continuous flow biocatalytic process for value added products from biodiesel by-product on an enzymatic microreactor. **N. Dutta**	Enhanced productivity of filamentous pellets investigated with new tools for elucidation of oxygen uptake and morphology. **Z. Justyna Kozanecka**
14:00	Advanced simulation of large-scale bioreactors. **J. Le Nepvou De Carfort**	Process intensification guided by techno-economic analysis for the bioconversion of rutin. **Z. Kádár**	Selection and characterization of microbiomes under the same ecological stress. **M. Catalão**
14:15	Combining Machine Learning and CFD Simulation to Evaluate Design and Operating Conditions of Bioreactors Faster. **T. Eppinger**	To be announced	Use of bacterial co-culture to overcome the toxicity of lignocellulosic hydrolysates. **S. I. Mussatto**
14:30	**Studio 1**		
	Coffee break		
15:00	**Studio 1**		
	Poster session		
16:30	**Free time**		
18:00 19:30	**Pancake Party (Copenhagen Town Hall)**		

22/10	Studio 1		
8:30	**Breakfast**		
	Studio 2		
9:00	PL-2: Intensification of biocatalytic processes towards industrial volumetric productivities – **Selin Kara**		
10:00	**Studio 1**		
	Coffee break		
	Studio 2	**Studio 3**	**Studio 4**
	FBM	**Novel upstream and downstream process concepts**	**Circular bioeconomy and processing**
	Chair: To be announced	**Chair: Carina L. Gargalo**	**Chair: Solange I. Mussatto**
10:30	The start of green transition by the use of fermentation of large volume food and material proteins. **P. Falholt**	Photoautotrophic production of DHA and EPA enriched biomass by co-culturing golden brown and green microalgae. **A.-L. Thurn**	All-in-one: Direct conversion of cellulose to erythro-isocitric acid by a non-engineered strain of Talaromyces verruculosus. **I. Schlembach**
10:45	Gradients in fermentations conditions can impact process performance by leading to decreased yields in large-scale fermentation processes. **G. Nadal-Rey**	Manufacturing of recombinant disulphide-bonded peptides in Escherichia coli using CASPON™ technology. **M. Cserjan-Puschmann**	PEM Electrocatalysis in a Stirred-Tank Bioreactor Enables Growth of Clostridium ragsdalei with CO_2 and Electrons. **I. Schwarz**
11:00	Optimizing seed train design: Enhancing productivity in biomanufacturing scale-up. **L Munkler**	Expansion of T-cells Using a Perfused Microfluidic Approach. **O. Derevianko**	Bringing food waste back to the food value chain using SustainMAX® technology. **P. Madhusudan Bapat**
11:15	Title to be defined. **M. Henriques De Jesus**	Upcycling of PET-based plastic waste into biodegradable polyhydroxyalkanoates (PHA) using mixed microbial cultures. **P. Concórdio-Reis**	Integrating process modeling and impacts into an automated sustainability assessment toolbox of bio-based products. **S. Meramo**
11:30	Title to be defined. **J. Agrell**	Bioprocess monitoring with miniaturized multi-parameter electrochemical sensors. **A. Hasanzadeh**	Towards Sustainable Food Security: Exploiting Synthetic Microbial Communities for Protein Production from Dairy Industry side streams. **B. Delmoitié**
	Studio 1		
12:00	**Lunch break**		
	Studio 2	**Studio 3**	**Studio 4**
	FBM	**Digitalisation**	**Biopharmaceutical process**
	Chair: To be announced	**Chair: To be announced**	**Chair: Raquel Aires-Barros**
13:00	Food Innovation with Filamentous Fungi. **L. J. Jahn**	Deep Hybrid Modelling of a Supercritical CO_2 Extraction Process. **R. Agharafeie**	Towards cfDNA extraction from plasma for liquid biopsy applications – partitioning behavior of short DNA. **R. Meutelet**
13:15	To be announced	Bioprocessing 5.0: From Knowledge Graphs to Cognitive Digital Threads. **M. Nicolas Cruz Bournazou**	Techno-economic Optimization under Uncertainty for Pharmaceutical Processes: Ibuprofen. **T. Asrav**
13:30	Valorization of end-of-life waste streams to high-value products. **P. Reitzer**	Applying a Modified DevOps Workflow to Address Challenges in Developing Digitalisation Tools for Chemical and Biochemical Manufacturing. **M. Stevnsborg**	Enhancement of mRNA quality for improved vaccine development. **A. Rita Santos**
13:45	To be announced	Hybrid semi-parametric Modeling vs Physics-informed Neural Network: A Comparative Study Applied for Bubble Column Aeration. **P. Jul-Rasmussen**	Rational bioprocess development and optimalisation for cultured Red Blood Cells (cRBCs). **L. van Der Wielen**
14:00	Poster pitches	Merging metabolic networks with deep neural networks under the SBML standard Abstract. **J. Pinto**	Flocculants for reduction of (high-risk) host cell proteins during primary recovery of monoclonal antibody production processes. **A.-C. Frank**
14:15		Process Modeling accelerates bioprocess development and enables digital biomanufacturing. **M. Krippl**	To be announced
	Studio 1		
14:30	**Coffee break**		
	Studio 1		
15:00	**Poster session**		
16:30	**Free time**		
	National Muzeum		
18:30 22:30	**Gala dinner**		

23/10	Studio 1		
8:30	**Breakfast**		
	Studio 2		
9:00	PL-3: Added value from reconstructed biomass fractions: Tackling lignin particle aggregation through hemicellulose- and laccase-assisted bioprocess. **Kirsi S. Mikkonen**		
10:00	**Studio 1**		
	Coffee break		
	Studio 2	**Studio 3**	**Studio 4**
	Biopharmaceutical process	**Industrial water and wastewater technology**	**Bioenergy**
	Chair: Tiffany Rau	**Chair: To be announced**	**Chair: To be announced**
10:30	Development of an integrative dynamic model associating morpho-rheological patterns of bioprocesses with filamentous microorganisms. **L. Schumann**	Immobilization of laccase from Lentinus sajor-caju on chitosan-clay beads and applications on sulfamethoxazole degradation. **H. Sá**	Unveiling biochar's role in Anaerobic Digestion: myths and facts for enhanced biogas production and sulfate inhibition mitigation. **G. Vayena**
10:45	A Hierarchical Approach for Evaluation of Lost Throughput in API Manufacturing. **T. Overgaard**	Sustainable power generation from salinity gradients via Pressure Retarded Osmosis (PRO): Membrane modification for improved performance. **M. Malankowska**	Conversion off Oxalic-Acid Impregnated Biomass into Glucose and Bioethanol with the Assistance of Microwave-Irradiation. **R. Ceaser**
11:00	CFD-guided scale-down for end-in-mind bioreactor development: from 2000 L to 2 L. **M. Segami**	Modelling partial nitration/anammox processes in a full-scale aerobic granular sludge reactor treating reject water. **X. Flores-Alsina**	Enhanced Residual Biomethane Production from Digestate via Anaerobic Co-Digestion with DAF Sludge and Hydrodynamic Cavitation Pretreatment. **J. Kumar Nayak**
11:15	Vibrio natriegens as a new host for plasmid DNA production. **D. Miguel Prazeres**	Unveiling the water-energy nexus: Wastewater reuse for district heating applications. **F. Sousa Braga**	Modeling and Simulation of Biological Water-Gas Shift Reaction in Trickle Bed Reactor and Comparison With CSTR. **S. Dutta**
11:30	Purification and characterization of recombinant neuraminidase for non-seasonal vaccine against Influenza virus. **F. De Mathia**	Bio-release of toxic elements from mining waste. **A. Pawlowska**	Effect of feeding regime and pH on thermophilic acidogenic fermentations from food waste. **L. Vulart**
11:45	Efficient Media and Buffer Formulation Development with Mixture Experiments using Space Filling Designs and Machine Learning. **T. Rau**	To be announced	To be announced
	Studio 1		
12:00	**Lunch break**		
	Studio 2	**Studio 3**	**Studio 4**
	Biopharmaceutical process	**Bioprocess for food engineering/precision fermentation**	**Education/New (bio)materials for process engineering**
	Chair: Arne Staby	**Chair: Marcel Ottens**	**Chair: To be announced**
13:00	Process Transfer in Upstream at Boehringer Ingelheim. **C. Brehl**	Bottlenecks and Opportunities in Cultivated Meat Production. **J. Pereira**	Project Based Teaching of Biochemical Engineering. **J. Kavanagh**
13:15	A novel method for continuous chromatographic separation of monoclonal antibody charge variants by combining displacement mode chromatography and step elution. **A. Anupa**	Production of Proteins by Precision Fermentation. **P. Falholt**	Bioprocess Design Education at TU Delft. **L. van Der Wielen**
13:30	Monitoring the effect of oxidative stress on pertactin productivity in Bordetella pertussis cultures: A mechanistic approach. **A. Mishra**	Establishing a High-Throughput Co-Culture Platform to Systematically Screen Diverse Strptomyces Species for new Natural Products. **D. Miriam Schütterle**	ChatGMP: a Digital Audit Tool for Good Manufacturing Practices. **F. Caccavale**
13:45	Autonomous operation and quality monitoring of a continuous antibody downstream process. **M. Isaksson**	Development and application of a digital twin in bioprocess control for optimising biomass and exopolysaccharide production by L. rhamnosus. **H. Mylise**	Biosynthesis of Polyhydroxyalkanoates from Lignin Monomers by Halophiles: High-Throughput Screening and Understanding Limitations. **V. Andhalkar**
14:00	Hybrid model for mesenchymal stem cell cultivation processes incorporating seeding heterogeneity. **K. Hirono**	The impact of common fermentation medium salts on local holdup in bubble column bioreactors. **R. Volger**	Fermentative production and purification of L-(+)-lactic acid: assessing the potential of tree and shrub species growing on marginal land. **L. Schroedter**
14:15	Novel filtration technology allows for simpler and more efficient separation/recovery of api from biomass and downstream processing. **A. Poulsen**	Bubble Column measurements and modelling. **J. Kavanagh**	Novel applications in a redesigned 3D-printed micro bubble column reactor. **G. Schultz**
	Studio 1		
14:30	**Coffee break**		
15:00	**Award ceremony (poster and oral presentation)**		
15:30	**Closing remarks**		
16:15	**End of the conference**		